LAND AT OLD STOWMARKET ROAD, WOOLPIT, SUFFOLK:

ARCHAEOLOGICAL EXCAVATION REPORT

LOCAL PLANNING AUTHORITY:
MID SUFFOLK DISTRICT COUNCIL

PLANNING APPLICATION NUMBER:
1636/16

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PRE-CONSTRUCT ARCHAEOLOGY

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ARCHAEOLOGICAL EXCAVATION REPORT

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Land at Old Stowmarket Road, Woolpit, Suffolk: Archaeological Excavation Report

Local Planning Authority:	**Mid Suffolk District Council**
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ABSTRACT

This report describes the results of an archaeological excavation carried out by Pre-Construct Archaeology on land at Old Stowmarket Road, Woolpit, Suffolk (centred on NGR TL 9805 6227) between 29th June and 17th July 2020. The archaeological work was commissioned by RPS Consulting in response to a planning condition attached to the erection of up to 120 dwellings, construction of a car park associated with Woolpit Health Centre, access to the site, and individual accesses to five self-build plots, together with associated public open space (Mid Suffolk District Council Planning Ref. 1636/16). The aim of the work was to preserve by record archaeological remains which would be damaged or destroyed by the new development.

The fieldwork comprised three separate excavation areas, all on the higher ground in the south of the development site and targeted on prehistoric archaeological remains identified during two phases of trial trench evaluation. Area 1 contained three small pits with finds indicative of Middle Iron Age (c. 350–50 BC) occupation. Area 2 had a highly variable natural geology with numerous striations and lenses, some probably glacial in origin and others likely to be tree hollows. Some of these contained small amounts of mainly Early Neolithic (c. 4000–3000 BC) struck flint and/ or pottery, which are likely to derive from surface scatters of occupation debris that were present on the prehistoric ground surface, some of which became incidentally incorporated into underlying hollows as they filled in.

Area 3 revealed a few further Early Neolithic tree hollows and glacial features, but its principal interest was the exposure of an unusual rectangular/ sub-square ditched enclosure. This contained the poorly preserved crouched inhumation burial of a mature/ elderly adult male, radiocarbon dated to the Chalcolithic/ Early Bronze Age (2455–2204 cal. BC), accompanied by a Beaker vessel.

This report describes the archaeological remains recorded during the fieldwork and their significance and includes complete specialist analysis of the finds and environmental assemblages recovered. A short article about the site, focusing on the burial and enclosure in Area 3, will be submitted to PSIAH for publication.

1 INTRODUCTION

1.1 Pre-Construct Archaeology (PCA) was commissioned by RPS Consulting Ltd. to undertake a programme of archaeological excavation on land at Old Stowmarket Road, Woolpit, Suffolk (Ordnance Survey National Grid Reference (NGR) TL 9805 6227; Figure 1; Plate 1) between 29th June and 17th July 2020, in advance of residential development. A small additional area, which initially could not be safely excavated due to overhead powerlines, was investigated between 9th and 10th August 2021, after their diversion (Plate 18).

1.2 The site is located on the east side of Woolpit approximately 400m from the village centre. It occupies a large, formerly arable, field (6.5ha) in the angle between the Old Stowmarket Road (now cut off by the A14) and Heath Road, which climbs south-east to Woolpit Heath and Borley Green. Woolpit is located on the south side of the A14, 12km east of Bury St Edmunds and 8km west of Stowmarket, in Mid Suffolk.

1.3 The development for which planning permission has been granted is the erection of up to 120 dwellings, construction of a car park associated with Woolpit Health Centre, access to the site and individual accesses to five self-build plots, together with associated public open space (Mid Suffolk District Council Planning Ref. 1636/16). In accordance with the National Planning Policy Framework (NPPF) 2019 paragraphs 189 and 190, a condition requiring archaeological investigation and mitigation was placed on planning consent due to the high archaeological potential of the development area. The initial stages of investigation at the site comprised a geophysical survey (Schofield 2016) and two phases of trial trench evaluation, carried out by Suffolk Archaeology CIC (Cuthbert 2016) and Archaeology South-East (Heard 2020).

1.4 The excavation was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by PCA (Mlynarska 2020), in response to a Brief issued by Gemma Stewart of Suffolk County Council Archaeological Service (SCCAS; Stewart 2020). The broad aim of the excavation was to preserve by

record archaeological remains present in those areas of the site which would be affected by groundworks associated with the new development. The excavation focused on Early Neolithic and Early–Middle Iron Age remains identified by the evaluation in the south of the site.

1.5 The aims and objectives of the excavation were outlined in Section 3 of the WSI (Appendix 9). In brief, the initial aims of the excavation were:

-to better define the date and character of the Early Neolithic activity represented by the pits and associated finds in trenches in the south of the site;

-to recover, where possible, samples of material for absolute dating, e.g. charcoal or charred grain/ seeds;

-to recover sufficient finds assemblages to characterise the nature of the activities being carried out at the site during the Early Neolithic, including probable flint-working, butchery, cooking and consumption of food, as well as the evidence for crop-cultivation, resource-gathering, and possible animal husbandry;

-to attempt to establish the extent, scale and temporal nature of the Early Neolithic occupation(s), for example, was this site a temporary encampment or a more permanent settlement site? If the former, do the remains indicate a one-off visit or could the site have been repeatedly visited, by either the same or different groups of people?

-To better-define the date and character of the Early to Middle Iron Age activity represented by the pits revealed in Trench 45. Does the evidence indicate an earlier Iron Age settlement in this part of the site?

-To use the full spectrum of environmental techniques appropriate for this aspect of investigation to attempt to model the past landscape of the area and how it was transformed throughout various phases of land use but also through natural processes.

1.6 It was anticipated that other aims might become apparent as the project proceeded. Indeed, the relatively low-level Early Neolithic and Middle Iron Age activity encountered during the excavation reduced the potential to meet several of these original research objectives. However, the unexpected discovery of a Chalcolithic/ Early Bronze Age inhumation and an unusual sub-square/ rectangular ditched enclosure gave rise to a new aim: to understand the date and function of the enclosure, and its potential association with Beaker-period mortuary practices.

1.7 The excavation and post-excavation analysis were also carried out in accordance with the Chartered Institute for Archaeologists' Code of Conduct and Standard and Guidance for Archaeological Excavation (CIfA 2019 and 2020), the Suffolk County Council Requirements for Archaeological Excavation (SCCAS 2020), the Standards for Field Archaeology in the East of England (Gurney 2003) and the Historic England document Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (HE 2015).

1.8 This report describes the results of the excavation, places the site and the identified remains in their local landscape and archaeological context and describes their significance for relevant archaeological research agendas. It includes complete specialist cataloguing and analysis of the finds and environmental remains and therefore represents the full and final report on the excavation. Where relevant, the finds assemblages from the evaluation have also been re-examined and discussed.

1.9 A short publication article about the site will be prepared for submission to Proceedings of the Suffolk Institute of Archaeology and History ('PSIAH'). Following Transfer of Title, the site archive will be deposited at the Suffolk County Council Archaeological Archive. The archive will be prepared in accordance with the document Archaeological Archives in Suffolk Guidelines for Preparation and Deposition (Minter and Kennard 2019).

2 GEOLOGY AND TOPOGRAPHY

2.1 Geology

2.1.1 The underlying solid geology of the site is Crag Group sand. Overlying superficial deposits comprise Lowestoft Formation Diamicton in the western part of the site and Woolpit Beds clay and silt in the eastern part of the site. A localised outcrop of Croxton sand and gravel is recorded above the Woolpit Beds just to the north of the site (British Geological Survey 2020; Website 1).

2.1.2 The Lowestoft Formation is an extensive sheet of chalky till (boulder clay), together with glacial outwash sands, gravels, silts and clays, that covers the higher ground across much of central Suffolk, south Norfolk and north Essex.

2.2 Topography

2.2.1 The site is located on an east-facing slope, overlooking a shallow tributary valley of the river Black Bourn, which begins to the south-west, at Woolpit Green, and flows north-eastwards and then broadly north towards Ixworth and its confluence with the Little Ouse at Barnham. The main course of the Black Bourn is one mile to the west, on the far side of the village. A natural spring rise at Lady's Well, 500m north-west of the site, and flows north to join the Black Bourn.

2.2.2 The site falls in height from c. 63m OD in the south-west corner to c. 58m OD in the north-east, with a distinct change in level (particularly noticeable in Evaluation Trenches 12, 34 and 35), occurring in the centre of the site. Notably, the ground level in the north-east corner of the site was approximately 1.5m below the level of the adjacent road surface, suggesting widespread truncation from former brickearth quarrying (see below) in that part of the site.

2.2.3 Ground level falls sharply at the eastern boundary, where the disused brickearth pits of the former Woolpit Brick and Tile Works are screened by mature, mixed woodland and hedgerows, and where a large fishing lake has been created in a former quarry pit, to the east of the site. The ground level also falls away, though less sharply, at the southern boundary, where a disused gravel pit shown on historic maps is still visible.

2.2.4 The rectangular/ sub-square ditched enclosure identified in Area 3 occupies a slight spur of high ground on sandy gravel geology overlooking the shallow valley to the east (Plate 1).

3 ARCHAEOLOGICAL BACKGROUND

3.1 General

3.1.1 The following archaeological background is based on an Archaeology Assessment for the site produced by Archaeological Risk Management (Tindall 2016), the evaluation report (Heard 2020) and an updated search of Suffolk Historic Environment Record (SHER) carried out in November 2020.

3.2 Prehistoric (c. 800,000 BC–AD 42)

3.2.1 Sporadic finds of prehistoric material have been made in the surrounding landscape around the site. Some apparently Palaeolithic faunal remains were found at the New Kiln Brickworks, to the north of the site (SHER WPT 023). A possible Mesolithic flint pick (SHER WPT 004) and a Neolithic polished stone axe have been found approximately 800m east of the site (SHER WPT 014), and small blade fragments from Late Bronze Age socketed axes have been found through metal-detecting at two locations 700m to the north and 500m to the north-west of the site (SHER WPT 016, WPT 017). Trial trenching at Lawn Farm Quarry, Wetherden, 1.5km north-east of the site, identified probable later prehistoric features, including shallow pits with charcoal-rich fills, a gully, a ditch and a possible posthole (SHER WDN 013); one pit contained pottery of probable Iron Age date.

3.3 Roman (AD 43–410)

3.3.1 Roman finds have been recovered to the south-west of the site. These include a sestertius of Hadrian (AD 117–138), found in a garden in Steeles Road (SHER WPT 001), and scatters of 1st- to 2nd-century greyware pottery sherds (SHER WPT 009 and WPT 010), found during fieldwalking in the same area. Coins of Carausius (AD 286–293) and Constantine II (AD 337–340) have also been found to the west of the site, in the churchyard of St Mary (SHER WPT 007).

3.4 Anglo-Saxon and Medieval (c. AD 411–1540)

3.4.1 In the early medieval period, Woolpit formed part of Thedwastre Hundred, within the Liberty of St Edmund, held by the Abbey of Bury St Edmunds. The name is first recorded in AD 1013 as 'Wlpit', in Domesday Book (AD 1086) as

'Wlfpeta', and in 1095 as 'Uulfpet', and probably derives from the Old English 'wulfpytt', meaning ‘pit for trapping wolves’ (Ekwall 1960, 533). At the time of the Norman Conquest, the manor was held as an outlier by the Abbey of St Edmund (Morris 1986, 14.55).

3.4.2 There were fifteen acres in alms belonging to the church, presumably a predecessor of the Parish Church of St Mary. The present parish church (SHER WPT 007; National Heritage List for England (NHLE) 1181376; Website 2) is a Grade I Listed Building with surviving late-13th-century fabric and is notable for its mid-15th-century south porch and clerestory with double hammerbeam roof.

3.4.3 To the north-east of the church is the ‘Lady's Well’ (SHER WPT 002), a holy well or spring first recorded in 1574 and possibly marking the site of a chapel. It is surrounded by an apparently unoccupied, partially water-filled moat and is a Scheduled Monument (SF 201; NHLE 1005992).

3.4.4 Woolpit does not appear to have been a wealthy settlement until the late medieval period, and it was not granted a market until 1481 (Dymond and Martin 1999, 79). The nucleus of the late medieval settlement lay around the parish church and village green. The settlement core is defined by a cluster of late medieval Listed Buildings, mainly of 15th- to 17th-century date. The only Listed Building in close proximity to the site is the Grade II Southlands (NHLE 1181310), dating from the 16th century. It is on the north side of Old Stowmarket Road, approximately 180m east of the site.

3.4.5 Finds of the medieval period are concentrated west of the site, near to the historic core of the settlement. They include the following:

SHER WPT 010: scatter of 11th- to 13th-century pottery, a St Nicholas Token and two possibly French jettons;

SHER WPT 046: lead seal matrix found in a garden on Green Road;

SHER WPT 017: lead scallop-shaped ampulla;

SHER WPT 044: medieval pottery;

SHER WPT 045: three late medieval/early post-medieval coins from the area north-west of Old Stowmarket Road.

3.5 Post-Medieval and Modern (c. AD 1540–Present)

3.5.1 Hodskinson's Map of Suffolk (1783) shows the historic settlement of Woolpit clustered around the parish church, with the old Bury to Stowmarket Road, turnpiked in 1711, heading eastwards towards 'Hawleigh Park'. The area of the current site, to the south of that road, was then part of Woolpit Heath.

3.5.2 Although much of the surrounding land was presumably agricultural, there is evidence for gravel and clay extraction, and brick making, in Woolpit, from the 16th century. Notably, there was 'a great gravel pit made by the Lord's tenants of Woolpit' near the site (Scarfe 2002, 155), while a manorial extent of 1574 mentions clay pits and 'le bryckell' at Woolpit. An estate map of 1761 shows a 'Kiln Close' on the north side of Old Stowmarket Road.

3.5.3 The tithe map of 1846 indicates that the site, then part of Heath Field, was under arable cultivation and multiple occupancy, suggesting piecemeal enclosure of the former heath. On the north side of Old Stowmarket Road, the tithe map showed the 'House, Kiln and Premises' of William Caldecott, presumably known previously as Kiln Close, and including the Listed Building Southlands. Caldecott owned or occupied much of Heath Field, including two large fields east of the current site (Town Field and House Field), which later became the site of the Woolpit Brick and Tile Works.

3.5.4 The Woolpit Brick Company was formed in 1844, and by the late 19th century was a major concern, manufacturing and exporting Suffolk White bricks on an industrial scale. The 1st Edition 25-inch Ordnance Survey map of 1884 shows the 'Woolpit Works (Brick and Tile)' to the east of the current site and associated large clay pits extending southwards almost to Heath Road. A track was used to transport the excavated material from the quarry to the nearby kilns. An isolated and relatively small clay pit is shown to the west of the brickworks and close to Old Stowmarket Road, east of the current site.

3.5.5 The 1884 map shows two other major brickworks to the north of Old Stowmarket Road, with extensive clay pits, some of which were labelled as 'old'. The only feature shown on this map within the area of the current site was a small gravel pit in its west, at the end of a trackway running northwards to Old Stowmarket Road.

3.5.6 The 2nd Edition 25-inch Ordnance Survey map of 1904 shows a more fully developed brickworks and indicates that new pits had been dug to its west, ultimately becoming the fishing lake now located immediately east of the current site. A notable feature of this map is the network of tramways that ran down into the quarries, by which the excavated material was transported. Within the site area, the gravel pit shown on the preceding map had apparently been backfilled and the trackway extended to access a larger pit located just outside the southern boundary of the site; this pit remains partially extant.

3.5.7 Subsequent maps show no obvious changes in land use on the site, with the trackway leading to the gravel pit in existence until at least the 1950s. Map evidence suggests that the Woolpit Brickworks were disused by the late 1930s, and an account on the village website states that they went out of business at the beginning of the Second World War. An attempt to reopen the quarry after the War (by the London Brick Company) apparently failed when the workings became flooded (Website 3).

3.5.8 Although Ordnance Survey maps show no features within the site area (apart from the aforementioned small western gravel pit and trackway), a geological survey of the site carried out in 1978 (Bristow and Gregory 1978) recorded an arc of five disused quarry pits, defining the known western extent of the Woolpit Beds. Three of these pits were located within the current site boundary, while the fourth is the extant gravel pit immediately south of the site boundary. The same survey also shows the steep slope defining the western edge of the extensive former quarries, immediately east of the current site.

3.5.9 It appears from the above that relatively small-scale quarrying of brickearth took place within the site boundary, and that some of those pits were still open in the late 1970s. From the map evidence, it is unclear if quarrying within the

site area was directly associated with the adjacent Woolpit Brickworks, although this seems likely.

3.5.10 It is assumed that the clay pits had been backfilled and the site returned to agricultural use by the 1980s. Google Earth images demonstrate that the site remained in cultivation until at least 2015.

3.6 Previous Archaeological Work

3.6.1 Prior to the first phase of trial trench evaluation, a geophysical (magnetometer) survey was carried out (Schofield 2016). This revealed a series of positive linear trends indicative of post-medieval field boundaries, linear areas of magnetic enhancement associated with modern quarrying, negative linear anomalies deriving from modern agricultural practices, a curvilinear anomaly of geological or possible archaeological derivation and discrete anomalies identified as potential rubbish pits (ibid., 9).

3.6.2 Two phases of trial trench evaluation conducted by Suffolk Archaeology CIC (24 trenches; Cuthbert 2016) and Archaeology South-East (28 trenches; Heard 2020) identified localised focuses of Neolithic and Early/ Middle Iron Age activity in the south of the site. Each of these focuses comprised pits (and in the case of the Neolithic remains, a shallow ditch or gully) containing pottery, burnt and struck flint, charred plant remains and, for the Iron Age, butchered animal bone.

3.6.3 Both phases of trial trenching revealed extensive post-medieval brickearth quarrying activity across the northern and central parts of the site. This clay extraction may have entirely removed any evidence of earlier activity in these parts of the site. However, in any case it seems likely that prehistoric activity was primarily concentrated on the outcrop of light and well-drained sandy gravel geology on the higher ground at the southern edge of the site.

4 METHODOLOGY

4.1 General (Figure 2)

4.1.1 The archaeological excavation comprised three areas, each targeting prehistoric archaeological remains identified by the trial trench evaluation. The areas were slightly reconfigured due to the presence of mature trees along some of the site boundaries, 11kv overhead cables, and archaeological considerations, i.e. Area 3 was enlarged to encompass the full extent (bar the south-west corner) of the identified enclosure. Area 3 was also split into two separate parts, either side of the overhead electricity lines. Following diversion of the overhead powerlines, PCA returned to site on 9th–10th August 2021 to strip a small additional area that had initially been inaccessible, with the aim of revealing the full extent of the enclosure.

4.1.2 Area 1 targeted two Early/Middle Iron Age pits ([45/006] and [45/012]) identified in Trench 45, towards the south-west of the site. Area 2 targeted a possible Early Neolithic gully [0050] identified in Trench 21, in the south-east. Area 3 targeted an Early Neolithic pit [0020] identified in Trench 24, in the south of the site.

4.2 Excavation Methodology

4.2.1 A 21-ton 360° tracked mechanical excavator, operating under close archaeological supervision, was used to strip the excavation areas. Topsoil and other overburden of low archaeological value was removed in spits down to the level of the undisturbed natural geological deposits where potential archaeological features could be observed and recorded.

4.2.2 Exposed surfaces were cleaned by trowel and hoe as appropriate and all further excavation was undertaken manually using hand tools.

4.3 Recording and Finds Recovery

4.3.1 The limits of excavations, heights above Ordnance Datum (m OD) and the locations of archaeological features and interventions were recorded using a GPS rover unit with RTK differential correction, giving three-dimensional accuracy of 20mm or better.

4.3.2 Deposits or the removal of deposits judged by the excavating archaeologist to constitute individual events were each assigned a unique record number (often referred to within British archaeology as 'context numbers') and recorded on individual pre-printed forms (Taylor and Brown 2009). Archaeological processes recognised by the deposition of material are signified in this report by round brackets (thus), while events constituting the removal of deposits are referred to here as 'cuts' and signified by square brackets [thus]. Where more than one slot was excavated through an individual feature, each intervention was assigned additional numbers for the cutting event and for the deposits it contained (these deposits within cut features being referred to here as 'fills'). Multiple sections excavated across a single feature were later grouped together by unique 'group numbers', e.g. 'Ditch 1'. The record numbers assigned to cuts, deposits and groups are entirely arbitrary and in no way reflect the chronological order in which events took place. All features and deposits excavated during the excavation are listed in Appendix 2. Artefacts recovered during excavation were assigned to the record number of the deposit from which they were retrieved.

4.3.3 In order to avoid duplication of numbering from the evaluation stage of fieldwork, which used the same identifier/ Site Code (WPT 054), context/ record numbering for the excavation started at '100'. The first stage of site evaluation recorded context numbers 1–50; numbering in the second phase of evaluation was organised by trench number, with the identifier for each feature or deposit within the trench beginning with the trench number and then having a sequential number beginning at '001'; for example, the ploughsoil in Trench 25 was numbered '25/001'.

4.3.4 Metal-detecting was carried out during the topsoil and subsoil stripping and throughout the excavation process. Archaeological features and spoil heaps were scanned by metal-detector periodically. Metal-detecting was carried out by Tom Lucking. The only significant object found was a 14th-century silver long-cross penny (SF100; Beveridge, Section 7.4).

4.3.5 High-resolution digital photographs were taken of all relevant features and deposits and were used to keep a record of the excavation process. In

addition, monochrome photographs were taken of significant features.

4.4 Sampling Strategy

4.4.1 Discrete features were half-sectioned, photographed and recorded by a cross-section scaled drawing at an appropriate scale (either 1:10 or 1:20). Where large or significant finds assemblages were present, features were subsequently 100% excavated for finds recovery.

4.4.2 Linear features were investigated by means of regularly spaced slots amounting to 25% of their lengths. Where stratigraphic relationships between features could not be discerned in plan, relationship slots were also excavated, and these were recorded as part of the GPS survey and noted on the relevant context sheets.

4.5 Environmental Sampling

4.5.1 A total of 15 bulk samples (generally 20–40 litres in volume) were taken to extract and identify micro- and macro-botanical remains. The aim of this sampling was to investigate the past environment and economy of the site. An additional aim of the sampling was to recover small objects that are not readily recovered by hand-collection, such as metalworking debris and bones of fish and small animals. The samples from the inhumation burial ([148]) were also intensively sorted for fragmentary human bone and for any potential small finds, such as beads. None were present apart from a fossil shark's tooth, probably deriving from the natural geology and incidentally present in the grave (Rielly, Section 7.5). The samples were taken from sealed deposits.

5 QUANTIFICATION OF ARCHIVE

5.1 Paper Archive

Type	Totals from Excavation
Context register sheets	6
Context sheets	42
Section register sheets (Sheet Register)	3 (2)
Sections at 1:10 & 1:20 (No. Sheets.)	32 (6)
Photo register sheets	4
Small Finds register sheets	1
Environmental register sheets	1

5.2 Digital Archive

Type	Totals from Excavation
Digital photos	515
GPS survey files	4
Digital plan	1
GIS project	0
Access database	1

5.3 Physical Archive

Type	Totals from Excavation
Struck flint	143 (includes evaluation)
Burnt flint	30; 369g (includes evaluation)
Pottery	169; 703g (includes prehistoric pottery from evaluation)
Ceramic building material/ fired clay	24; 260g
Small Finds	1
Animal bone	2
Human bone	1 partial skeleton (see Section 7.6)
Environmental bulk samples (10L Buckets)	15 (53)

6 ARCHAEOLOGICAL RESULTS

6.1 Overview and Phasing (Figures 2–5)

6.1.1 The earliest activity at the site was represented by a generally sparse distribution of irregular features, concentrated in Excavation Area 2 but also present in Area 3. Their irregular shapes in plan and profile, together with the sterile appearance of their fills, indicate that these features were natural in origin, probably a combination of periglacial cracks in the ground surface and some tree hollows. Although natural, some of these features contained small quantities of prehistoric struck flint and/ or Early Neolithic (c. 4000–3000 BC) pottery. These finds were present at a low density and appear to be incidental inclusions of material that was present on the prehistoric ground surface and became incidentally incorporated into underlying hollows as they filled in. A single Early Neolithic pit in Area 3 (found in Evaluation Trench 24) contained a fairly large finds assemblage, including pottery fragments, struck and burnt flint, burnt animal bone and charred cereal grain, which clearly represents a deliberate deposit of residues from occupation on or close to the site.

6.1.2 Area 3 contained a crouched inhumation burial accompanied by a fragmentary Beaker vessel. Bone from the skeleton returned a calibrated AMS radiocarbon date in the range 2455–2204 BC at 95% probability, the Chalcolithic or very Early Bronze Age. The burial was off-centre within a rectangular/ sub-square ditched enclosure, the fills of which contained a little probably Neolithic to Bronze Age struck flint and a few sherds of Early Neolithic and Early Bronze Age pottery. It is not clear whether the enclosure was contemporary with the grave, a later addition, or potentially even a chance placement which had nothing to do with the presence of an earlier burial. Charcoal from the ditch fills returned widely varying radiocarbon dates in the Early Bronze Age and early post-medieval period (see below); this material was not well stratified and the AMS dates are not reliable. A later Bronze Age or Iron Age date is considered most likely based on comparison with a small number of similar enclosures excavated elsewhere in Suffolk and further afield. The enclosure had not been identified by the geophysical survey or trial trenching and its presence was entirely unexpected.

6.1.3 Middle Iron Age activity was represented by three pits in Area 1, two of which had been identified by the evaluation. Their contents indicate a settlement area somewhere close by, probably to the south-west of the site.

6.1.4 The only evidence of later activity, prior to the post-medieval period, was a residual 14th-century silver coin found in the topsoil near Area 2. This was probably either a chance loss or was deposited during manuring of arable land before the site became part of Woolpit Heath. This almost complete absence of archaeological features or finds at the site from any time between the c. Middle Iron Age and post-medieval period suggests low-intensity land-use, as would be expected if the site had been part of a heath or common.

6.1.5 The brickearth quarrying activity which is known to have taken place in this part of Woolpit from the 16th century onwards, and extensive evidence of which was found during the evaluation, was seen at the northern edge of Excavation Area 1 and in Area 2.

Deposit Sequence

6.1.6 The overburden across the three excavation areas comprised dark greyish-brown sandy silt topsoil 0.3–0.4m deep ((100), (123), (125), (127)) overlying a mid-reddish-brown clayey silt subsoil which ranged from 0.28m thick in Area 3 to up to 0.5m thick in Area 2 ((101), (124), (126), (128)), which was slightly downslope. Both contained frequent flint inclusions. The natural geology (102) varied considerably across the excavated areas. Across the majority of Area 1 it was a coarse sand, except at its north-west corner where the substrate changed abruptly to a sandy clay brickearth. In Area 2, the geology was a highly variable mixed glacial deposit of silty clay, sand and flint gravel with numerous striations and lenses. In Area 3 the geology was sand and flint gravel, again with considerable variation. Archaeological features in the main (northern) part of Area 3, including a large enclosure ditch, an inhumation burial and several tree hollows or other natural features, were visible within the lower part of the subsoil, so the machined level was left relatively 'high' across most of this area.

6.2 Early Neolithic (c. 4000–3000 BC)

6.2.1 Activity at the site during the Early Neolithic period was represented by a single pit in Area 3, found during the evaluation, which contained an assemblage of occupation residues including sherds of Mildenhall Ware/ Plain Bowl pottery, struck flint, burnt animal bone and charred cereal grains. Predominantly Early Neolithic struck flint and pottery was also present at a very low density in a range of natural features, probably a combination of periglacial frost cracks and tree hollows, across Excavation Areas 2 and 3. These artefacts were generally only present as one or two pieces in each feature, in fills that were otherwise sterile and non-anthropogenic in appearance. They are likely to represent remains of surface scatters of Mesolithic–Early Neolithic occupation debris at the site that had become incidentally caught up and preserved in underlying hollows in the ground surface.

Tree Hollows and Glacial Features in Area 2 ([104], [106], [108], [110], [115], [158], [160], [162], [164], [166], [167], [170] and [186]) (Figure 4; Plate 2)

6.2.2 The stripped geological horizon in Area 2 was a highly variable mixed glacial deposit of silty clay, sand and flint gravel with numerous striations and lenses (Plate 2). These variations were mostly irregular in plan with diffuse edges and pale, sterile-looking, silty or sandy clay fills, similar to the surrounding natural geology. Thirteen of these striations/ lenses were tested with the aims of characterising them, establishing whether they were indeed, as they appeared, natural features, and to see whether any contained cultural material that might date them.

6.2.3 Several of the natural features were found to contain one or two sherds of Early Neolithic pottery (three features) and/ or struck flints which, where diagnostic, generally display the characteristics of blade-based Mesolithic and Early Neolithic flint-working, although some could be later (seven features). There was certainly Early Neolithic activity in this part of the site, but the majority of features investigated in Area 2 did not themselves derive from that activity. Rather, they were probably an assortment of natural tree hollows and glacial features, with the small quantities of Early Neolithic (and more generally 'prehistoric') material found in them representing the remnants of

surface scatters of occupation debris which had become incidentally caught up and preserved in hollows and depressions in the ground surface. Indeed, it is possible that a post-glacial open, tundra-like, landscape persisted on this sandy slope at a relatively late date and that what these features represent are the remains of hummocks and hollows in a bare or lightly grassed patch of light soil where vegetation growth had not yet stabilized the ground surface.

6.2.4 Natural Feature [104] was roughly circular in plan with uneven sides, an uneven base (0.76m long x 0.64m wide x 0.2m deep) and a single fill of moderately compact mid-greyish-brown sandy clay (103) which contained a struck flint flake and a broken flint prismatic blade.

6.2.5 Natural Feature [106] was oval in plan with moderately sloping sides, a concave base (0.94m long x 0.52m wide x 0.19m deep) and a single fill of mid-greyish-brown sandy clay with flint inclusions (105) which contained no finds.

6.2.6 Natural Feature [108] was irregular but roughly linear in plan with moderately sloping sides, an uneven base (9m+ long x 2m wide x 0.34m deep) and a fill of mid-greyish-brown sandy clay with flint inclusions (107) which contained a small sherd (2g) of flint-tempered Early Neolithic pottery and a struck flint core fragment.

6.2.7 Natural Feature [110] was highly irregular in plan (possibly forming part of the same amorphous feature as Slot [164], below) with steep to vertical sides, an uneven base (3m+ long x 0.62m wide x 0.48m deep) and a single fill of mid-greyish-brown sandy clay with flint inclusions (109), which contained three struck flints: a blade-like flake, a prismatic blade and a flint chip.

6.2.8 Natural Feature [115] was oval in plan with steep sides, a concave base (1.5m long x 0.94m wide x 0.28m deep) and a fill of compact mid-greyish-brown sand with occasional flints (116), from which two struck flint flakes, one of them quite 'squat' and potentially later prehistoric (i.e. Bronze Age–Iron Age), were recovered.

6.2.9 Natural Feature [158] (Plate 3) was oval in plan with moderately sloping sides, an uneven base (1.7m long x 1.2m wide x 0.3m deep) and a fill of moderately

compact mid-greyish-brown silty sand with occasional small flint inclusions (157) which contained no finds.

6.2.10 Natural Feature [160] (Plate 3) was roughly circular in plan with moderately sloping sides, an uneven base (1.9m long x 1.8m wide x 0.3m deep) and a single fill of moderately compact mid-greyish-brown silty sand with occasional charcoal and small flint inclusions (159), which contained a sherd (4g) of flint-tempered Early Neolithic pottery.

6.2.11 Natural Feature [162] was irregular in plan with gently sloping sides, a flat base (1.35m long x 0.7m wide x 0.1m deep) and a single fill of loose light yellowy-brown silty sand with occasional charcoal and flint inclusions (161), which contained a narrow, well-struck flint flake.

6.2.12 Natural Feature [164] was highly irregular in plan with irregular sides, an uneven base (11m+ long x 1.1m wide x 0.1m deep) and a single fill of loose light yellowy-brown silty sand (163), which contained no finds.

6.2.13 Natural Feature [166] was oval in plan with steep sides, a concave base (2m long x 1.1m wide x 0.3m deep) and a single fill of loose yellowy-brown silty sand with occasional flint and charcoal inclusions (165), which contained a struck flint flake.

6.2.14 Gully [167] (Figure 8, Section 120; Plate 5) was curvilinear in plan with steep, slightly irregular sides, an undulating but broadly concave base (9.75m long x 1.4m wide x 0.54m deep) and a single homogeneous fill of mid-brown clayey silt with moderate flint inclusions (168), which contained four struck flints, a little burnt flint (4; 8g) and two sherds (7g) of Early Neolithic pottery, one from a Carinated Bowl. The flints include three flakes and a blade, all in poor, chipped condition; a blade-like flake is likely to be Mesolithic–Early Neolithic but the other pieces could be later. A soil sample from the fill of the gully did not contain any identifiable plant macrofossils (Hunter Dowse, Section 7.7). Gully [167] was the same as Gully [0050] (Slots [0045]/[0048]) in Evaluation Trench 21 (Heard 2020, 28–9 and fig. 23), which also contained flint-tempered probable Early Neolithic pottery (4 sherds; 11g) and two struck flints. The feature had diffuse edges but its overall plan was an approximately oval ‘ring'.

It is possible that it was the foundation or eaves-drip gully for a tent or lightweight shelter associated with the Early Neolithic activity in this part of the site. However, a natural origin, as with the other features containing Early Neolithic pottery, is considered more likely. The remaining part of the feature was subsequently 100% excavated for purposes of characterization and finds recovery.

6.2.15 Natural Feature [170] (Plate 4) was oval in plan with moderately sloping sides, an uneven base (1.7m long x 1.22m wide x 0.41m deep) and a fill of moderately compact mid-greyish-brown silty sand with occasional small flints (169), which contained no finds.

6.2.16 Natural Feature [186] was curvilinear in plan with moderately sloping sides, an uneven base (9m+ long x 1m wide x 0.15m deep) and a single fill of mid-greyish-brown sandy clay with flint inclusions (187) which contained no finds in the excavated slot.

Tree Hollows and Glacial Features in Area 3 ([144], [146], [151], [154], [156], [172], [174], [176], [178] and [180]) (Figure 5)

6.2.17 Two natural features interpreted as glacial frost-cracks were recorded in the south of Area 3 ([144] and [146]), one of them close to the position of Pit [0020] in Evaluation Trench 24 (see below).

6.2.18 Natural Feature [144] was an elongated oval shape in plan with sloping sides, a concave base (1.5m long x 0.56m wide x 0.22m deep) and a single fill of friable mid-greyish-brown silty sand with stone inclusions (143) which did not contain any artefactual material.

6.2.19 Natural Feature [146] (Figure 8, Section 112; Plate 6) was irregular in plan with steep sides, a concave base (0.8m long x 0.5m wide x 0.3m deep) and a single homogeneous fill of friable mid-greyish-brown clayey sand with stone inclusions (145), which contained 15 ‘crumbs’/ small sherds (21g) of Early Neolithic pottery. Feature [146] was close to Pit [0020] from the evaluation but did not have either the 'deliberately-dug' profile or large and varied finds assemblage found in that pit.

6.2.20 Five tree hollows were identified in the interior of the rectangular enclosure in Area 3 (see below). Two of these ([172] and [174]) were identified in close proximity to Inhumation 1 and, as such, might perhaps be broadly contemporary with the possible tree hollow that was used/reused for the burial (see below). Both features were fully excavated. They were irregular in plan, measuring between 2.5 and 3m long, 1–1.3m wide and 0.1–0.3m deep. They had irregular sides and uneven/ flat (respectively) bases. Their fills were loose, light greyish-brown sands with flint inclusions ((171) and (173)). Feature [172] contained a fragment of marine shell; Feature [174] contained two well-struck flint flakes and an edge-trimmed prismatic blade with very fine retouch/ use-wear or worn serrations along one edge (Bishop, Section 7.1).

6.2.21 Three further tree hollows ([176], [178] and [180]) were investigated in the south-western part of the rectangular enclosure; their date and any association with the enclosure and/ or burial are indeterminable. Two of these features ([176] and [178]) were oval in plan, measuring 1.7–2.4m long, 0.7–0.8m wide and 0.13m deep. They had moderately sloping sides and sloping or concave bases. Their fills were loose mid-orangey-brown sands with flint and chalk inclusions ((175), (177)). Tree Hollow [176] contained a struck flint flake. The third tree hollow [180] was larger but still shallow (3.25m+ long x 2m wide x 0.12m deep), with a linear shape in plan, gently sloping sides, irregular flattish base and single fill of mid-orangey-brown sand with flint inclusions (179), which contained a metatarsal from a large pig, possibly a wild boar (Rielly, Section 7.5), and a piece of burnt clay.

6.2.22 Three natural features interpreted as tree hollows were identified in the northern part of Area 3, outside the rectangular enclosure, two immediately west of it and one cut by the enclosure ditch on its south-east side. The features adjacent to the north-west corner of the enclosure ([154] and [156]) were elongated and irregular in plan, measuring 1.37–1.9m long, 0.47–0.7m wide and 0.28–0.3m deep. They had moderately sloping sides, concave or uneven bases and were filled with friable to moderately compact sands varying from light to mid-brown in colour ((153) and (152), (155)). The lower fill of Tree Hollow [154] (153) contained a struck flint blade; Tree Hollow [156]

did not contain any cultural material. Tree Hollow [151] was heavily truncated by the enclosure ditch. What remained of the feature was irregular in plan (0.94m long x 0.67m wide x 0.22m deep) with moderately sloping sides, a concave base and a single fill of loose mid-greyish-brown silty sand with flint inclusions (150), which contained no finds.

6.2.23 Although the majority of the natural features in the main part of Area 3 are strictly undated, they are considered most likely to predate the enclosure. They were similar appearance to the tree hollows and glacial features recorded in Area 2 and the south of Area 3 which fairly consistently contained Early Neolithic pottery and/ or struck flint diagnostic of blade-based Mesolithic–Early Neolithic flint-working.

Early Neolithic Pit in Area 3 ([0020]) (Figure 5)

6.2.24 Pit [0020], excavated in Evaluation Trench 24 (Heard 2020, 30–31 and fig. 25), was oval in plan with vertical sides breaking gradually to a flat base (1.05m north–south x 0.85m east–west x 0.44m deep). The pit contained a sequence of four fills, as follows: basal fill (0037), confined to the west side of the pit, was a light brown silty sand up to 80mm thick, with no finds; it probably derived from slumping of the pit's side. Fill (0036) was a dark brownish-grey silty sand, 0.11m thick, with occasional pebbles, which contained three sherds (9g) of probable Early Neolithic pottery, nine abraded fragments (14g) of pottery or fired clay (from residues of soil Sample <2>), thirteen struck/worked flints, some heat-altered flint and a small amount of calcined animal bone of indeterminate taxa. Sample <2> produced some charred grains of wheat and fragments of charred hazelnut shell. Fill (0035) was a mid-brown silty sand, 0.12m thick, with occasional pebbles, which contained one blade-like flint flake and two pieces of heat-altered flint. Uppermost fill (0021) was a dark brownish-grey silty sand, 0.22m thick, with occasional small to large pebbles, which contained 48 sherds (230g) of flint-tempered pottery (plus a large amount of abraded material from residues of soil Sample <1>), probably dated to the Early Neolithic period, 34 struck/worked flints (of probable Early/Middle Neolithic date), and small amounts of heat-altered flint and other stone, as well as calcined animal bone including cattle, pig and indeterminate medium and

large mammals. Sample <1> also produced some charred grains of wheat and fragments of charred hazelnut shell. The struck flint is all debris from systematic blade-based reduction and includes a leaf-shaped arrowhead blank made on a flake of cherty grey flint with edge blunting and shallow invasive 'thinning' retouch across parts of both faces (Bishop, Section 7.1).

6.2.25 No other comparable Early Neolithic features (i.e. apparently manmade pits with large and varied assemblages of associated cultural material) were found during the excavation. The only possibly contemporary features found close to Pit [0020] were natural tree hollows/ frost cracks (e.g. [146]) like those seen in Area 2.

6.3 Chalcolithic/ Early Bronze Age (c. 2500–2200 BC)

Inhumation 1 ([148]) (Figures 5–7; Plate 10)

6.3.1 An inhumation burial associated with a fragmentary ceramic Beaker was identified in the main (northern) part of Area 3. The burial was located inside a rectangular/ sub-square ditched enclosure (see below), offset on the east side of the enclosure's interior rather than central to it (Plate 13). The body of an adult/ elderly (45+ years) probable male SK149 was laid in a tightly crouched position and oriented broadly north–south, with the head to the north (Plate 10). The skeleton, apart from largely intact legs and feet, was poorly preserved (Ivanova, Section 7.6). The burial was accompanied by an incomplete Beaker vessel (48 sherds; 167g; Figure 9; Plates 11–12) placed behind the shoulders (Percival, Section 7.2). A sample of bone taken from one of the individual's femurs returned a date of 2455–2417 (9.0%), 2410–2269 (61.7%) or 2261–2204 (24.7%) cal. BC (Section 7.9), the Chalcolithic to Early Bronze Age.

6.3.2 The form of the grave is potentially interesting, the body lying in a highly irregular hollow, possibly of natural origin, the main part of which was roughly oval in plan with moderately sloping but irregular sides, a very uneven base (1.83m long x 1.12m wide x 0.29m deep) and a homogeneous fill of mid-greyish-brown silty sand with flint inclusions (147) that was similar in appearance to the fills of all the other natural features. Alternatively, it is possible that an originally regular-shaped shallow oval grave may have been

severely disturbed by later rooting or burrowing, accounting for the irregular 'extension' of the grave to the north-west, which had an indistinguishable cut and fill, and for the incomplete and poorly preserved condition of the skeleton and Beaker. The grave fill contained a small, possibly struck, flint flake. A soil sample <106> taken from the area of the skeleton's feet contained a fossil shark's tooth, which may either have been a deliberate burial or an incidental inclusion deriving from the natural geology (Rielly, Section 7.5).

6.4 Bronze Age–Iron Age?

Rectangular/ Sub-Square Ditched Enclosure (Slots [114], [132], [136], [142], [182], [185], [189] and [191]) (Figures 5–6; Plates 7–9)

6.4.1 A broadly rectangular/ sub-square ditched enclosure was identified in Area 3. The excavation area was extended to reveal its full extent. The enclosure was formed by a single continuous ditch.

6.4.2 The enclosure was aligned roughly east-north-east to west-south-west and measured approximately 18.5m north-north-west to south-south-east by 22.5m east-north-east to west-south-west, with internal dimensions of 17.5 by 14m and an internal area of 272m². Eight 2m slots were dug through the enclosure ditch at intervals, at its corners and approximately midway along each side. The spacing of the ditch slots was skewed to some extent by the presence of an evaluation trench and the break between the main phase of excavation and the return to site to excavate the enclosure's south-west corner. These slots were dug in order to ascertain the ditch profile, nature of infilling and to recover dating evidence, as well as to identify any other finds which might help to characterize the enclosure’s function.

6.4.3 The ditch forming the enclosure measured between 1.9 and 3m wide and 0.5–0.8 deep and had moderately sloping sides and a concave to 'v'-shaped base (Figure 6; Plates 14–19). It generally contained between two and three observable fills, which were mostly sterile in appearance and likely to derive from natural infilling with runoff silt and slumped sand from the ditch’s sides; the south-western part of the enclosure ditch had only one homogeneous fill. The fills were generally moderately compact silty or slightly clayey sands ranging from light to mid-greyish-brown in colour, with angular flint inclusions,

which were particularly abundant lower down in the fill sequence (e.g. in Slots [114], [132] and [142]). The sterility of the ditch fills no doubt accounts for its invisibility on the magnetometer survey.

6.4.4 The ditch fills were artefact-poor, containing in total just six small sherds/ 'crumbs' (5g) of Late Neolithic–Early Bronze Age pottery, including comb-impressed Beaker sherds (different comb impressions to the vessel accompanying Inhumation 1) (Percival, Section 7.2), and four residual sherds (20g) of Early Neolithic pottery, possibly of Plain Bowl type (in addition to a 1g pottery 'crumb' which is not closely datable). The Beaker sherds came from Slots [136] and [142], a middle fill and a lower fill, respectively. Struck flints (28 in total) were recovered from Slots [114], [136], [142] and [185]. These are a mix of flakes, chips and a few blades/ blade fragments, the latter likely to be Mesolithic–Early Neolithic but the former including several squat and/ or badly-detached examples which are more in keeping with later prehistoric flint-working. Slot [136] contained a large and well-made end-scraper, which could be Neolithic or Early Bronze Age (Bishop, Section 7.2).

6.4.5 It is possible that the western arm of the enclosure ditch, at least, was deliberately backfilled, as seen in the upper fill of Slot [185] (183), which appeared to consist of redeposited natural sand; the homogeneous fill of adjacent Slot [182] was also interpreted on site as a deliberate backfill, though with less obvious justification. In a few slots (e.g. [114] and [185]) the lower fills had the appearance of having mainly been deposited from the outside edge of the ditch, suggesting the possible original presence of a low (given the likely volume of excavated spoil from the ditch) external bank, but the evidence for this is not strong. Overall, the appearance of the ditch fills is more in keeping with gradual, natural infilling, with the very small amounts of struck flint and pottery representing incidental inclusions of material that was present on the surrounding ground surface. There was no evidence for the enclosure ditch having been scoured out or recut.

6.4.6 The only interior features within the enclosure were the crouched burial, Inhumation 1 (see above), and five tree hollows that are likely to have been either earlier than the enclosure (Early Neolithic; see above) or possibly

broadly contemporary with it. Two tree hollows that were approximately central to the enclosure were fully excavated in case they contained human burials, but no human remains or associated material were found. Had they ever contained inhumations, some bone survival would be expected in view of the state of preservation of adjacent Skeleton (149).

6.4.7 Taking into account the sterile appearance of the ditch fills, scarcity of artefactual material, lack of an entrance, lack of obviously associated features (e.g. pits) and the small size of the enclosure, a function as a settlement/ house enclosure or use as a stock enclosure both seem highly unlikely. A function as a mortuary enclosure is most plausible, with the surrounding ditch perhaps being dug at broadly the same time as the interment of Inhumation 1, although the non-central position of the grave within the enclosure (offset to the east) is not easy to explain unless the central space was occupied by one or more trees (e.g. Tree Hollows [172] and [174]).

6.4.8 Alternatively, the enclosure of the spur of land on which the burial was positioned could have been a later event, intended to 'monumentalise' an earlier burial place. With this latter possible scenario in mind, it is worth noting that there was a noticeable concentration of fairly large flint nodules (100–150mm) in the subsoil above and around the crouched burial, on the stripped ground surface in and adjacent to the south-eastern part of the enclosure, and in the fills of Enclosure Ditch Slots [114] and [132] (see Plate 14). These stood out to the excavators from the general background of flint in the natural substrate both in terms of their frequency and in their greater than average size. While this evidence is by no means conclusive, it might be that there was originally a flint mound or cairn over the grave. If so, it may be that the location of the burial was only approximately indicated by an eroded/ slumped mound at the time when the spur was enclosed by the digging of the ditch and this could explain why the grave was not centrally positioned within the enclosure.

6.4.9 A third possibility is that the positioning of the enclosure at this location was a later and entirely unrelated event that had no relation to, and in no way referenced, the presence of the Early Bronze Age grave. Under this scenario,

there would still be a need to explain the function of an enclosure of this small size, without an entrance, and lacking any associated settlement evidence.

6.4.10 Wood charcoal found in bulk samples from two of the enclosure ditch fills was sent for AMS radiocarbon dating. These samples returned widely varying dates, one in the Early Bronze Age (2008–2004 (0.3%), 1961–1869 (64.1%) or 1850–1772 (31.0%) cal. BC), and one in the late medieval to early post-medieval period (1449–1523 (65.2%) or 1574–1626 (30.2%) cal. AD) (Section 7.9). The charcoal was not well stratified and is of unknown origin and depositional history: the inclusion of Early Bronze Age burnt material in the ditch fill might simply reflect continuing anthropogenic activity in this area in the centuries following the burial, which left material on the ground surface that then became incidentally caught up in a later cut feature. Late medieval/ early post-medieval material could well be intrusive. Neither material was necessarily in any way contemporary with either the creation or the infilling of the enclosure ditch.

6.4.11 The date and context of the enclosure, and parallels for it, are further discussed in Section 8. In brief, no British parallel has been found for a Bronze Age rectangular/ sub-square mortuary enclosure or funerary monument. In Suffolk and neighbouring counties, a small number of broadly square enclosures of similar size are known from cropmarks and have generally been assigned a provisional Iron Age date, apparently based on their perceived morphological similarity to Middle Iron Age 'Arras Culture' square barrows known mainly from the East Riding of Yorkshire. Excavation at a few sites in Norfolk, Cambridgeshire, Essex, and recently in Suffolk at Hadleigh and Martlesham, has provided some confirmation of their suggested Iron Age dating, but overall, the date and function of these small sub-square enclosures remain poorly understood.

6.5 Middle Iron Age (c. 350–50 BC)

Pits in Area 1 ([139], [122], [45/006]) (Figure 3)

6.5.1 Two pits in the centre of Area 1, both identified during the evaluation, contained Middle Iron Age pottery and other finds (animal bone, charred grain, daub with possible wattle impressions) indicative of domestic activity

somewhere in the near vicinity. A third pit is thought to be contemporary based on its similar fill.

6.5.2 Pit [139] (Figure 8 Section 109; Plate 20) was circular in plan with steep sides and a rounded base (1.7m x 1.6m wide x 0.38m deep). It contained two fills: a lower fill of dark brownish-grey silty sand (138) which contained no finds, and an upper fill of dark blueish-grey sand with flint inclusions (137) which contained four sherds (36g) of pottery, fired clay or daub fragments (17; 23g), a cattle-sized scapula fragment (Rielly, Section 7.5) and, from a soil sample, possible barley-type (cf. Hordeum sp.) cereal grains and weed seeds (Hunter Dowse, Section 7.7). The pottery is handmade and sand-tempered and includes part of the rim of a slack-shouldered jar and another rim sherd from a fine cup or small jar, the former with incised vertical scoring. The fabric and forms are typical of Middle Iron Age ceramic assemblages in the region, including, for example, that from the settlement at West Stow (West 1989; see Percival, Section 7.2). Due to the small size of the fired clay fragments it is not possible to be sure whether they represent the binding/ sticking earth from wattle-and-daub structure(s), the lining of kilns or ovens, or derive from loom weights (Valcarcel, Section 7.3). However, the presence of daub with possible wattle impressions in adjacent Pit [45/006] might support an association with buildings or other structures.

6.5.3 Pit [139] was the northern two thirds of Pit [45/012], which was first identified and excavated in Evaluation Trench 45 (Heard 2020, 47–48, fig. 45). The southern part of the feature was deeper and was recorded as having five fills, which contained a total of 14 sherds (112g) of Early/Middle Iron Age pottery, flecks of fired clay/daub (the latter not collected), and, from an environmental sample (<4>), charred grains of hulled barley and possible wheat, charred hazelnut shells, a charred grass stem, and a small amount of calcined animal bone, including a medium mammal bone, not identifiable to taxa.

6.5.4 Pit [122] (Figure 8, Section 106) was 5m east of Pit [139]. It was oval in plan with steep sides, a concave base (0.55m long x 0.40m wide x 0.25m deep) and a single fill of dark blueish-brown sand (121) which contained no finds. Based on the similarity of its fill to that of adjacent Pit [139], Pit [122] is

considered to be broadly contemporary.

6.5.5 Pit [45/006] was excavated in Evaluation Trench 45 (Heard 2020, 47, fig. 45). It was oval in plan with steep sides breaking sharply into a slightly concave base (1.53m x 1.40m wide x 0.39m deep) and contained a sequence of two fills: lower fill (45/005) was a compact, dark grey/black silty sand, 0.30m thick, with frequent charcoal, from which three sherds (38g) of Early/Middle Iron Age pottery and some animal bone were recovered. The latter included cattle, pig and fragments of medium and large mammal bones not identifiable to taxa; some of the bone was calcined. Upper fill (45/004) was a loose dark brownish-grey silty sand, 0.21m thick, with moderate small to medium fragments of animal bone, two fragments (20g) of Early/Middle Iron Age pottery and two fragments (28g) of fired clay/daub with possible wattle impressions. The bone included cattle, sheep and fragments of large mammal bones not identifiable to taxa. An environmental sample <3> produced a charred grain of hulled barley, a charred brome seed, hazelnut shells and some oak charcoal.

6.6 Post-Medieval (c. AD 1700–1900+)

Quarry Pits in Areas 1 and 2 ([117]) (Figures 3 and 4)

6.6.1 Evidence of infilled post-medieval and modern clay extraction pits associated with the former brickworks was widespread across the northern and central parts of the site in the evaluation trenches. Brickearth quarries can still be seen adjacent to the eastern site boundary.

6.6.2 At the northern edge of Area 1, the exposed natural geology changed abruptly from coarse sand to sandy clay. Northwards from this point the ground was disturbed by numerous closely spaced clay extraction pits, which were not excavated as the brickearth quarrying activity at the site had been sufficiently characterised by the two phases of trial trench evaluation.

6.6.3 A pit in the approximate centre of Area 1 was similar in morphology to the post-medieval clay extraction pits seen at the northern edge of the excavation area and recorded across the northern and central parts of the site. Pit [45/014] was rectangular with vertical sides, a flat base (5m east–west x 3.36m north–south x 1m deep) and a fill of pure, loose, coarse light yellowish-brown

sand. Its angular sides and profile were suggestive of having been dug mechanically. It may have been an exploratory pit dug to establish the presence/ absence of suitable brickearth deposits in this part of the site.

6.6.4 A single feature at the eastern edge of Excavation Area 2 [117] appears to represent another exploratory pit dug to 'test' the presence and suitability of the clay deposits in that part of the site.

6.6.5 Prospection Pit [117] (Plate 21) appeared to be broadly rectangular in plan with vertical sides and a flat base (1.58m+ long x 1.48m wide x 1.1m deep). It had three fills: a lower fill of compact light greyish-yellow silty clay (120), a middle fill of compact light yellow clay (119), and an upper fill of mid-greyish-brown silty clay with moderate flint inclusions (118), which contained brick and peg tile fragments likely to date from the 18th or 19th century (Valcarcel, Section 7.3).

7 THE FINDS

7.1 Lithics

By Barry Bishop

Introduction

7.1.1 The archaeological excavation and two phases of evaluation at Old Stowmarket Road resulted in the recovery of a moderately sized assemblage of struck flint and a small quantity of unworked burnt stone. The material has been comprehensively catalogued by context and this should be consulted while reading the following text (Appendix 3). This report summarises the data in the catalogue; it quantifies and describes the material and presents an assessment and outline of its significance. The assemblage was recorded following standard technological and typological classifications and largely follows the methodology of Inizan et al. (1999) with modifications and additions as indicated in the text by the author. Retouched tools were classified following standard British works, such as those by Healy (1988) and Bamford (1985). Measurements were taken following the methodology of Saville (1980).

Quantification

7.1.2 The lithic assemblage from Woolpit comprises 143 pieces of struck flint and 369g of unworked burnt stone fragments (Table 1; Appendix 3).

Type	Decortication flake	Core rejuvenation flake	Chip (<15mm)	Flake	Blade-like flake	Blade: non-prismatic	Blade: prismatic	Flake fragment <15mm	Flake fragment >15mm	Core: flake	Core fragment	Conchoidally fractured chunk	Retouched	Unworked burnt stone (no.)	Unworked burnt stone (wt:g)
No.	15	1	11	50	14	10	13	11	10	1	1	1	5	30	369
%	10.5	0.7	7.7	34.9	9.8	7.0	9.1	7.7	7.0	0.7	0.7	0.7	3.5		

Table 1: Quantification of the lithic material

Burnt Stone

7.1.3 The unworked burnt stone all consists of flint that has been heated to a high temperature, causing it to change to a grey-white colour, become 'fire-crazed' and heavily fragment. Most of it was recovered during the evaluation stage from contexts [5] and [10], which produced116g and 245g, respectively, with the remainder, amounting to only 8g, coming from Gully [167] in Excavation Area 2. The quantities present are not large and are most suggestive of flint clast become incidentally heated through the use of ground-set hearths.

Struck Flint

7.1.4 The struck flint was predominantly recovered from unstratified soil horizons and natural features but 28 pieces were recovered from the various sections cut through the sub-square enclose in Area 3, with a further undiagnostic flake being found in Inhumation Burial [148] and a burnt flake fragment coming from Pit [139] in Area 1. The assemblage is almost exclusively made from a good knapping quality 'glassy' flint, translucent black/dark grey in colour, with occasional lighter-coloured inclusions. Surviving cortex is mostly weathered but still rough and of variable thickness, and thermal surfaces and internal flaws are common. The raw materials are likely to have been obtained from the flint-rich glacial tills that are present in the area. The condition of the pieces varies but most show only minor edge damage or rounding and many remain sharp. A small proportion of the struck pieces have also been burnt but, as with the general condition, this proportion varies considerably between the assemblages from individual features.

7.1.5 Overall, the struck flint assemblage can be characterised as the product of a competently undertaken blade and narrow flake industry, which includes elements from the entire knapping sequence, from the decortication and preparation of cores through to the use and discard of retouched implements. Much of it is the result of carefully undertaken systematic reduction, resulting in the presence of high proportions of prismatic blades, blade-like flakes and thin and narrow flakes with carefully trimmed striking platforms. Such technologies are characteristic of Mesolithic and Early Neolithic industries, with the recovery of an unfinished leaf-shaped arrowhead from evaluation Pit

[0020] (0021) demonstrating the latter period is certainly represented. However, in East Anglia material from both periods is often found in close proximity and there is no reason to exclude such a possibility here (e.g. Bishop 2020). Three of the other retouched pieces recovered during the investigations are also likely to belong to one or another of these periods, these comprising finely edge-trimmed implements that were probably used as cutting tools, one made using a prismatic blade and the other two on blades or blade-like flakes. The remaining implement consists of a large and impressively made, although now broken, end-scraper recovered from the Area 3 enclosure ditch, which might be of a similar date. However, similar 'prestigious' implements were made into the later Neolithic or Early Bronze Age and this therefore could be at least broadly contemporary with the Beaker-period funerary activity.

7.1.6 There are also a small number of thicker and irregularly detached flakes, often with wide and obtuse striking platforms, that are more reminiscent of Bronze Age industries. Interestingly, many of these were found within the ditch of the sub-square enclosure and some at least may relate to the funerary activity recorded in the vicinity. However, such pieces are few in number, and could have been made through attempts at core preparation and maintenance during the Mesolithic/ Early Neolithic period. The only core recovered, comprising a rather crudely worked centripetal type with broad flakes removed from both faces, recovered from the subsoil in Area 2, is also most reminiscent of later Neolithic and Early Bronze Age types.

Significance

7.1.7 The main significance of the struck flint is that it demonstrates flint-working activities occurring at the site, possibly by the Mesolithic, and certainly during the Early Neolithic period. The typological range indicates that raw materials were being reduced and a variety of blades and flakes produced, some of which were turned into implements and used and discarded at the site. It is broadly comparable to the large assemblages of both Mesolithic and Early Neolithic flint-work recovered from tree-throw hollows and pits at Fishponds Way, Haughley (Bishop 2020), situated 5km to the east and in a comparable

spring-dominated watershed landscape setting.

7.1.8 Small quantities of possible Bronze Age flint-work are also present which, if correctly identified, may be at least broadly contemporary with the other evidence for Bronze Age funerary activity at the site. The quantities present would not indicate that flint-working and use were particularly important elements of the activities undertaken there.

7.1.9 The unworked burnt stone assemblage, although not particularly large, demonstrates hearth use in the vicinity that is most likely to relate to the prehistoric period.

Recommendations

7.1.10 This report and accompanying catalogue are all that is required for the purposes of archiving and no further analytical work is warranted. The assemblage does, however, provide useful evidence for Mesolithic/ Early Neolithic and possibly later prehistoric activity at the site and can contribute to wider appreciations of prehistoric landscape use in the area. It is therefore recommended that it is recorded in the Suffolk Historic Environment Record and a description and discussion of its significance, along with illustrations of the retouched implements, included in any published account of the fieldwork.

7.1.11 The unworked burnt stone provides evidence for hearth use at the site, although it is not readily dateable. No further work is warranted but a mention of its presence should be included in any published account.

Illustrations (Figure 10):

1. Pit [0020] (0021). Unfinished leaf-shaped arrowhead. Early Neolithic.

2. Pit [0020] (0036). Narrow blade-like flake with fine bifacial retouch on right margin. Mesolithic–Early Neolithic.

3. Gully [0045] (0044). Edge-trimmed blade-like flake or large blade with fine, steep retouch along left margin. Mesolithic–Early Neolithic.

4. Ditch Slot [136] (134). End scraper made on a large, mostly cortical, flake with well-executed scalar retouch. Neolithic–Early Bronze Age.

5. Tree Hollow [174] (173). Edge-trimmed prismatic blade with very fine retouch/ use-wear or worn serrations along part of right margin. Mesolithic–Early Neolithic

7.2 Prehistoric Pottery

By Sarah Percival

7.2.1 A total of 169 sherds, weighing 703g, were collected during two phases of evaluation and excavation at Woolpit (Table 2). Eighty-two sherds, weighing 258g, were collected from eleven contexts and from one unstratified context during excavation by PCA, and a further 87 sherds (445g) came from trenches excavated by Archaeology South-East. The total earlier prehistoric assemblage includes 76 sherds (328g) of Early Neolithic bowl and 54 sherds (172g) of Beaker, including an incomplete Beaker found accompanying an inhumation burial. The later prehistoric assemblage comprises 25 sherds (200g) of Iron Age pottery. Fourteen sherds (3g) are prehistoric but too small to further identify.

Area/ Trench	Feature No.	Feature Type	Spot Date	Quantity	Weight (g)
1	139	Pit	Middle Iron Age	3	26
2	108	Natural	Early Neolithic	1	2
	160	Natural	Early Neolithic	1	4
	167	Natural	Early Neolithic	2	7
3	114	Ditch	Early Neolithic	2	9
	136	Ditch	Later Neolithic to Early Bronze Age	4	2
	142	Ditch	Later Neolithic to early Bronze Age	2	3
	146	Natural	Early Neolithic	2	19
			Not closely datable	13	2
	148	Inhumation	Later Neolithic to Early Bronze Age	48	167
	189	Ditch	Early Neolithic	1	6
	191	Ditch	Early Neolithic	1	5
	191	Ditch	Not closely datable	1	1
Tr. 21	0045	Gully	Early Neolithic	2	5

	0048	Gully	Early Neolithic	2	4
Tr. 24	0020	Pit	Early Neolithic	57	241
Tr. 44	002	Subsoil	Early Neolithic	1	12
Tr. 45	006	Pit	Middle Iron Age	5	57
	012	Pit	Middle Iron Age	16	112
Tr. 47	002	Subsoil	Early Neolithic	4	14
Unstratified			Middle Iron Age	1	5
Total				169	703

Table 2: Quantification of prehistoric pottery by context

Methodology

7.2.2 The assemblage was analysed in accordance with the guidelines for analysis and publication recommended by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied, and a full catalogue prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Vessel form was recorded, and the sherds were counted and weighed to the nearest whole gram. Decoration, condition, food residues and sooting were also noted.

Spot Date	Fabric code	Description	Count	Weight (g)	Vessel count
Early Neolithic	F2	Moderate fine to medium crushed, burnt, angular flint >2mm in fine clay matrix	9	37	1
	F2OX	Moderate fine to medium crushed, burnt, angular flint >2mm in fine clay matrix with oxidised surfaces	5	33	
	Q	Undiagnostic sandy	1	1	
	QF2	Moderate fine to medium crushed, burnt, angular flint >2mm in sandy clay matrix	51	239	3
	QF2mica	Moderate fine to medium crushed, burnt, angular flint >2mm in sandy clay matrix with rare mica	1	6	
	QF2voids	Moderate fine to medium crushed, burnt, angular flint >2mm in sandy clay matrix, rare sub-angular voids	9	12	
Later Neolithic – Early Bronze Age	F1	Moderate fine, crushed, burnt, angular flint >1mm in fine clay matrix	2	3	
	QF1	Moderate fine, crushed, burnt, angular flint >1mm in sandy clay matrix	5	4	
	QFG	Sandy fabric with rare fine, crushed, burnt, angular flint and rare fine sub-rounded grog	47	165	1
Middle Iron Age	Q1	Common rounded grains of quartz sand	9	106	3
	Q1OXS	Common rounded grains of quartz sand with oxidised surface	1	5	
	Q1OXSvoids	Common rounded grains of quartz sand with oxidised surface, elongated voids or impressions on exterior	3	37	1
	Q2	Moderate medium rounded grains of quartz sand, rare coarse flint	1	5	1
	Q2OXS	Moderate medium rounded grains of quartz sand, oxidised surface	11	47	
Not closely datable	Q	Undiagnostic sandy	14	3	
Total			169	703	10

Table 3: Pottery fabrics

Assemblage Description

Early Neolithic

7.2.3 Seventy-six sherds of Early Neolithic Plain Bowl, weighing 328g, were recovered from nine features and from the subsoil in Trenches 44 and 47 (Table 2). Seventy-four per cent of the Early Neolithic pottery came from pits, 10% from natural features, 8% from the subsoil, 6% from ditches and 2% from gullies. This deposition pattern is typical of Early Neolithic pottery, which is mostly recovered from pits and found residually in ditches and subsoils.

7.2.4 Within this assemblage, 14 sherds (31g) are made of sandy fabrics and 62 sherds (297g) are in flint-tempered fabrics (Appendix 4). Rims are present from four vessels: three bowls and one small, fine cup. The bowls have folded, rolled or in-turned rims comparable to Early Neolithic vessels from Hurst Fen, Mildenhall (Clark, Higgs and Longworth 1960, 248), and the cup is simple and everted. Body sherds are undecorated, with the exception of an angular sherd from a shouldered vessel, which has light channelling on the upper body. This sherd is similar to decoration seen on vessels from Hurst Fen, Mildenhall (Clark, Higgs and Longworth 1960, plate XXIV).

7.2.5 The small assemblage is not especially diagnostic; however, the angled shoulder sherd with channelled decoration suggests that it is of Mildenhall Ware type, comparable to the assemblage from the pit clusters at Kilverstone, which were radiocarbon-dated to approximately 3650–3400 cal. BC (Garrow, Lucy and Gibson 2006, fig. 2.49). A similar date range is suggested here.

Late Neolithic – Early Bronze Age

7.2.6 An incomplete Beaker vessel was recovered from Inhumation 1 ([148]). The Beaker is made of fine fabric with sparse fine grog inclusions and rare fine flint inclusions in a fine clay matrix. It has a long straight neck terminating in a direct, flat rim. The diameter at the rim is c. 140mm and around 25% of the rim survives. The lower body and base are missing. The body appears to be rounded. The profuse decoration features square-toothed comb-impressed bands, some filled with a double zigzag motif, others with lenticular impressions, possibly a fingernail, covering the entire neck of the vessel. The

Beaker probably falls within Needham's Long Necked type as the decoration displays the deep zones emphasising the vessel shape which are characteristic of this form (Needham 2005, 196). Long-necked Beakers were in use in burials from the 22nd century BC or earlier (Needham 2005, fig. 13). The Beaker does not match previous finds from the parish (Clarke 1970, fig. 401, corpus no. 961) but has similar decorative motifs to a Beaker from an inhumation burial at Brantham Hall Farm (Clark 1932, plate XXVIII, fig. 5; Clarke 1970, fig. 106, corpus no. 856). Further sherds of comb–impressed Beaker came from Enclosure Ditch Slot [136] and undecorated sherds in similar fabric came from Ditch Slot [142].

Iron Age

7.2.7 Twenty-five sherds of Iron Age pottery, weighing 200g, came from four features (Table 2). The assemblage includes rims from five vessels, all in sandy fabrics. Three are slack-shouldered jars with direct, flat-topped rims, one with external lip (cf. West 1989, fig. 47, 104), and include a small, fine jar or cup (West 1989, fig. 47, 113). One closed jar or bowl (West 1986, fig. 49, 120) is decorated along the rim top with fingertip impressions. A closed slack-shouldered jar also has a flattened rim. These slack-shouldered jars form the bulk of most Middle Iron Age assemblages from the region and date to c. 350 BC to 50 BC, being commonly found, for example, in the settlement at West Stow (West 1989).

Further Work

7.2.8 No further work is required.

Illustrations (Figure 9):

P1: Beaker in fine sandy flint- and grog-tempered fabric with square-toothed comb-impressed and fingernail or tool-impressed decoration. From Inhumation 1 ([148]).

7.3 Ceramic Building Material and Fired Clay
By Amparo Valcarcel

Introduction and Methodology

7.3.1 The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long-arm stereomicroscope or hand lens (Gowland x10).

7.3.2 Consultation of the relevant 1:50,000 geological maps for this area (British Geological Survey 2020; Website 1) provided the local geological background. New tile and brick fabrics were prefixed with 'WPT' followed by a sequential number; thus 'WPT1', 'WPT2' etc.

7.3.3 This small-sized assemblage of ceramic building material and fired clay from the excavation (24 fragments; 260g) is characterised by small groups of post-medieval material and Iron Age fired clay. Its fragmentary condition and the fact that it was recovered from the fills of pits would suggest that all the building material was redeposited.

Ceramic Building Material (7 examples; 237g)

7.3.4 The ceramic building material assemblage is dominated by fragmentary and abraded fragments of post-medieval brick and peg tile. Five different fabrics were recorded:

WPT1 (AD 1450–1900): Pinkish sandy fabric; very coarse with abundant rounded quartz, red and black iron and CBM inclusions <1cm; 3 fragments; 110g.

WPT2 (AD 1450–1900): Sandy fabric with abundant quartz; very coarse with occasional iron oxide and limestone; 1 fragment; 18g.

WPT3 (AD 1450–1900): Sandy fabric with yellow clay pellets and occasional black and red iron inclusions; 1 fragment; 73g.

WPT4 (AD 1450–1900): Hard, well-fired fine texture with few visible

inclusions, occasional quartz, occasional calcium carbonate and red iron oxide; 1 fragment; 6g.

WPT5 (AD 1450–1900): Yellow fabric, well-fired, small iron oxide inclusions; 1 fragment; 30g.

7.3.5 The small quantities of post-medieval CBM were found in a fragmentary state in fill (118) of Pit [117]. Five post-medieval brick fragments were collected, made of three different fabrics (WPT1, WPT2 and WPT3). WPT1 brick contains very visible CBM fragments, indicating an AD 1700–1900 date. The peg tiles are represented by two fragments made of Fabrics WPT4 and WPT5. Both examples preserved fine moulding sand, suggesting an AD 1700–1900 date.

Daub and Burnt Clay (17 examples; 23g)

7.3.6 Fired clay was collected from fill (137) of Pit [139]. All the fragments are abraded and made of very fine clay with small quartz inclusions. Due to the small size of the fragments it is not possible to be sure whether they represent the binding/ sticking earth from wattle-and-daub structure(s), the lining of kilns or ovens, or derive from loom weights.

Discussion

7.3.7 The building material and fired clay assemblage from the excavation at Old Stowmarket Road, Woolpit, is dominated by post-medieval fragments and undiagnostic fired clay.

7.3.8 The post-medieval material is highly abraded and is composed of brick and tile fragments made in five different local fabrics. Seventy-one fragments (5.486kg) of roof tile, floor tile and brick were recovered during the two phases of evaluation at the site. The majority of the evaluation assemblage is also post-medieval, with some pieces dating to the late 19th and 20th centuries; it was also found in a fragmentary, redeposited, state, and was predominantly recovered from the fills of brickearth quarry pits and ditches.

7.3.9 The fired clay from the excavation consists of abraded and small-sized

fragments, with no surfaces or forms identifiable. Two fragments of fired clay (28g) with possible wattle impressions were recovered from Iron Age Pit [45/006] during the second phase of trial trench evaluation. This pit was directly adjacent to Pit [45/012], which was re-exposed and fully excavated during the excavation as Pit [139]. The presence of structural daub in an adjacent, contemporary, feature might increase the likelihood of a structural origin for the fired clay found in Pit [139].

7.3.10 The CBM fragments have no wider research value, though they will be retained to form part of PCA's Suffolk fabric reference collection. The fragmentary fired clay from fill (137) of Pit [139] should be discarded.

7.3.11 Given the post-medieval use of the site for quarrying and agriculture, the building material may derive from demolition of associated post-medieval quarry/ farm buildings. The fired clay collected from Pit [139] may represented debris from an Iron Age structure. There is no value in carrying out further work on this small and poorly preserved assemblage.

Context	Cut	Area	Fabric	Form	Size	Date Range of Material		Latest Dated Material		Spot Date
118	117	2	WPT1, WPT2, WPT3, WPT4, WPT5	Fragments of post-medieval bricks and peg tiles	7	AD 1450	AD 1900	AD 1450	AD 1900	AD 1700–1900
137	139	1	3102	Fragments of fired clay	17	1500 BC	AD 1700	1500 BC	AD 1700	1500 BC– 50 BC

Table 4: Ceramic building material and fired clay

7.4 Metalwork

By Dr Ruth Beveridge

Introduction

7.4.1 A single silver coin was recovered from the excavation at Old Stowmarket Road, Woolpit. It was found during metal-detecting of the topsoil (100) close to Area 2.

7.4.2 It has been recorded below and a full listing is provided in the catalogue (Table 5). It was examined with the aid of low-powered magnification.

Condition

7.4.3 The coin is in poor condition with a great degree of wear on the obverse and a split through the flan. It has been packaged appropriately in a crystal box with plastazote, within a perforated bag.

Medieval

7.4.4 The silver coin, SF100, is a hammered long-cross penny, probably for Edward III (1327–1377). The wear on the obverse has resulted in the bust and most of the legend being illegible. Only [ ]VS [ ]E [ ] remains. On the reverse the quatrefoil-with-pellet at the centre of the cross marks the coin as being from an archiepiscopal mint, in this case York, evidenced by the remains of the legend [ ]x/EBO/R[ ]. It may be a Pre-Treaty issue as there is a saltire stop in the reverse legend (Wren 1995, 93).

Discussion

7.4.5 The coin, SF100, has minimal potential in assisting with the interpretation and dating of the features on the site. It is most likely to have entered the archaeological record either as a casual loss or through the practice of manuring, a commonplace way of utilising/ disposing of rubbish during the medieval period.

7.4.6 A total of 121 metalwork items, of copper alloy, iron, lead and other alloys, were found during the second phase of trial trench evaluation at the site, the majority recovered from the topsoil by metal-detecting. Part of a copper-alloy

rim, possibly from a cooking vessel such as a skillet or pipkin, and an iron fishhook, might be medieval but their forms are insufficiently diagnostic for close dating. With these possible exceptions, the earliest items are a c. 16th-century jetton from the topsoil in Trench 46, directly north of Excavation Area 3, and a 16th- to 17th-century strap mount from Trench 43, adjacent to Excavation Area 2.

Recommendations for Further Work

7.4.7 The coin has been fully recorded and no further work is recommended.

Small Finds No.	Context	Material	Object	Description	Date	Depth (mm)	Diameter (mm)	Weight (g)	Extent
100	101	Silver	Coin	A worn long-cross penny with split flan and possible clipped edges. Obv: forward facing bust within beaded circle, almost invisible. Legend: [ ]VS [ ] E [ ]. Rev: Long cross with quatrefoil-with-pellet at the centre. Three pellets in each quarter. Around the edge the legend reads [ ]x/EBO/R[ ].	1327-1377	0.57	16.2	0.6	Complete

Table 5: Small Finds catalogue

7.5 Animal Bone

By Kevin Rielly

Introduction

7.5.1 A very small number of animal bones (plus one fossil) were found in Excavation Areas 1 and 3, all hand-collected apart from the fossil from the inhumation burial.

Description of Excavation Assemblage

7.5.2 The excavation provided a total of two hand-recovered bones and a fossil taken from a bulk sample, the bones showing a marked degree of fragmentation, although notably well preserved (here referring to their surface condition). A fragmented portion of a cattle-size scapula was found in the lower fill (138) of the Area 1 Pit [139], this dated to the Middle Iron Age. The other bone, the proximal part of a pig fourth metatarsal, was taken from the infill (179) of a probable natural feature [180], tentatively dated to the Early Neolithic period and located in Area 3. This undoubtedly comes from a rather large pig and could possibly represent the remains of a wild boar. Notably, this bone is just larger (a proximal breadth of 19.4mm) than a similar bone illustrated in Schmid (1972, 137), a comparative osteological atlas where all the pig bone drawings are taken from the skeleton of a wild pig (ibid., 13). Finally, a fossil shark's tooth was found in the fill (147) of Inhumation Burial [148]. This was sorted from a bulk soil sample <106> taken from around the feet of the skeleton.

Conclusions

7.5.3 Just two animal bones were found during the excavation, spanning a period from the Early Neolithic period through to the Middle Iron Age. Possibly the earliest specimen, a pig metatarsal, is clearly from a large animal which could represent a wild boar, although there is also the possibility that this individual was a cross between a domestic and wild pig. However, if Neolithic, it is likely that interbreeding was discouraged in this period due to the slower rate of maturing of wild pigs, as well as management issues (Serjeantson 2011, 26, after Albarella et al. 2007). This would perhaps suggest that the animal is

more likely to be wild than domestic. The other bone is a possible cattle or equid scapula, this dated to the Middle Iron Age. Unfortunately, the fragment is too small to enable any further discussion.

7.5.4 The final zooarchaeological item is a fossil shark tooth from the Beaker burial. Found near the feet of the skeleton, it could conceivably represent a 'placed' deposit. An alternative explanation is that its presence is purely coincidental, perhaps representing a geological specimen, as might be expected in this area which has an underlying chalk bedrock. Such teeth can be found, in some numbers, within London clay and sandy crag deposits in the south-eastern part of the county (Lindill 2020). Fossils have been found with other Neolithic and Bronze Age burials, as noted by Leeming (2013, 18). However, it is often difficult, as here, to ascertain their derivation, especially in areas with known fossiliferous bedrocks. A well-known example is the collection of fossil echinoids apparently found in association with the Early Bronze Age Amesbury Archer (ibid., taken from Dagless et al. 2013).

The Evaluation Assemblage

7.5.5 A small to moderate-sized assemblage of animal bone (1987 fragments; Number of Identifiable Specimens (NISP) 109) was recovered during the trial trenching and is described in the evaluation report (Hayley Forsyth-Magee 2020). The vast majority came from two features: Early Neolithic Pit [0020] (1604 fragments; Evaluation Trench 24; Excavation Area 3) and Early–Middle Iron Age Pits [45/006] and [45/012] (381 fragments; Trench 45), the latter comprising the southern part of Pit [139] from the excavation. The results of the assessment of these bones are summarised below.

Evaluation Assemblage: Early Neolithic

7.5.6 A small quantity of faunal remains was recovered by bulk sampling of pit fills (0021) (Sample <1>) and (0036) (Sample <2>) in Early Neolithic Pit [0020] (Trench 24). The bones are in a moderate state of preservation, with only 64 fragments identified to taxa. The taxa identified include cattle (2%) and pig (3%), as well as large and medium mammal bones (95%). The faunal remains consist of cranial and post-cranial elements, including fragments of a cattle 1st phalange, a juvenile pig 3rd phalange and the odontoid process from a pig

axis vertebra. Also present are large mammal long-bone fragments (n=14) and epiphyses fragments (n=2). Medium mammal bones include skull (n=2), tooth root (n=2), vertebrae epiphysis (n=1), pelvis (n=1), femur (n=1), 1st phalange (n=1) and long-bone (n=34) fragments.

7.5.7 Evidence of butchery consistent with carcass dismemberment and portioning was noted in a medium mammal 1st phalange fragment, with cut marks to the proximal aspect. All of the bones from this pit are calcined white/cream, which indicates that they were burnt at a high temperature, above c. 600°C (McKinley 2004). Analysis of the limited epiphyseal fusion data available indicates that both juvenile and adult animals are present within the assemblage.

Evaluation Assemblage: Early–Middle Iron Age

7.5.8 Early/Middle Iron Age features/ deposits produced a small quantity of faunal remains. The assemblage was recovered by hand from fill (45/004) of Pit [45/006] (n=17) and bulk-sampled from fill (45/005) of Pit [45/006] (Sample <3>; n=25) and fill (45/010) of pit [45/012] (Sample <4>; n=1). The majority of the bones are in a moderate state of preservation, with only 43 fragments identified to taxa. A number of bones from (45/004) and (45/005) are weathered in appearance.

7.5.9 The main domesticates, including cattle, sheep and pig, are present in small numbers. Large and medium mammals are also present (73%). The faunal remains consist of cranial and post-cranial elements, including cattle teeth (n=2), carpals (n=2), metacarpal (n=1), metatarsal (n=1), femur (n=1), 1st phalange (n=1) and 3rd phalange (n=1) fragments. There is a pig tooth and a single sheep mandible, with large and medium mammals represented by skull (n=16), teeth (n=4), rib (n=3) and long-bone (n=8) fragments. A single anuran long-bone fragment from pit fill (45/005) (Sample <3>) represents the only wild taxa present. The assemblage contains meat- and non-meat-bearing bones and teeth, suggesting that carcasses were dressed within or near the area of the site. Epiphyseal fusion data indicates that only adult animals are present within the assemblage. A single sheep mandible from pit fill (45/004) exhibits mandible wear (Stage F) indicative of prime meat age (Hambleton 1999).

7.5.10 Butchery cut marks consistent with carcass dismemberment and portioning were noted in a cattle metatarsal proximal fragment from pit fill (45/004) and a cattle radial carpal from pit fill (45/005) (Sample <3>). Four medium mammal bones, consisting of a long-bone fragment and two tooth fragments from pit fill (45/005) (Sample <3>) and a long-bone fragment from (45/010) (Sample <4>) are calcined white-grey, indicating they had been burnt to temperatures reaching c. 600°C (McKinley 2004).

Evaluation Assemblage Discussion

7.5.11 The faunal assemblage is comprised predominantly of Early Neolithic and Early/Middle Iron Age bones. The main domesticates of cattle, pig and sheep are present in small numbers and had been exploited for their meat and possibly secondary products. The lack of wild taxa present suggests that these resources were not overly exploited as a dietary supplement. The faunal bone assemblage consists of mostly domestic refuse, including calcined floor sweepings/ kitchen waste, discarded into pits.

7.6 Human Bone

By Petra Ivanova

Introduction

7.6.1 An isolated burial was discovered towards the south-eastern side of the ditched enclosure in Area 3. The burial contained skeletal remains of a possible male adult individual accompanied by a fragmentary ceramic Beaker. Based on the form of the associated Beaker, and the crouched position of the burial, the burial was believed during excavation to date to the Early Bronze Age. AMS radiocarbon dating of a sample of bone from the individual's femur returned a calibrated date in the Chalcolithic or Early Bronze Age (see Section 7.9).

Methodology

7.6.2 The skeletal remains were excavated and recorded in accordance with CIfA guidelines (Brickley and McKinley 2004). Bone fragments were refitted where possible, for the subsequent identification of bone elements. General methods used in the osteological evaluation of all human skeletal material are

those of Buikstra and Ubelaker (1994). Sex evaluation was based on measurement of the right talus bone (Steele 1976); age was assessed from dental wear on the available dentition (Brothwell 1981).

Results

Skeleton (149) [148] Inhumation 1

7.6.3 The skeleton was found lying on the right side in a crouched position. The inhumation was north–south-aligned, with the head at the northern end of the burial and the feet to the south. The skeletal material was found in a very fragmented state, affected by erosion and root action. The overall surface modification of the bone is graded 3–4 (Brickley and McKinley 2004). Only 40% of the skeleton is present, consisting of a low number of fragmented upper limb bones and a few fragments of the lumbar vertebrae and ribs. The pelvis is represented by a very few unidentifiable pieces. Only three incomplete teeth and a few fragments survive from the skull. The lower limbs and feet are present but very fragmented or incomplete.

Sex Estimation

7.6.4 Due to the absence of the features important for sex evaluation, the attempt to assign a sex to this individual was made based only on the measurements of the right talus bone. Since this is normally used as an additional method, helping with identification of unknown individuals (Steele 1976) or used in commingled contexts, the result must be viewed with caution.

7.6.5 The measurements of the talus bone are consistent with that of a male individual; they are summarised in Table 6.

Maximum length	Maximum width	Body height	Maximum length of trochlea	Maximum width of trochlea
0.56mm	0.44mm	0.33mm	0.38mm	0.34mm

Table 6: Measurements of the right talus

Age-at-Death Estimation

7.6.6 The age of this person was evaluated only through assessment of the wear on the remaining dentition. The degree of wear observed on two molars is extensive, the occlusal surface being worn out and broken in some areas. The

degree of wear was graded as 5++. Therefore, the age estimate is about 45+ years (Brothwell 1981). Since the number and completeness of the available teeth is very limited, and no other features important for age analysis are present, it is suggested that this individual was probably a middle/old adult who was at least 45 years old.

Pathology

7.6.7 Slight formation of calculus was observed on a premolar and on both molars in the supra-gingival form. Dental calculus is created when the plaque is calcified on the tooth surface.

7.6.8 Bone formation, measuring 0.7cm, was detected on the superior aspect of the right inferior articular facet of a lumbar vertebra (Plate 22). This indicates that the person suffered from a facet joint osteoarthritis.

Conclusions

7.6.9 The skeletal remains found buried in Area 3 belong to a possible male adult, who was probably at least 45 years old. However, the scarcity of the features that are crucial for accurate sexing and ageing among the available skeletal material prevent these results from being more conclusive, and they need to be approached with caution. As average life expectancy in Britain and indeed the rest of the world, prior to industrialisation and the advent of modern medicine and health care, was approximately 30–35 years, relatively few individuals over this age are found in the archaeological record (Brothwell 1981, 71).

7.6.10 Pathologies found on the available bone material suggest that this person suffered from facet joint osteoarthritis, a condition which causes pain in the lower back. This pathology may have been a reaction to an injury, or it may have occurred over time as a response to the ageing process. Dental calculus and extensive tooth wear observed on the dentition indicate that the dental health of this person may have been undermined by an abrasive diet and poor oral hygiene.

Recommendations

7.6.11 It is recommended that the skeletal material is retained and archived.

7.7 Plant Macrofossils and Other Remains
By Kath Hunter Dowse

Introduction and Method Statement

7.7.1 Fifteen samples for the recovery of environmental remains were taken during the excavation at Old Stowmarket Road, Woolpit. These were from a range of features dating from the Early Neolithic period, Chalcolithic/ Early Bronze Age (Beaker period) and Middle Iron Age. The results of assessment of the samples are shown in Table 7.

7.7.2 Two phases of archaeological trial trench evaluation were carried out at the site, by Suffolk Archaeology (SACIC) in 2016 and Archaeology South-East (ASE) in 2019. Four samples for the recovery of plant macrofossils were taken during the evaluations. Two samples dated to the Neolithic period were assessed by Anna West (SACIC) and two dated to the Early/Middle Iron Age were assessed by Mariangela Vitolo. The results from these assessments were recorded together in the ASE evaluation report (Heard 2020). The results of the three assessments are discussed below.

7.7.3 The samples taken by PCA were processed using a flotation technique recovering the flot to 300µm and the residue to 1mm. The residues were sorted in-house by PCA, with charcoal and other plant remains extracted from the greater than 2mm fraction. Where waterlogged remains were apparent during processing, the flots and residues were kept wet. The flots and material extracted from the residues were rapidly assessed by the author using an MTL stereomicroscope. The results from this assessment are recorded in Table 7.

7.7.4 Due to availability of only low-power microscopy, assessment of charcoal was basic. It attempted to identify the presence of ring-porous or diffuse vessel patterns. Where possible the author has attempted to identify whether the charcoal represents roundwood, heartwood, twig or root. However, the act of trying to identify the above characteristics in abraded charcoal is by necessity destructive so this was not carried out on any of the charcoal from this excavation. The frequency of all charred remains has been recorded using the following criteria:

* 1–5 items

** 6–10 items

*** 11–50 items

****50–100+ items

7.7.5 The frequency for charcoal recorded in Table 7 in brackets, e.g. (***), represents the proportion that appears to be larger than 2mm in all dimensions and may be identifiable to species.

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

7.7.7 The criteria used to select samples for further analysis of archaeobotanical remains is based on a scheme developed by Wendy Carruthers. This allows various factors to be taken into account when assessing samples. The priority categories used in this assessment are as follows:

A= high potential on archaeobotanical grounds (i.e. rare or interesting plant taxa or exceptional preservation) or due to the scarcity of information from this type of deposit (e.g. Neolithic contexts).

B= good potential due to reasonable preservation and/or frequent identifiable plant remains, i.e. the assemblage can provide a useful amount of information.

C= some material but present in low concentrations or very poorly preserved. The samples will only be worth including if part of a group, if the context is especially important or if particular information is required.

D= no material or so few as to have been fully identified and recorded at assessment stage. Any information recovered from C and D samples can be included in the final report if necessary.

(Carruthers, pers. comm.).

Results

Early Neolithic:

Pit [0020]: Sample <1>, context (0021), and Sample <2>, context (0036) (assessed by Anna West, SACIC)

7.7.8 West records hazelnut shell fragments (Corylus avellana) and cereal grains from both samples and Vitolo (2020) states that some of these are wheat grains (Triticum sp.), including possible spelt (cf. T. spelta), which would make this a very early example of this glume wheat. Sample 1 also contained the endocarp fragment of a fruit from the rose family (Rosaceae). Potentially modern charred seeds, snails and roots were also recorded from the samples.

Possible Early Neolithic:

Gully [167]: Sample <108>, context (168)

Natural Feature [110]: Sample <112>, context (109)

7.7.9 Both samples contained charcoal, some of which is greater than 2mm in all dimensions. However, neither contained any other identifiable charred plant remains. The charred organic fragments present retain no identifiable features, at low microscopy at least, which suggest they are of plant origin. Both samples also contained modern roots and blind awl snail shell (Cecilioides acicula), which highlights the potential for movement of intrusive material down through the soil profile.

Chalcolithic/ Early Bronze Age (Beaker period):

Inhumation [148]: Samples <102>, <103>, <104>, <105>, <106>, <107>, <114> and <115>, context (147)

7.7.10 All of the samples taken from the fill of the grave contained a few small fragments of charcoal, which are probably residual. There are no other potentially identifiable charred plant remains from the samples.

Bronze Age–Iron Age Enclosure:

Ditch Slot [136]: Sample <110>, context (133)

7.7.11 This sample contained a few fragments of charcoal which are potentially identifiable. There are also some amorphous charred fragments which may be of plant origin; however, these retain no identifiable features at low microscopy.

Ditch Slot [182]: Sample <111>, context (181)

7.7.12 This sample contained more potentially identifiable charcoal fragments, but no other charred plant remains.

7.7.13 The flot from this sample was forwarded to Sheila Boardman for charcoal analysis and selection of suitable material for radiocarbon dating (see Section 7.8).

Ditch Slot [185]: Sample <113>, context (183)

7.7.14 This sample contained a relatively small number of charcoal fragments, some greater than 2mm in all dimensions. A single nutlet of black bindweed (Fallopia convolvulus) is the only other identifiable plant remain. As with the other samples, the amorphous charred fragments retain no characteristics at low microscopy that might allow further identification.

7.7.15 The flot from this sample was forwarded to Sheila Boardman for charcoal analysis and selection of suitable material for radiocarbon dating (see Section 7.8).

Early/Middle Iron Age:

Pit [45/006]: Sample <3>, context (45/005)

Pit [45/012]: Sample <4>, context (45/010)

(Assessed by Mariangela Vitolo)

7.7.16 These samples also contained modern roots and seeds. Both contained frequent charcoal fragments, some of which were identified to oak (Quercus sp.). Both samples also contained hazelnut shell fragments and hulled barley grains. Sample <4> also contained grain that exhibited characteristics of both barley and wheat, so the identification was recorded as Hordeum/Triticum sp. A single brome seed (Bromus sp.) was recorded from Sample <3>, as was a possible cereal-type stem fragment.

Middle Iron Age:

Pit [139], Sample <101>, context (137)

7.7.17 Frequent charcoal includes fragments greater than 2mm in all dimensions, which might allow identification to species. Poorly preserved cereal grains and cereal grain fragments include some which retain characteristics that might suggest they are of a barley-type (cf. Hordeum sp.). Single seeds of black bindweed and possible ivy-leaved speedwell (cf. Veronica hederifolia) and mint type (cf. Mentha sp.) may represent weed seeds growing amongst or close to the cereal crop. However, they could also have been plant remains gathered with fuel. Frequent amorphous charred fragments may be of plant origin but retain no visible features at low microscopy that might confirm this.

Discussion

7.7.18 Campbell et al. (2011) note that very few crop and gathered food remains are normally recovered from Neolithic features in the British Isles and, when such remains are found in higher numbers, they tend to be within features associated with habitation, especially longhouses, middens and pits (Carruthers and Hunter Dowse 2019). The assemblage from Old Stowmarket Road, Woolpit, seems to fit this pattern, with only a few cereal grains and hazelnut fragments from the Early Neolithic features. Nevertheless, the evidence from the site does suggest that cultivation of crops and utilization of gathered foods was occurring in the local area. Other Neolithic sites in Suffolk have produced similarly low quantities of charred plant remains (Hunter Dowse 2019; 2020; Fosberry 2015; 2018). Murphy and Wiltshire (1989) did, however, identify a pit fill rich in hazelnut shell at Pakenham. Other sites in East Anglia have produced similar small assemblages of cereals and hazelnuts, for example, at Bowthorpe (Fryer 2002), Colney (Fryer 2004) and Kilverstone (Ballantyne 2006) in Norfolk. Plant remains from Bronze Age deposits are also relatively uncommon in Suffolk and, on the whole, assemblages are relatively small. Only the assemblage from Sample <101> from Woolpit produced any identifiable plant macrofossils and these are poorly preserved. Again, they suggest that the cultivation and utilization of cereal crops and gathered food was occurring close by. Environmental samples from the Early Bronze Age settlement at West Row Fen, Mildenhall (Martin and

Murphy 1988), did, however, produce a relatively rich assemblage, with examples of charred spelt wheat glume bases and possibly the earliest evidence of flax retting in Britain.

7.7.19 The presence of charred barley with possible wheat and hazelnut shell in the Iron Age assemblages gives an indication of similar cultivation and foraging practices continuing in the area during later prehistory but, again, the focus of that activity appears to be outside the current site.

Recommendations

7.7.20 No further work is recommended on the plant remains from the excavation.

Sample	Context	Cut	Dating	Sediment Volume (L)	Add. Info.	Charred							Comments	Potential	Charcoal Potential	C14 potential
						Grain	cereal NFI	legume	seed	fruit/nut	ACL	Charcoal				
108	168	167	Glacial/Post-Glacial; poss. Early Neolithic	16	Gully/ Natural Feature.			*			***	(**)**	Charcoal includes ring porous.2mm legume,Amorphous charred fragments, coal modern roots and Cecilioides acicula.Sandy/soily flot	D	Fair	
112	109	110	Glacial/Post-Glacial; poss. Early Neolithic	15	Natural Feature - frost crack?						**	(**)***	Charcoal includes ring porous.Amorphous charred fragments.Modern roots and insects.	D	Fair	
102	147	148	Chalcolithic/Early Bronze Age (Beaker period)	1	SK149, arms							*	Frequent bone fragments,modern roots and Cecilioides acicula	D	Poor	
103	147	148	Chalcolithic/Early Bronze Age (Beaker period)	2	SK149, legs							*	Frequent bone fragments, abundant modern roots	D	Poor	
104	147	148	Chalcolithic/Early Bronze Age (Beaker period)	2	SK149, ribs							*	Frequent bone fragments, modern roots	D	Poor	

105	147	148	Chalcolithic/Early Bronze Age (Beaker period)	1	SK149, head							*	few bone fragments. Modern roots and seeds	D	Poor	
106	147	148	Chalcolithic/Early Bronze Age (Beaker period)	2	SK149, feet							*	modern roots and Cecilioides acicula	D	Poor	
107	147	148	Chalcolithic/Early Bronze Age (Beaker period)	1	SK149, spine pelvis							*	Abundant bone fragments,modern roots and Cecilioides acicula	D	Poor	
114	147	148	Chalcolithic/Early Bronze Age (Beaker period)	4	SK149 thorax						*	(*)*	bone fragments. Modern roots, earthworm cocoons and Cecilioides acicula.	D	Poor	
115	147	148	Chalcolithic/Early Bronze Age (Beaker period)	36	SK149 sample						*	(*)*	pottery and coal. Abundant modern roots, insects and Cecilioides acicula. Earthworm cocoon.	D	Poor	
109	111	114	Bronze Age–Iron Age	32	Enclosure Ditch						*	(*)**	Charcoal includes ring porous.Amorphous charred fragments. Very soily flot with abundant modern roots and insects.Cecilioides acicula	D	Poor	
110	133	136	Bronze Age–Iron Age	30	Enclosure Ditch					*	*	(*)***	Charcoal includes ring porous, x2 hazelnut shell fragments (Corylus avellana), Amorphous charred fragments,single spherical	D	Poor	Yes?

													hammerscale, Abundant modern roots, molluscs.			
111	181	182	Bronze Age–Iron Age	31	Enclosure Ditch						*	(**)***	Charcoal includes diffuse porous, Abundant modern roots with seeds and insects.	D	Fair	Yes?
113	183	185	Bronze Age–Iron Age	29	Enclosure Ditch				*		*	(**)**	Charcoal includes ring porous. Black bindweed (Fallopia convolvulus), Amorphous charred fragments. Coal,modern roots, insects and molluscs including Cecilioides acicula	D	Fair	
101	137	139	Middle Iron Age	37	Pit; dark top fill, bulk sample	*	**	*	*		***	(***) ****	Charcoal includes ring porous and twig. Possible barley (cf. Hordeum sp.), cereal nfi, black bindweed (Fallopia convolvulus),possible Ivy-leaved speedwell (cf. Veronica hederifolia), possible mint type (cf.Mentha sp.),Amorphous charred fragments Very soily flot. modern roots,Cecilioides acicula.Pottery and burnt bone.	D	Moderate	
	171												marine shell fragments	D		

Table 7: Assessment of environmental bulk samples

7.8 Charcoal Assessment

By Sheila Boardman

7.8.1 Charcoal from the flots/ residues of bulk environmental samples taken from the enclosure ditch fills was assessed for suitability for radiocarbon dating, in terms of fragment size, wood species and type. The results of this assessment are shown in Table 8, below.

Site Code	Cut	Context	Sample	Material Types	Material Selected	Recommendations & Comments
WPT054	182	181	111	Wood charcoal	A. Salix/Populus (willow/poplar) timber x 1 frag; B. Fraxinus excelsior (ash) roundwood x 1 frag; C. Quercus (oak) timber x 1 frag.	Date Frag. A - only frag in Sample <111> which is large enough; Frag. B. Roundwood segment with 3 growth rings; Frag. C. Sapwood frag.
WPT054	185	183	113	Wood charcoal	A & C. Corylus avellana (hazel) timber x 2 frags; B. Fraxinus excelsior (ash) timber x 1 frag.	Date Frag. A or B - only frags here which are probably large enough.
Bags A–C in order of preference – Bag A has most suitable material (based on ID and size).						

Table 8: Assessment of charcoal suitability for radiocarbon dating

7.9 Radiocarbon Dating

Bristol Radiocarbon Accelerator Mass Spectrometry (BRAMS)

Introduction

7.9.1 Three samples of organic material (wood charcoal, human bone) were sent for radiocarbon analysis in an attempt to ascertain absolute dates for the inhumation burial [148] and the surrounding ditched enclosure.

Methodology

7.9.2 Human skeletal material (a femur) from SK149 was selected for sub-sampling by the project osteoarchaeologist (Petra Ivanova) during post-excavation analysis.

7.9.3 Charcoal from the flots/ residues of two bulk environmental samples taken from the enclosure ditch fills was selected by a charcoal specialist (Sheila Boardman; see Section 7.8) in order to ensure its suitability for dating in terms of size, species and type, and to avoid problems such as 'old wood effect'.

7.9.4 Due to the absence of suitable organic material in any of the lower fills of the enclosure ditch, both samples of material sent for dating were from single/ upper fills. Therefore, the radiocarbon dates provide, at best, a broad date by which the ditch had largely filled in and remained only as a shallow depression. Furthermore, given the sterile appearance of all the enclosure ditch fills and the scarcity of cultural material anywhere in the ditch, any organic material present is likely to represent incidental and potentially residual (especially in view of the presence of residual Early Neolithic pottery) — or intrusive — inclusions rather than deliberate dumps/ deposits contemporary with a particular stage in the infilling of the ditch.

7.9.5 The selected samples of organic material were sent to the Bristol Radiocarbon Accelerator Mass Spectrometry Facility (BRAMS) for dating. Pre-treatment methods employed and their respective pre-treatment codes are described by Knowles, Monaghan and Evershed (2019), along with details regarding graphitization, AMS measurement and data reduction.

7.9.6 Results are given in uncalibrated radiocarbon years Before Present (BP). The data given are corrected for isotopic fractionation using the 13C/12C ratio measured on the AMS. The δ13C value is measured on the AMS and may be subject to additional isotopic fractionation; the error associated with this value is typically ±1‰. All dates are modelled in OxCal v4.4 (Bronk Ramsey 2009; 2017) using the IntCal20 atmospheric calibration curve (Reimer et al. 2020).

Results

7.9.7 The results of radiocarbon determination can be found in Appendix 5 and are summarised below, in Table 9.

7.9.8 Inhumation SK149 returned a calibrated date in the Chalcolithic/Early Bronze Age (in the range 2455–2204 cal. BC at 95% confidence), as expected based on the character of the burial and associated Beaker vessel.

7.9.9 The two samples of charcoal from the enclosure ditch returned widely varying dates, one in the Early Bronze Age (in the range 2008–1772 cal. BC) and the other in the late medieval to early post-medieval period (AD 1449–1626). While the former belongs to broadly the same period as the grave within the enclosure, albeit potentially between c. 200 and 700 years later, the latter is far outside the anticipated range. For the reasons outlined above (that is, the unknown origin and depositional history of the sampled material, and its context in the main/ upper fills of a large ditch which may have taken some length of time to fill in) neither date can be considered reliable and the age of the enclosure remains unknown.

7.9.10 Nevertheless, the presence here of potentially anthropogenically-altered material (i.e. burnt wood) suggests that there may have been human activity in this part of the site in the centuries following the burial of SK149. The hypothesis that the sub-square enclosure could have been a (marginally) later elaboration of an earlier burial monument remains open.

Context	Cut	Lab Code	Material	Radiocarbon Age BP (before AD 1950)	Calibrated Date (95.4% probability)	Period	Other Dating Evidence	Comments
(149)	[148]	BRAMS-4245	Human bone (femur)	3848±25	2455–2417 (9.0%), 2410–2269 (61.7%) or 2261–2204 (24.7%) cal. BC	Chalcolithic/ Early Bronze Age	Beaker vessel	
(181)	[182]	BRAMS-4246	Charcoal (Salix/Populus (willow/poplar) timber)	381±24	1449–1523 (65.2%) or 1574–1626 (30.2%) cal. AD	Late medieval to early post-medieval	Residual Early Neolithic potsherds, Early Bronze Age pottery (residual?), Mesolithic–Bronze Age struck flint	Intrusive? Not stratigraphically secure
(183)	[185]	BRAMS-4247	Charcoal (Corylus avellana (hazel) timber)	3548±25	2008–2004 (0.3%), 1961–1869 (64.1%) or 1850–1772 (31.0%) cal. BC	Early Bronze Age	Residual Early Neolithic potsherds, Early Bronze Age pottery (residual?), Mesolithic–Bronze Age struck flint	Residual? Not stratigraphically secure

Table 9: Radiocarbon dating

8 DISCUSSION

8.1 Early Neolithic (c. 4000–3000 BC)

8.1.1 With the exception of the single Early Neolithic pit identified in Evaluation Trench 24, probably all the features containing finds of this period were natural in origin. The small quantities of associated potsherds and struck flints (in most cases just one or two per excavated slot) are likely to have found their way into the features incidentally as they filled in through natural weathering and silting. These artefacts were presumably present on the prehistoric ground surface at the site, forming surface scatters or middens. The finds certainly indicate activity at the site during the Early Neolithic (and perhaps Mesolithic) period but the features themselves are likely to be the remains of tree-throws and/ or natural hollows in a post-glacial landscape where the relatively light soil had not yet been stabilised by vegetation growth. The irregular morphology of the features, consistently sterile appearance of their fills, and the absence of concentrated deposits of cultural material in them, all weigh against a manmade origin, or deliberate deposition of the associated artefacts.

8.1.2 Population density in Britain during the Early Neolithic period is likely to have been very low, with small groups of individuals — perhaps extended families or kin groups — still living a largely mobile existence. Although agriculture was introduced into Britain at this time, the available data suggest that for a considerable period consumption of cultivated crops and domesticated livestock formed just one component of subsistence strategies that still relied heavily on hunting and gathering wild foodstuffs. That is, these communities' way of life remained essentially Mesolithic in character well into the Neolithic. Evidence for the formal subdivision of landscapes for agriculture (e.g. field systems) and permanent dwellings is generally lacking until the Middle Bronze Age, very approximately c. 1700–1600 BC. In East Anglia, no good evidence has so far been found for Neolithic buildings, for example, the 'long-houses' seen more commonly in northern and western Britain and in continental Europe. Instead, evidence for Early Neolithic settlement in eastern England is generally limited to scatters of worked flint and sometimes pottery, often

only surviving in the topsoil/ subsoil or residually in later cut features.

8.1.3 The only exception to this picture is provided by a small group of excavated 'pit sites' (e.g. Hurst Fen, Mildenhall, Suffolk (Clark et al. 1960); Broome Heath, Ditchingham, Norfolk (Wainwright 1972); Spong Hill, Norfolk (Healy 1988); Kilverstone, Norfolk (Garrow et al. 2006); Hopton-on-Sea, Norfolk (Morgan-Shelbourne, Hogan and Woolhouse 2015) and Sutton Gault, Cambridgeshire (Tabor, Billington, Healy and Knight 2016)). These typically comprise clusters or dispersed scatters of pits and tree hollows containing deposits of occupation material including pottery (usually Mildenhall Ware), struck flint tools and flint-working debitage, burnt flint, animal bone and charred cereal grains and seeds. Such 'pit sites' are generally interpreted as the remains of temporary encampments, perhaps occupied repeatedly or seasonally by the same or different groups of people. At some sites, there is clear evidence that the occupation material deposited in the pits and hollows was drawn from a larger corpus, probably surface scatters or middens which do not usually survive in East Anglia's intensively farmed landscape. Exceptionally good preservation conditions meant that the surface deposits, as well as the pits, survived at the Early Neolithic site at North Fen, Sutton Gault (Tabor et al. 2016). There is good evidence that artefactual material was sometimes deliberately selected for burial, perhaps to commemorate particular events in the life of a community or to stake a claim to certain places in the landscape, imbuing them with a sense of group identity, 'memory' or some other perceived significance (Thomas 1999, 70; Harding 2006, 109; Garrow, Lucy and Gibson 2006, 11–12).

8.1.4 The almost complete absence of convincing evidence for structures at any of these sites has been seen 'as proof for the impermanence of dwellings, a reflection of a relatively mobile way of life' (Garrow et al. 2006, 9). However, the question of non-permanent settlement in the Neolithic is not entirely settled; the East Anglian regional research agendas highlight the risk of assuming nomadism where non- or poor survival is a real issue; evidence for houses should still be sought (Medlycott 2011, 13–14).

8.1.5 One such apparently temporary/ seasonal camp has recently been identified

just 5km east of Woolpit at Fishponds Way, Haughley, where the 'pits', there probably mostly tree hollows and other natural features, contained Mildenhall Ware/ Plain Bowl pottery, charred wheat and barley-type grains, a little burnt animal bone and a large assemblage of struck flint including micro-debitage from flint-knapping (c. 3000 pieces) (SHER HGH 060; Mlynarska and Woolhouse 2020). The activity at Haughley was broadly contemporary with that found at Woolpit.

8.1.6 This evidence demonstrates that there were people in the mid-Suffolk landscape in the Early Neolithic period and that they were probably living a semi-mobile existence, stopping at particular locations, perhaps repeatedly or on a seasonal basis, to camp, gather natural resources, and potentially to sow, tend or harvest cereal crops, which were probably cultivated in clearings without physical boundaries (Martin 2008, 7). As at Haughley, and in common with the other East Anglian 'pit sites', the Early Neolithic occupation at Woolpit was located on a localised outcrop of light sand and gravel geology in an otherwise clay landscape. One slight difference is that the majority of known Early Neolithic occupation is focused in river valleys, while the occupation at the present site is some distance from the nearest watercourse. Indeed, this distance from water may explain the apparently low-level occupation evidence from Woolpit compared with a site such as Fishponds Way, which is directly beside a tributary stream of the river Gipping. It may also be significant that the single feature containing a deliberate deposit or 'dump' of occupation material at Woolpit was located in an area of the site which has pure sand geology, with sparser evidence from areas of the site with mixed glacial deposits.

8.1.7 Nevertheless, the general landscape context of the site, on locally high ground close to the valley of the Black Bourn, one mile to the west, a tributary stream of the river 800m to the east, and a stream rising from the spring at Lady's Well 500m to the north-west, is in keeping with known Early Neolithic settlement patterns in Suffolk and the wider region. Further evidence of Mesolithic and Neolithic activity in the area is provided by find-spots of a flint pick (SHER WPT 004, MSF6329; see Figure 11), polished axe (SHER WPT

014, MSF6330) and possible flint fabricator (SHER WDN 026, MSF42718) found between 800m and 2.5km east of the site. It is possible that the occupation at the site, which appears most intensive towards the hilltop, extends south of the present site towards Heath Road.

8.2 Chalcolithic/Early Bronze Age Burial (c. 2500–2200 BC)

8.2.1 A number of Early Bronze Age inhumation burials accompanied by Beaker vessels have been excavated in Suffolk, for example, at Blood Hill, Bramford (SHER BRF 068; Sommers 2008), Brantham Hall (SHER BNT 004; Gilmour 1974), Risby Poor's Heath, Flempton (SHER FMP 002; Vatcher and Vatcher 1976; Martin 1981, 69–74), Boss Hall, Ipswich (SHER IPS 400; Everett 2000), and Flixton (SHER FLN 061; Boulter 2012, 267–8). Some of these were associated with barrows or ring-ditches but others lacked associated funerary monuments.

8.2.2 The crouched arrangement of the body and positioning of the Beaker within the grave at Woolpit are typical, while the slight evidence for an original cairn or small mound over the grave would also be in keeping with evidence from elsewhere, for example, at Alnesbourn Crescent, Ipswich, where half a Beaker and a plano-convex flint knife found in a large circular pit appear to have been grave goods accompanying a crouched burial of which all trace had been destroyed by the acidic geology (SHER IPS 725; Woolhouse 2014, 13–14, fig. 2, plates 3–5); the grave was surrounded by what appear to be traces of an overlying small sub-rectangular mound measuring approximately 5 x 8m.

8.2.3 Finds of bronze metalwork and cropmark ring-ditches normally constitute the most archaeologically visible evidence of Bronze Age occupation in a landscape and are taken as a proxy for the generally less-visible remains of settlements and field systems. Two metal-detected finds of Late Bronze Age socketed axe fragments (SHER WPT 016, MSF11622; WPT 017, MSF13085) are recorded 700m to the north and 500m to the north-west (respectively) of the present site. Cropmarks of two possible ring-ditches, one around 20m in diameter, and potentially representing the remains of Bronze Age burial monuments, can be seen on aerial photographs 600m to the south-east (SHER WPT 031, MSF21995).

8.2.4 A Beaker has previously been found in Woolpit, presumably disturbed during quarrying activity in 'Seaman's Stone Pit' (SHER WPT 065; the precise location is not known). The description on the Ipswich Museum card suggests that the vessel was broken but could be reconstructed; this state probably indicates that it came from a funerary rather than domestic context (where potsherds would typically be broken, abraded and mostly not capable of being refitted). Other finds of Bronze Age metalwork are recorded from the parish, but most of the objects were found in the 19th or early 20th centuries and the exact locations of the find-spots are not recorded. These include a Middle Bronze Age socketed basal-looped spearhead (SHER WPT 067), two probably Late Bronze Age annular 'amulets' with suspension loops, possibly pendant harness fittings (SHER WPT 071), and a bronze sword found close to Woolpit Bridge, near the river Black Bourn, 1.4km to the north-west of the site (SHER WPT 003, MSF6328). Archaeological monitoring at Church Road, Elmswell, 1.3km north of the site, found a cremation burial associated with a larger pit or ditch terminus; the charred human remains were found with fragments of loom weights, pottery, worked flint and burnt flint. A radiocarbon date placed the burial in the Late Bronze Age, c. 900 BC (SHER EWL 028, MSF26574). A Late Bronze Age pit has been recorded during archaeological evaluation at School Road, Elmswell, a little further to the north (SHER EWL 040, MSF37284). A Late Bronze Age hoard, including 13 socketed axes and fragments, one socketed chisel, one (copper?) ingot fragment and four amorphous rounded lumps of copper alloy, has recently been found by a metal-detectorist in Drinkstone, to the south-west of Woolpit (SHER DRK 026, PAS MSF24049; location confidential).

8.2.5 Overall, there is good evidence for Bronze Age occupation and activity in the landscape around the site, which provides a context for the Beaker burial. However, understanding of the temporal and spatial nature of this occupation certainly needs to be enhanced. The sparser evidence for Bronze Age activity in the landscape to the south of the site is likely to be at least partly due to fieldwork bias: many of the sites discussed above have come to light due to gravel extraction or recent development in villages with good modern transport links. The smaller villages and hamlets on the 'High Suffolk' clay, to the south,

have seen less modern expansion and thus fewer opportunities for large-scale archaeological investigation; this geology is also less conducive to cropmark formation and has not generally been subject to quarrying.

8.3 The Bronze Age–Iron Age(?) Enclosure

8.3.1 Bronze Age funerary architecture is characterised by a diverse range of circular monuments. These include small (c. 4–12m diameter) ring-ditches, common in Middle to Late Bronze Age 'Ardleigh-type' cremation cemeteries in north-east Essex and south-east Suffolk (Crummy 1977; Brown 1999; Clarke and Lavender 2008), but also found in association with cremation burials elsewhere in the county, for example, at Ingham Quarry, Fornham St. Genevieve (Newton and Mustchin 2015, 344–5). At the opposite end of the scale, very large ring-ditches are known at some sites, for example, the c. 80m diameter outer ditch of the circular 'monument' at Hopton-on-Sea, Norfolk (Norfolk Historic Environment Record (NHER) no. ENF139716; Albone, Massey and Tremlett 2007b, 38) (see Cooper 2018). However, the majority of barrows and ring-ditches, frequently known from cropmarks rather than upstanding remains or archaeological excavation, tend to fall into a broad size range of c. 20–35m across. At 18.5 x 22.5m, the Woolpit enclosure is therefore fairly typical in size compared to Bronze Age funerary monuments. However, its rectangular/ sub-square form would be highly unusual against the overwhelmingly circular morphology of Bronze Age funerary architecture. As far as can be ascertained, there are currently no known British parallels for Bronze Age rectangular/ sub-square mortuary enclosures or other funerary monuments (Dr Alison Sheridan, pers. comm.).

8.3.2 There is a small group of Bronze Age rectangular/ sub-square enclosures excavated in Suffolk and neighbouring counties, which are similar in shape to the Woolpit enclosure, but typically at least several times its size (between c. 50 and 120m across), which appear from finds and associated structural remains and/ or pits, to be Middle to Late Bronze Age enclosed settlements, perhaps relatively high-status farmsteads. Possibly the clearest excavated example in Suffolk is at Hales Farm Barn, Withersfield (Haverhill; 35km south-west of Woolpit), where a sub-rectangular ditched enclosure with evidence for

an associated field system was partially excavated, recovering Late Bronze Age pottery and a (probably) Middle Bronze Age decorated pin, close to the earlier find-spot of a hoard of bronze metalwork (SHER WTH 011; Bales and Topham-Smith 2002). Excavations at Kessingland (60km north-east of Woolpit) have revealed what appear to be two sides of a similar enclosure, associated with Middle Bronze Age domestic pottery, struck flints, three cylindrical loom weights and two pits/ postholes containing concentrations of emmer/ spelt wheat grains; organic residues on potsherds from the ditch provided radiocarbon dates in the range 1420–1260 cal. BC at 95.4% probability (SHER KSS 080; Heard 2011). A similar large (c. 112 x 118m externally) enclosure excavated at Ormesby St Michael in the Norfolk Broads had evidence for at least two internal post-built structures (Gilmour, Horlock, Mortimer and Tremlett 2014); several radiocarbon dates for charcoal and charred cereal grains taken from the lower ditch fills and structural remains were consistently in the range 1450–1210 cal. BC. However, the Woolpit enclosure is both considerably smaller than these Bronze Age enclosed settlements and, as discussed above, lacks any of the morphological characteristics (e.g. entranceway(s), internal structures, pitting) or associated finds that would indicate a function as a settlement enclosure, or, indeed, an association with agriculture, for example, use as a stockade.

8.3.3 A small number of square/ sub-square enclosures of similar size to that at Woolpit (typically not more than c. 20m on a side), mostly known only from cropmarks, are recorded in Suffolk Historic Environment Record. They are generally provisionally assigned a broad Iron Age date, apparently based on their perceived similarity to, and potential association with, Middle Iron Age (c. 5th- to 1st-century BC) Arras Culture square barrows, best-known from the large excavated cemeteries in the East Riding of Yorkshire (Stead 1979; 1991), but perhaps likely to be part of a more widespread monumental tradition, as cropmark remains of similar features are known across the East Midlands and eastern England, down to Essex and Kent (e.g. Colchester Historic Environment Record records nine examples, including MCC9059 at Langham).

8.3.4 In Suffolk, a cropmark interpreted as a possible Iron Age square barrow, 7m in diameter, is recorded to the south-east of Red House Farm, Falkenham, close to the river Deben (SHER FLK 059; 40km south-east of Woolpit). Another similar cropmark to that at Falkenham has recently been investigated a few miles up the Deben valley at Martlesham (PSIAH 2018, 296–7). Full details of this site are not yet in the public domain, but excavation at the site has revealed three square enclosures, each approximately 5m across, two of them with continuous, conjoining ditches, and the third with an entrance on its east side, all surrounding central burial pits containing extended supine inhumations originally buried in wooden coffins. The ditches and burials contained residual struck flint and a little Late Bronze Age pottery, also considered by the excavators to be residual; one of the enclosure ditches was cut by a late Saxon pit. These 'square-ditched burials' were interpreted as most likely being of Iron Age date, although the evidence was not clear-cut. They were positioned on a hilltop, close to Bronze Age and Roman cremations.

8.3.5 One of two cropmark 'ring'-ditches overlooking the river Kennett in Ousden, at the western edge of the county (SHER OUS 012; 25km west of Woolpit), also looks rather square on recent aerial photographs (16 x 13m, measured from Google Earth 2020).

8.3.6 Recent fieldwork in advance of development at Aldham Mill Hill, Hadleigh, beside the river Brett (20km south of Woolpit), has investigated a similar 13m-square (10.7m internally) enclosure, known from cropmarks and geophysical survey, which is suggested to have had a possible funerary/ mortuary function (SHER HAD 160, MSF37158; Alexander 2018, 36–37, 64, figs 2, 3 and 26; Heard 2019). Although there is no definite evidence for this interpretation, the enclosure is spatially associated with a known Bronze Age (and potentially later) funerary landscape, including several ring-ditches and barrows located in close proximity.

8.3.7 The ditch at Aldham Mill Hill is similar in size (c. 2m wide x 0.8–0.9m deep) and profile to the enclosure ditch at Woolpit, with some evidence for a slumped bank, though it is unclear whether this would have been internal or external.

Small amounts of broadly Early Iron Age (c. 600–400 BC?) handmade flint- and quartz-sand-tempered pottery were found in three of the excavated slots through the enclosure ditch, though all were recovered from upper fills or surface cleaning (13 sherds; 36g). Similar material was recovered during the first phase of evaluation, except that the presence of some non-flint-tempered sandy fabrics and a single diagnostic sherd suggested a c. Early/Middle Iron Age date, these sherds deriving from a middle fill of the ditch. Overall, the pottery could reflect a date at any time during the first half of the first millennium BC, but it only provides a date for the filling-in of the upper levels of the enclosure ditch. Around 50% of the internal area of the Aldham Mill Hill enclosure was exposed and the only interior features seen were three small pits or postholes, two undated and one late Roman and associated with a known later phase of activity at the site. The enclosure has been tentatively interpreted as an Early/Middle Iron Age funerary monument, such as a mortuary enclosure or barrow, continuing a tradition of ritual and funerary activity represented by the Bronze Age round barrows located at the southern end of the site. However, no definite evidence of burials or other ritual activity associated with the enclosure was found in either phase of evaluation.

8.3.8 The evidence from Aldham Mill Hill and the Martlesham site could suggest that at least some of the small square-ish enclosures known from cropmarks in Suffolk are indeed of Iron Age date, although their function currently remains poorly understood and the lack of well-stratified dating evidence means that an earlier date of construction cannot be ruled out. Nor does it necessarily help to understand the origin and context of the enclosure at Woolpit, with its internal Bronze Age burial and rather larger size.

8.3.9 A square enclosure 5m across (3.5m internally) and surrounded by a shallow ditch with rounded corners was excavated in the Middle to Late Bronze Age settlement/ subdivided landscape at Game Farm, Brandon, Suffolk (Gibson 2004, 23–25). The enclosure was tentatively dated to the Late Bronze Age due to its shared alignment with field boundaries of this date, although the ditch contained only a struck flint and a little burnt flint. No internal features or evidence of a mound or bank was present.

8.3.10 It is interesting to note that a slightly smaller (12 x 8m) but otherwise similar enclosure to that at Woolpit has recently been excavated at the Fishponds Way, Haughley site (SHER HGH 060; Mlynarska and Woolhouse 2020, 39–42, fig. 9, plates 18–21), 5km east of Woolpit. The Haughley enclosure was rectangular in plan and surrounded by a continuous, unbroken ditch; on the interior were three mid- to late-1st-century AD cremation burials, one accompanied by a ring-necked flagon, a Langton Down-type brooch and a pair of hobnail shoes. There was no other evidence of Roman activity at the site apart, perhaps, from three undated pits containing burnt material, which may have been remains of cremation pyres. It appears that the enclosure was located in the agricultural outfield of a fairly high-status Roman settlement or farmstead somewhere in the vicinity.

8.3.11 A number of similar square-ditched enclosures to that at Woolpit, typically between 7 and 16m in diameter, have been identified in Norfolk through cropmark mapping projects (Albone, Massey and Tremlett 2007a, 17; 2007b, 54–59; 2008, 43–44). They generally occur either as small groups or as isolated monuments; many have a pit visible in the interior, which may be a grave or cremation burial. As in Suffolk, they have been provisionally interpreted as Iron Age to Roman square barrows or mortuary enclosures.

8.3.12 Small square ditched enclosures, of similar size to these cropmarks and with evidence for eroded low inner banks, were excavated on the route of the Norwich southern bypass at Harford Farm (NHER 9794) and Trowse (NHER 9589). They were tentatively interpreted as Late Iron Age/ Roman funerary monuments, although the only grave was an isolated early-1st-century cremation some distance outside one of the enclosures at Harford Farm, and it was acknowledged that the extremely limited stratigraphic and artefactual evidence could feasibly indicate a date at any time between the c. Early Iron Age and the Anglo-Saxon period (Ashwin and Bates 2000, 117–25, 137–9, 180–3 and 190). The six enclosures at Harford Farm were spread out over around 100m in a north–south line, oriented on the cardinal points, and on the site of an earlier Bronze Age barrow cemetery on locally high ground overlooking the Yare valley. The southernmost of the exposed group was

sited within the circuit of the ring-ditch of a Bronze Age barrow, and was surrounded by an outer fence or post-in-trench wall that gave it an overall appearance similar to a Romano-Celtic temple or shrine. The larger features, for example, square-ditched enclosure 3002 at Harford Farm (c. 14m diameter), compare quite well in terms of overall size and ditch morphology with the Woolpit enclosure.

8.3.13 Another possible example of an Iron Age square barrow or mortuary enclosure, measuring 10m across and with a central pit measuring 2m by 1.5m, was excavated in advance of aggregate extraction at Salter's Lane, Longham, Norfolk (NHER 13025), close to the Launditch, a probable Iron Age earthwork. No evidence of an inhumation or cremation was found in the central pit, perhaps because both this and the enclosure ditch had been heavily eroded by ploughing. The feature was thought to probably be of Middle to Late Iron Age date (Ashwin and Flitcroft 1999, 253). One of a number of small ring-ditches in the large Iron Age to Roman site at Fison Way, Thetford, was later surrounded by a sub-square ditched enclosure, measuring 8 x 7.5m, with an internal grave-shaped pit containing early Roman pottery, and with phosphate levels suggestive of a decomposed body (ring-ditch 2b: Gregory 1991, 34–7 and 55–7).

8.3.14 In Cambridgeshire, two square-ditched enclosures, 6m and 8m across, have been excavated adjacent to a Neolithic henge and a small oval Middle Bronze Age barrow at Maxey, in the Welland valley. The smaller enclosure had an internal posthole at each corner; there was no other evidence of internal features or graves, although it was felt that this could have been a result of severe surface stripping levels. Remains of gravel mounds or internal banks were possibly indicated (Pryor and French 1985, 63 fig. 44, 73–77). Despite extensive sieving of fills, no artefactual evidence was found in either the enclosure ditches or the postholes. Stratigraphic evidence suggested an earlier Iron Age date and the features were interpreted as possible square barrows. Another sub-square ditched enclosure, measuring 9 x 7m, has been excavated at Diddington, in the Ouse valley, Cambridgeshire, and dated to the Middle Iron Age; it was provisionally interpreted as a square barrow,

though there was no evidence for burial(s) (Jones 1997).

8.3.15 In Essex, where a number of similar small square enclosures are recorded as cropmarks (see, for example, reference to Colchester HER data, above), excavations at Old Hall Reservoir, Boreham (near Chelmsford) have investigated a small square enclosure of probable Early/Middle Iron Age date. The enclosure was located within a Neolithic, Bronze Age and Iron Age 'ritual' landscape that included a henge, four round barrows and a small Middle Iron Age round barrow over a single inhumation (Germany 2014). The square enclosure was approximately 5m wide and was surrounded by a continuous ditch, up to 1.30m wide and with a surviving depth of 0.40m; there were no internal features and no evidence for an associated mound. The ditch was sample-excavated at seven locations, revealing a consistent three-fill deposit sequence. One sherd of Middle Iron Age pottery and some residual worked flints were recovered from one of the secondary fills. The feature was interpreted as a possible mortuary enclosure, where bodies were left for de-fleshing prior to the interment of the skeletal remains (ibid., 82).

8.3.16 At the LTCP Site, Stansted Airport, two adjacent square-ditched enclosures were found within a Late Iron Age/early Roman settlement (Cooke, Brown and Philpotts 2008, 95–96). They were similarly aligned and measured approximately 13m wide; the surrounding ditches were relatively shallow and one of them had a well-defined entrance gap. Each enclosure contained a single urned cremation burial, positioned off-centre. Three adjacent mortuary enclosures were found on the edge of a nearby settlement, again of Late Iron Age/early Roman date (ibid., 98–100). These enclosures were slightly smaller than those described above, measuring up to 11m wide; the surrounding ditches were shallow, with no obvious entrances. One of the enclosures contained five urned cremation burials. Of these, one was placed centrally and was probably the primary burial, while the others (possible satellite burials) were apparently randomly dispersed across the enclosed area.

8.3.17 Further examples of square-ditched burials include four at Mucking, Essex, which enclosed Late Iron Age cremations (Evans, Appleby and Lucy 2015), and the square ditches that surrounded two Late Iron Age warrior burials at

Brisley Farm, Ashford, Kent (Stevenson 2013).

8.3.18 This survey of the currently available evidence suggests that small (c. 5–15m diameter) square/ sub-square enclosures, with no obvious settlement-related or agricultural function, and sometimes associated with burials, are fairly widespread in East Anglia, with known examples in Suffolk, Norfolk, Cambridgeshire, Essex and further afield. The majority of these enclosures are known from cropmarks and have not seen intrusive investigation; the cropmark examples are generally assigned provisional Iron Age dates and a suggested funerary/ burial function based on their perceived morphological similarity to Arras Culture square barrows in Yorkshire (Stead 1979; 1991). However, the widespread occurrence of morphologically similar features, both as cropmarks and in excavation, throughout the East Midlands and eastern England, down to Essex and Kent, suggests that they may be part of a more widespread monumental tradition.

8.3.19 Even where excavated, good evidence for the date and function of these small square enclosures remains elusive. Excavations in Suffolk and neighbouring counties have provided some support for broad Iron Age dating, extending into the early Roman period, although artefactual evidence is often extremely limited and usually derives from secondary fills of the enclosure ditches. The presence of a small enclosure of similar morphology in the midst of the Middle to Late Bronze Age settlement at Game Farm, Brandon, might hint at a later Bronze Age origin for some of the enclosures. Despite their suggested burial function, evidence for graves is frequently absent, although the recently excavated examples at Martlesham provide one good example in support of such an identification. Other mortuary/ ritual activities (for example, as sites for the excarnation of bodies prior to burial) might leave no archaeological trace, while if interior mounds were originally present, as the evidence from some sites suggests, graves cut into the mounds would be easily lost to later plough damage. Overall, understanding of this class of 'monument' in East Anglia is in its early stages and requires much further research.

8.3.20 The Woolpit enclosure shares the 'sub'-square morphology of these excavated parallels, is located in a similar topographical context (locally high

ground overlooking a river/ stream valley) and, in common with many of them (e.g. Aldham Mill Hill, Martlesham, Harford Farm, Maxey, Boreham), may have been deliberately sited close to an earlier burial monument. However, there are differences: most notably the Woolpit enclosure is rather larger (22.5 x 18.5m) than any of the excavated examples described above, and many of those known from cropmarks.

8.3.21 Keeping this — and the earlier statement regarding the absence of known British parallels for Bronze Age square/ rectangular mortuary enclosures or other funerary monuments — in mind, it may be worthwhile to briefly consider the picture in mainland Europe.

8.3.22 Bourgeois (2013, 34) notes that in the Netherlands there was a period of several centuries, following the peak of barrow construction (roughly between 1700 and 1400 cal. BC) and prior to the emergence of flat urn fields, when very few barrows were constructed,

"with the exception of a few elongated and rectangular barrows (Bourgeois and Fontijn 2008, 49–50; Delaruelle, de Smaele and van Doninck 2008). While some of these elongated barrows certainly date to the Late Bronze Age or Early Iron Age and are part of an urnfield-tradition (so-called langbedden), some of them date to the period between 1400 and 1000 cal. BC, as confirmed by the available radiocarbon evidence."

8.3.23 Construction of rectangular burial monuments could therefore be part of a wider cultural tradition seen in the nearest parts of Continental Europe during the Middle to Late Bronze Age. These later Bronze Age Dutch grave monuments are rather elongated and narrow compared with the sub-square morphology of the Woolpit enclosure (Delaruelle et al. 2008; Verwers 1966). Nor are there currently any known examples of similar Bronze Age rectangular barrows/ mortuary enclosures in Britain. However, their presence on the near-Continent, to which southern and eastern Britain was intimately linked by maritime trade and cultural exchange during the Bronze Age, would provide a possible context for the presence of such monuments in East Anglia.

8.3.24 It is also worth noting that burials within square enclosures are known in early medieval contexts, although these are concentrated in areas of western and northern Britain that remained under 'British', rather than Anglo-Saxon, political control and cultural influence in the post-Roman period. John Blair's research (1995) into Pagan-period Anglo-Saxon shrines and their origins has drawn together several examples of small square enclosures of broadly similar scale to those at Woolpit, many of which are similarly devoid of dating evidence. While some examples of likely Roman date are noted by Blair, others are demonstrably Anglo-Saxon, including those excavated at Slonk Hill, Sussex (Hartridge 1978) and at Yeavering, Northumberland (Hope-Taylor 1977). Given the near-complete absence of evidence for Roman, Anglo-Saxon or medieval (a single coin) activity across the site, a prehistoric date for the enclosure is considered most likely.

8.4 Middle Iron Age (c. 350–50 BC)

8.4.1 The only previously recorded Iron Age find in Woolpit is a gold stater recovered from an area 1km north-west of the present site (SHER WPT 076, PAS MSF38867, location confidential). Iron Age finds have also been recovered to the north, in Elmswell; for example, an Icenian silver coin found on the west side of the village (SHER EWL 023, PAS MSF28702, location confidential). A Roman pottery scatter recorded during fieldwalking south of Heath Road, approximately 250m south-west of the present site (SHER WPT 009), includes a high proportion of probable 1st-/2nd-century types. The early Roman date might suggest that this site has Iron Age origins.

8.4.2 In view of the possible Iron Age dating of many of the East Anglian square barrows/ enclosures discussed above, the evidence for Middle Iron Age occupation near to the site might provide a context for the construction of the enclosure.

8.5 Roman and Post-Roman

8.5.1 The absence of evidence of Roman, Anglo-Saxon or medieval activity at the site (excepting the unstratified 14th-century coin and the low probability that the enclosure was of Roman or medieval date) is in keeping with the sort of low-intensity land use that would be expected in an area of heathland. The

site was part of Woolpit Heath in the late 18th century. The extreme scarcity of medieval pottery and metalwork at the site would suggest that it was grazing land rather than arable (where the practice of manuring would usually deposit such material) at that time.

8.5.2 There is a common pattern in sand and gravel areas of East Anglia for land that was intensively used in prehistory to be given over to grazing by the Roman period. This may have something to do with the well-drained and easily worked character of the region's sand and gravel soils, which could be cultivated using ards and other prehistoric agricultural equipment and were therefore favoured for early settlement and farming. By the Middle to Late Iron Age, and certainly by the Roman period, population growth and the introduction of heavier, fixed mouldboard ploughs enabled expansion of farming onto the more nutrient-rich clays, with less fertile sandy soils being given over to grazing.

8.5.3 Numerous brickearth quarry pits were recorded during the two phases of trial trench evaluation, particularly in the central and north-eastern parts of the site, corresponding with the observed extent of the Woolpit Beds geological deposit. The following brief description of the quarrying activity is drawn more or less directly from the detailed discussion by Kieron Heard in the evaluation report (2020, 71–73).

8.5.4 As was the case with the small number of such features seen in the excavation areas, many of the quarry pits recorded during the evaluation were sub-rectangular with squared corners and, where excavated, had steep or vertical sides (sometimes stepped) and smooth, flat bases. This morphology might suggest that the brickearth was excavated by machine (steam shovel?) rather than by hand. Alternatively, the brickearth may have been excavated with hand tools in a series of relatively small, squared blocks, possibly relating to defined units of volume or the quantified output or paid piecework of individual labourers.

8.5.5 Based on the size of the individual quarry pits (generally not exceeding c. 5m across by around 1m max. deep), quarrying within the site appears to have

been carried out on a relatively small scale compared to the large pits that were dug to the east and south-east of the site at the end of the 19th century, as shown on Ordnance Survey maps of the 1880s and early 1900s. One of those larger pits, now the fishing lake immediately east of the site, is in excess of 5m deep; it was apparently the last pit to be exploited and did not go out of use until 1940 (Bristow and Gregory 1982, 311).

8.5.6 Brick-making was an important local industry from at least the 16th century, exploiting significant deposits of brickearth (the Woolpit Beds) for the manufacture of bricks and tiles, including the locally famous Woolpit (or Suffolk) Whites. The Woolpit Brick Company was formed in 1844 and their Woolpit Works were in existence, to the east of the site, by the early 1880s. Historic mapping suggests that the site was then located outside the boundary of the brickworks, and there is no published cartographic evidence to suggest that the company was quarrying within the site area. However, an undated and untitled copy of the 1904 Ordnance Survey map (in the collection of Woolpit Museum) has been annotated with a hand-drawn line that appears to show the extent of the land owned by the company – this boundary includes the site.

8.5.7 Few artefacts, and little closely datable material, was present in the fills of any of the excavated pits. Other than two large gravel pits and an associated trackway, there is no indication of land use within the site on any Ordnance Survey maps of the late 19th or early 20th centuries. Consequently, it is unclear when the brickearth quarrying took place within the site; neither the individual pits nor the general terracing apparent in the north-east of the site is depicted or suggested. The tithe map and apportionment show that the site was divided into relatively small fields, in agricultural use, in 1846. The phases of trial trench evaluation showed that some of those field boundaries were truncated by quarry pits, and it is considered unlikely that any of the quarry pits predated the tithe map. It is most likely, therefore, that quarrying of the site took place mainly during the early years of the Woolpit Brick Company, in the c. 1850s to 1870s. The ceramic building material from Pit [117] in Excavation Area 2 would fit a 19th-century date. Given that the site is located

at the western extremity of the Woolpit Beds, it is possible that deposits here were considered too shallow or of insufficient quality for prolonged or deeper viable exploitation.

8.6 Research Significance

8.6.1 Early Neolithic sites are regionally, and nationally, rare. Any such site is therefore important. However, given the limited quantity and range of the surviving evidence at Woolpit, it has minimal potential to help address the sorts of wide-ranging questions highlighted in the regional research agendas (Medlycott 2011, 13–14). The significance of the site is primarily local, adding to the growing picture of Early Neolithic occupation on outcrops of light sand and gravel geology along mid-Suffolk's river and stream valleys, as seen on a more significant scale at Fishponds Way, Haughley. The evidence will be briefly described in the publication article and recorded in the Suffolk Historic Environment Record; the possibility that the occupation extends onto the small field south of the present site may have implications for future development management.

8.6.2 The East Anglian regional archaeological research agendas highlight that patterns of Bronze Age burial practice need further exploration (Medlycott 2011, 20). This is noted as including the relationships between settlement sites and burials, and understanding the development and use of monuments, including burial mounds, as key components in determining and understanding the landscape. There is also a need to better understand the reasons behind the wide variability of later Bronze Age burial practices.

8.6.3 The burial at the present site is an important addition to the relatively small group of Chalcolithic/ Early Bronze Age burials excavated and recorded in Suffolk. While most aspects of the grave itself appear to be fairly typical of known burial practices of the period, and are well-attested elsewhere, the surrounding rectangular/ sub-square ditched enclosure is highly unusual. Bronze Age funerary monuments are overwhelmingly circular; if it is broadly contemporary with the grave, the Woolpit enclosure would probably be unique in Britain and therefore of national importance for understanding of Beaker-period burial practices.

8.6.4 However, in view of the significant uncertainties over the date of the enclosure, which the radiocarbon dates do not conclusively resolve (see Section 7.9), the possibility must be kept open that the enclosure is a later feature, either intentionally referencing the earlier burial or potentially entirely unrelated to it and simply utilising the same prominent point in the local landscape. Nevertheless, even if the enclosure postdates the grave by a considerable timespan, some non-utilitarian function, most likely for funerary or ritual use, still seems most likely: there is no evidence to support settlement-related or agricultural use and its morphological characteristics would not easily fit such an identification.

8.6.5 The regional Iron Age research agenda notes that similar small, sub-square enclosures have been quite widely identified from cropmarks across the region, including in Norfolk, Essex and Suffolk (Medlycott 2011, 24 and 25). They have generally been assigned provisional Iron Age dates based on their perceived morphological similarity to Arras culture square barrows in Yorkshire, but excavations of such sites have so far been limited and the current archaeological evidence for their date and function somewhat inconclusive. The indications so far tend to broadly support Iron Age to early Roman origins and point to a use relating to burial, funerary activity, or other 'ritual'. The Woolpit enclosure may therefore fall into a small category of probable Iron Age ritual/ mortuary enclosures in East Anglia which are poorly understood. As an addition to the small group of such monuments which have been excavated, it would be of importance to regional archaeological research and warrants publication. The nature of Iron Age funerary practices within the region, and specifically the use of funerary monuments such as barrows or mortuary enclosures, has been highlighted as requiring further research (Medlycott 2011, 31).

8.6.6 Only one Iron Age find has previously been recorded in Woolpit, 1km north-west of the site. The small-scale evidence for Middle Iron Age occupation, probably focused just west/ south-west of the present site, is therefore of local importance. The regional research agendas highlight a range of themes relating to Middle Iron Age settlement, including questions relating to

settlement form and function, e.g. zonation of use/ internal spaces, interaction with hinterlands, location with reference to topography and geology, resources, communication routes etc. (Medlycott 2011, 22–32).

9 UPDATED RESEARCH DESIGN

9.1 Additional Analyses

9.1.1 All specialist assessment and analysis of the finds and environmental remains from the site has been completed and the results detailed in this report.

9.2 Publication, Dissemination and Outreach

9.2.1 A short publication article will be prepared for submission to Proceedings of the Suffolk Institute of Archaeology and History (PSIAH). The article will focus primarily on the Chalcolithic/ Early Bronze Age burial and the evidence for the date and function of the enclosure in Area 3, together with parallels for it, but it will also briefly discuss the wider context provided by the evidence of Mesolithic–Early Neolithic and Middle Iron Age activity at the site. The draft article will be submitted to PSIAH for peer review by the end of 2021.

9.2.2 A summary of the excavation results will also appear in the PSIAH annual fieldwork 'roundup' (see Appendix 7).

9.2.3 Once approved, this Excavation Report will be uploaded to the Archaeology Data Service website, to ensure future public access to the project results. Copies will also be deposited with the site archive and with Suffolk Historic Environment Record.

9.2.4 Upon completion of the project, the site archive will be deposited at the Suffolk County Council Archaeological Archive.

9.2.5 There was interest in the fieldwork from local residents and the Woolpit History Group. When current Covid-19 social distancing restrictions are lifted, it is hoped that it will be possible to give a presentation to them about the excavation. In the meantime, contact has been made with the editor of the Woolpit parish newsletter/ website (https://www.woolpit.org/) offering a short news item about the discoveries made during the fieldwork (Appendix 8).

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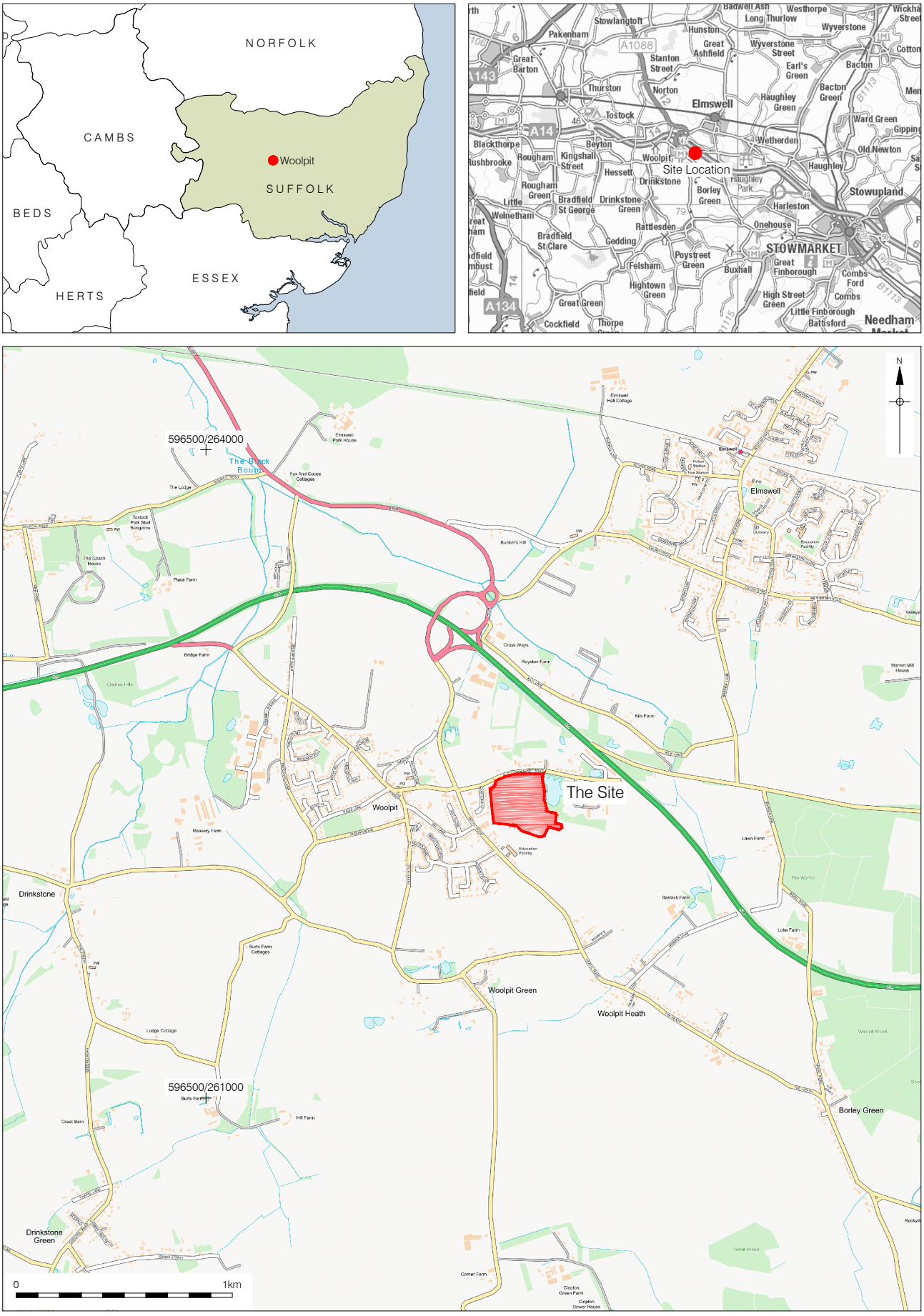


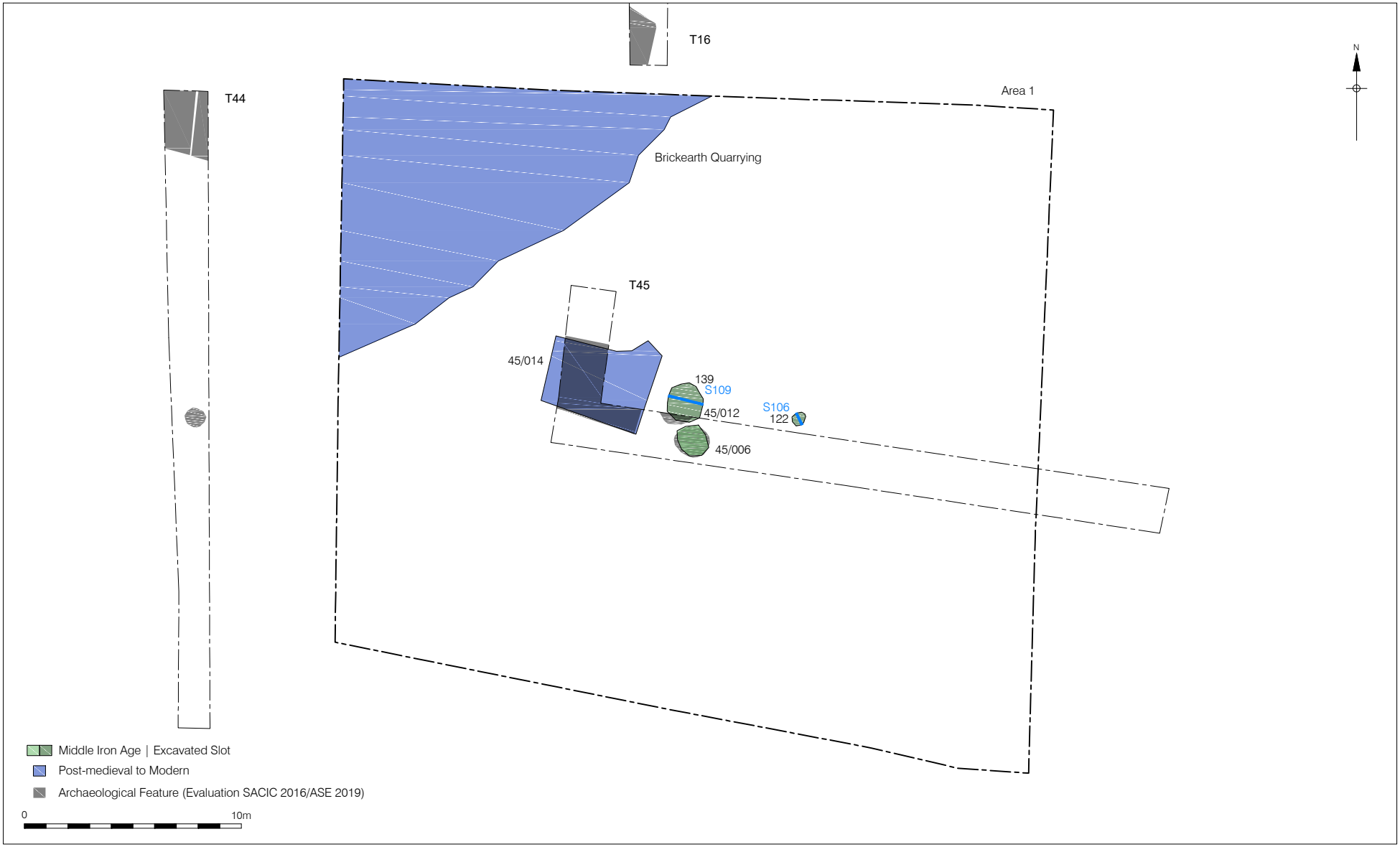
25/11/2020 RS

Figure 1
Site Location
1:2,000,000, 1:250,000, 1:25,000 at A4

With thanks to ASE for providing plans of their evaluation results

25/11/2020 RS

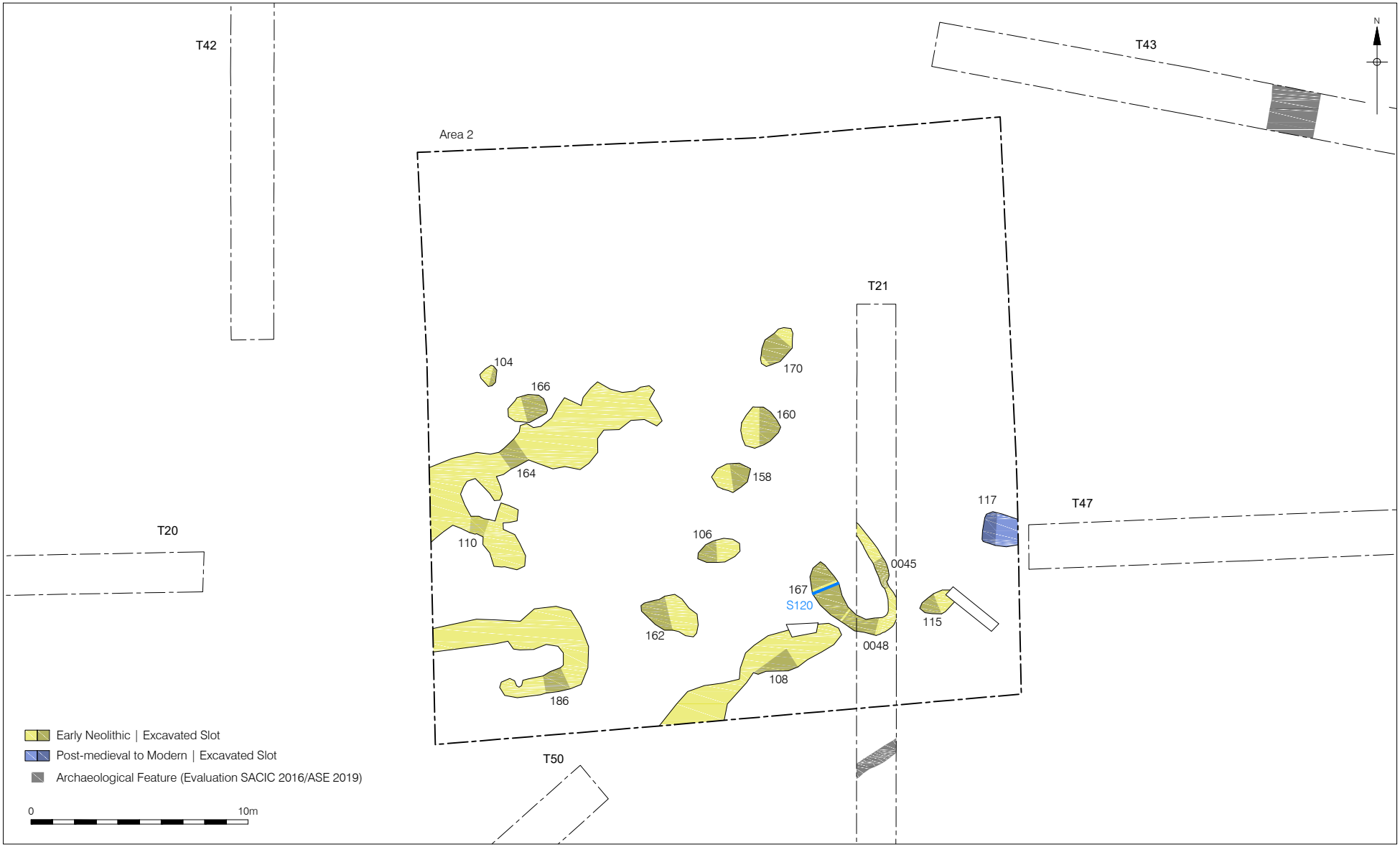
Figure 2
Excavation Areas
1:1250 at A3



With thanks to ASE for providing plans of their evaluation results

25/11/2020 RS

Figure 3
Area 1
1:250 at A4



With thanks to ASE for providing plans of their evaluation results

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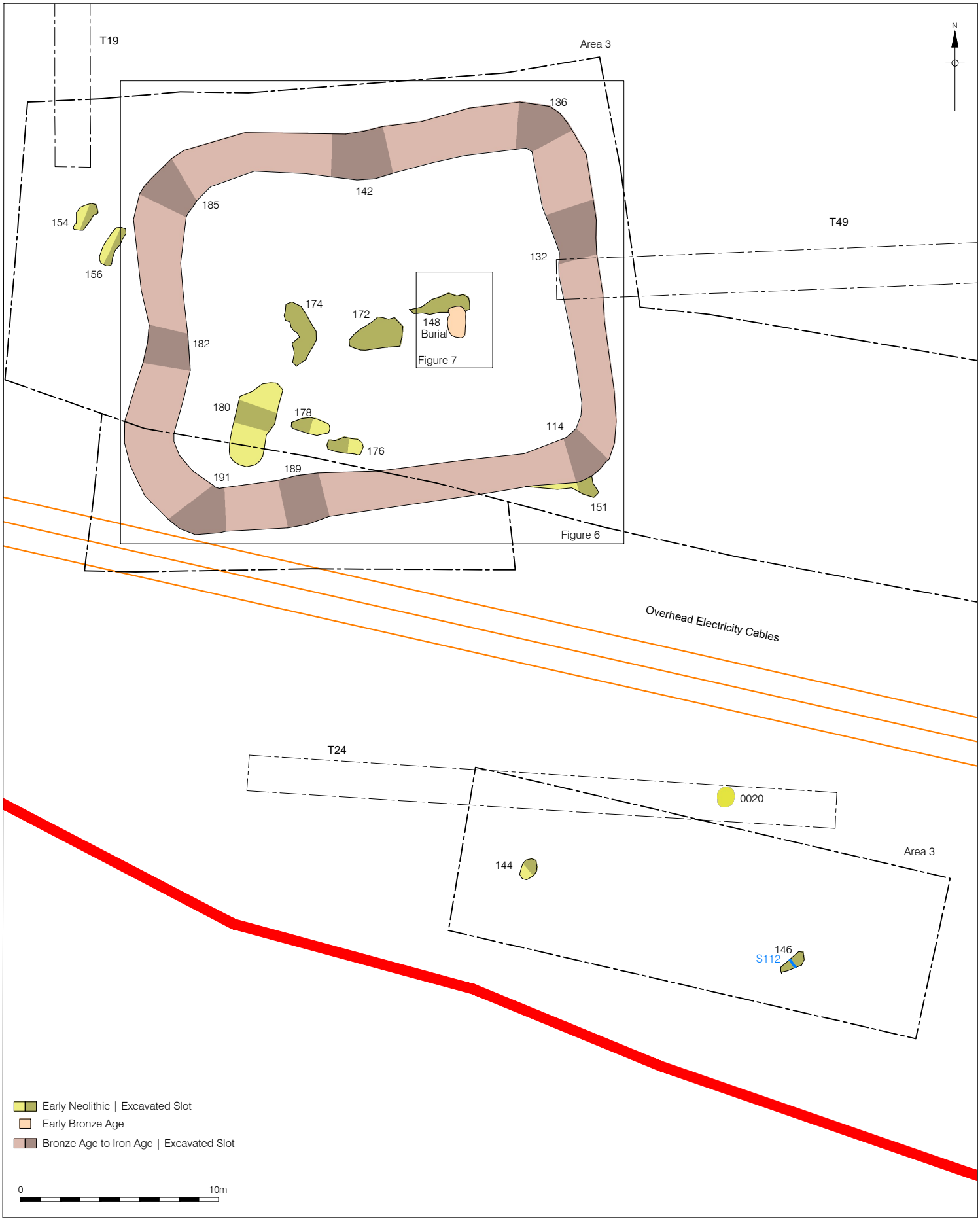
Figure 4
Area 2
Plan 1:250 at A4



With thanks to ASE for providing plans of their evaluation results

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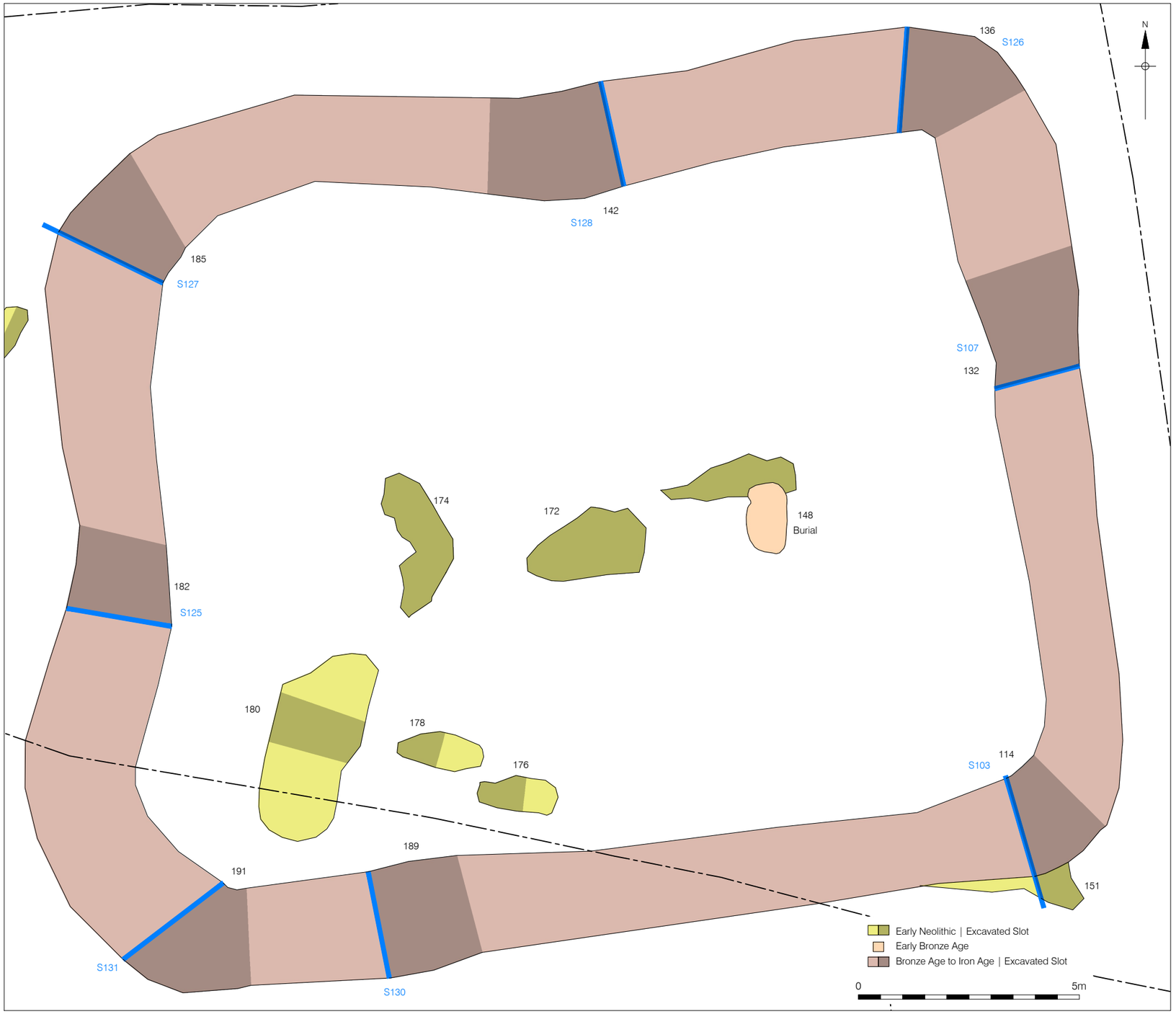
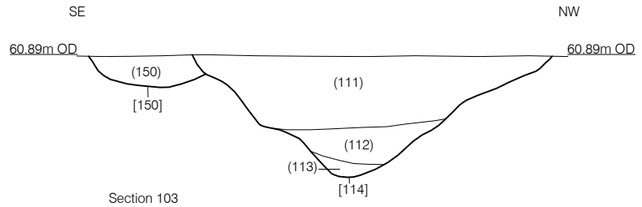
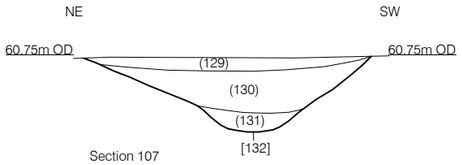
Figure 5
Area 3
Plan 1:250 at A4

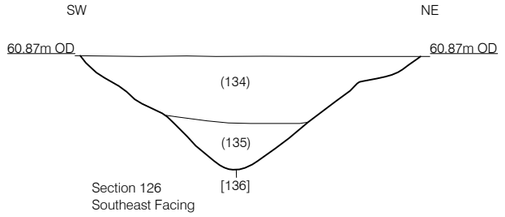




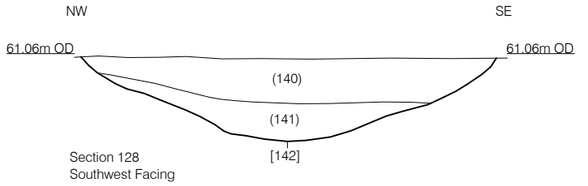
Section 103
Northeast Facing



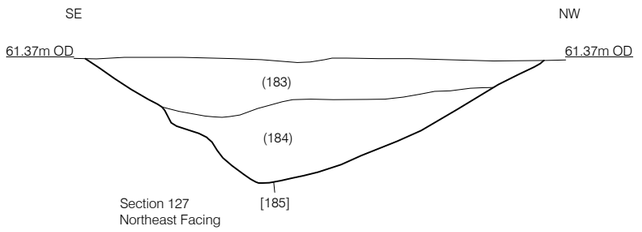
Section 107
Northwest Facing



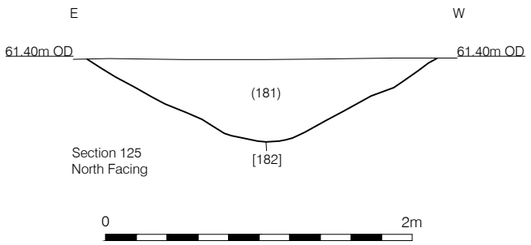
Section 126
Southeast Facing



Section 128
Southwest Facing



Section 127
Northeast Facing



Section 125
North Facing

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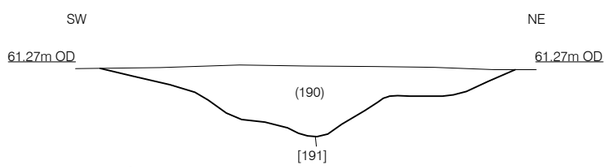

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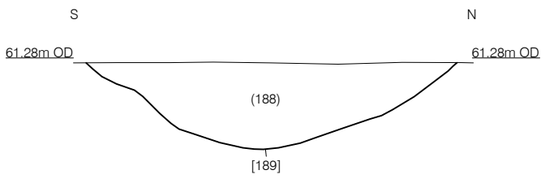
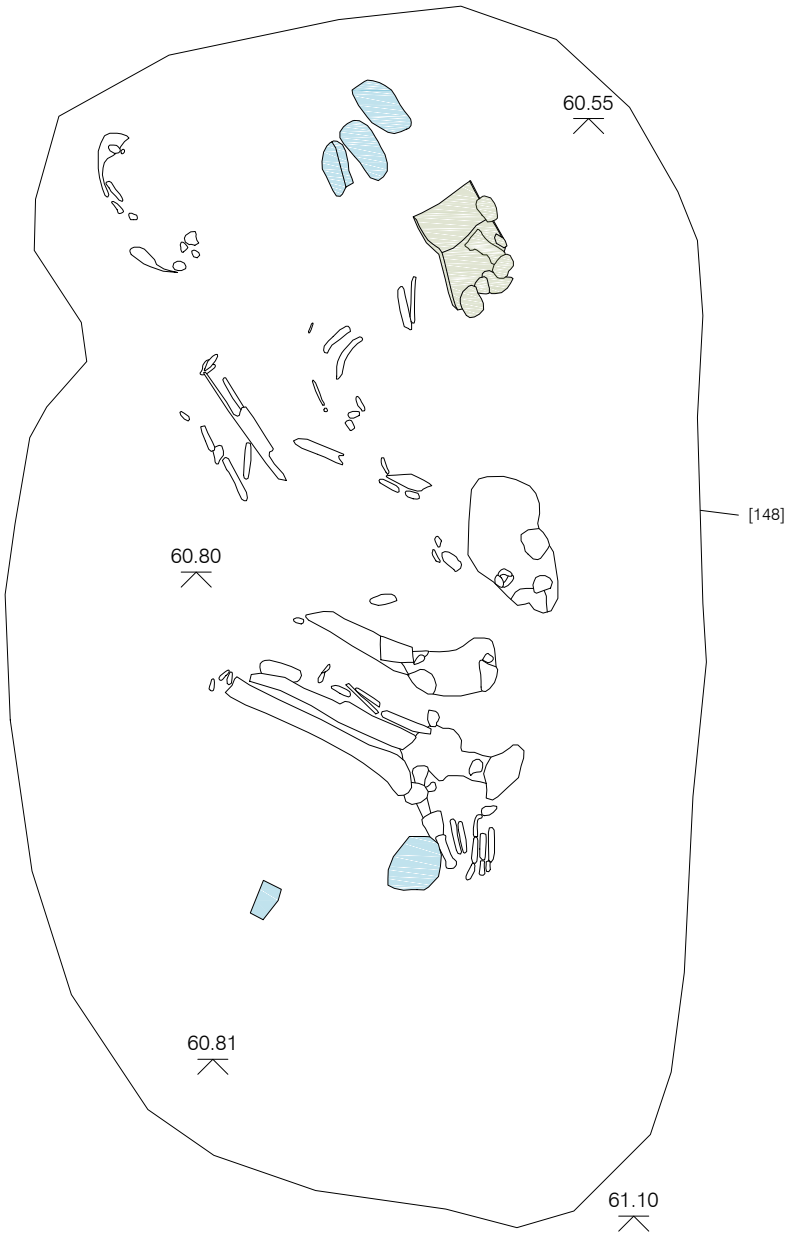
Southeast Facing



Section 130
East Facing

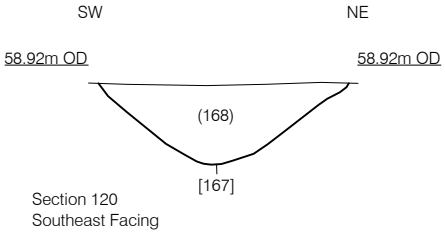
25/11/2020 RS

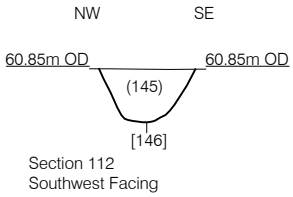
Figure 6
Detail Plan and Sections of Enclosure, Area 3
Plan 1:100, Sections 1:40 at A3

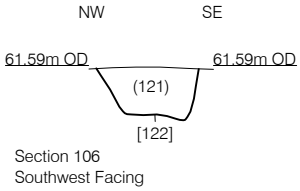


25/11/2020 RS

Figure 7
Plan of Inhumation 1 [148]
1:10 at A4







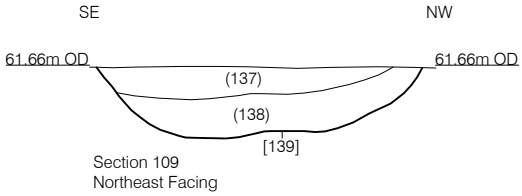


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Figure 8
Selected Sections
1:40 at A4

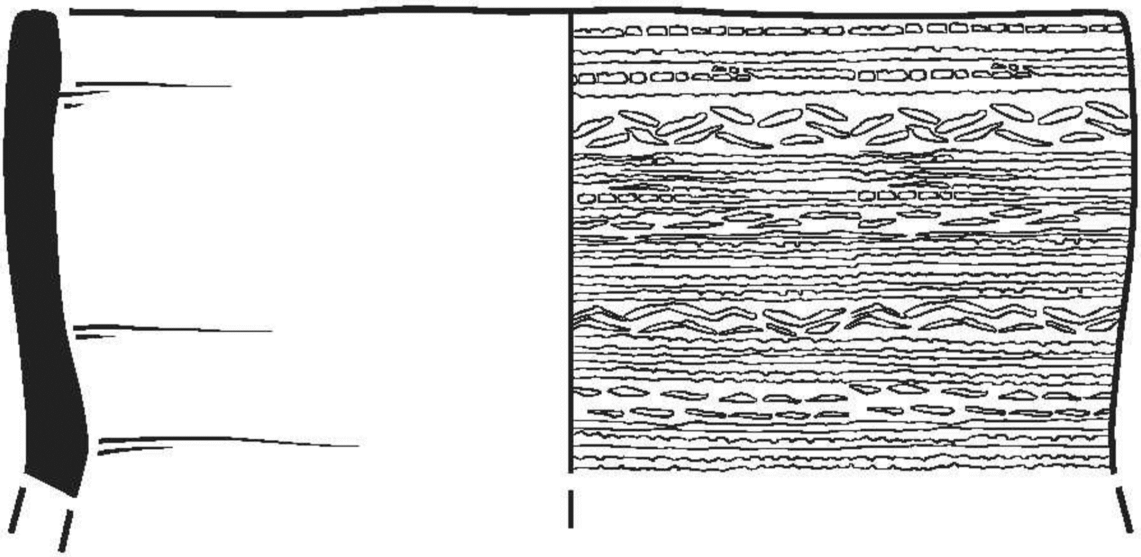
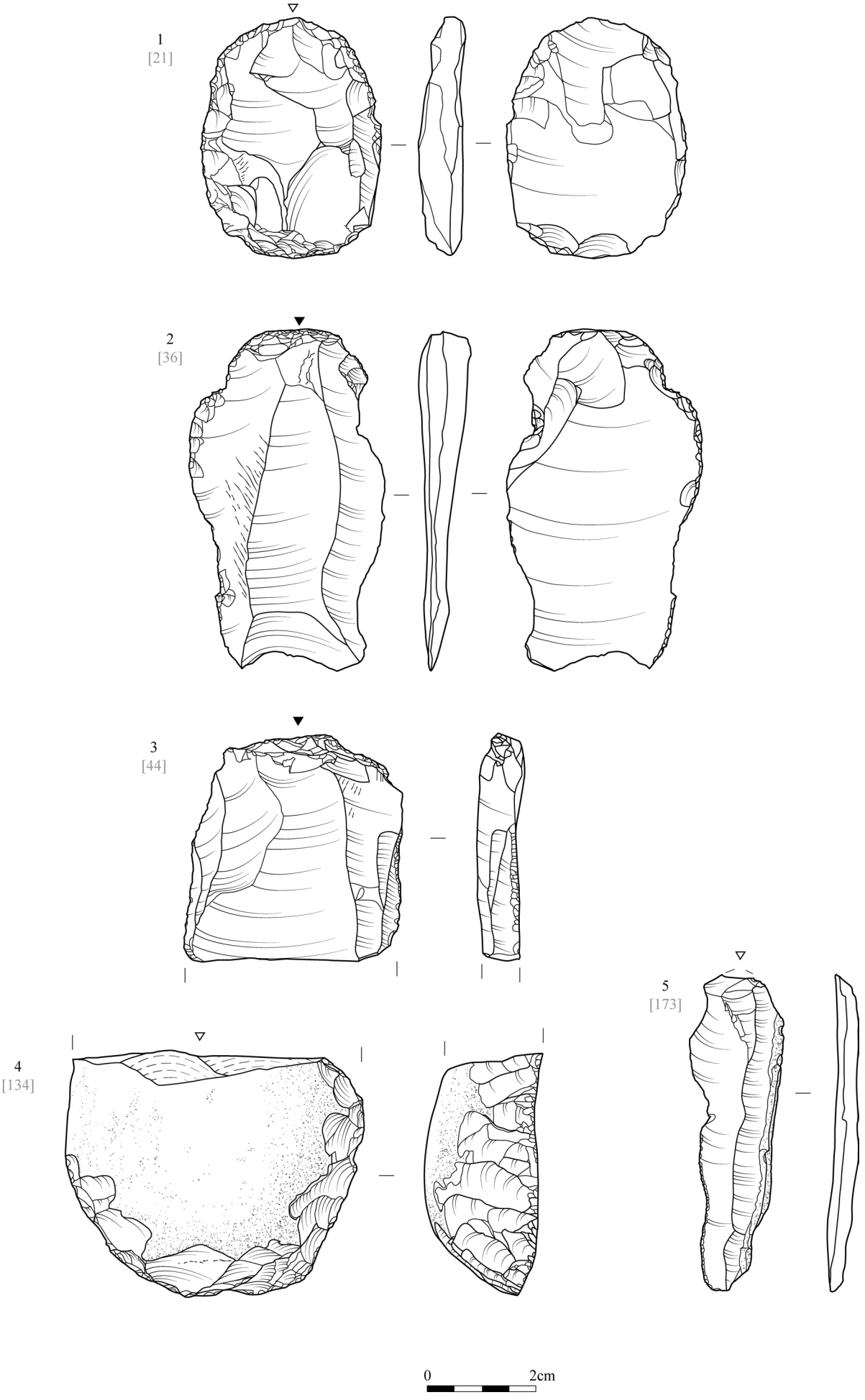
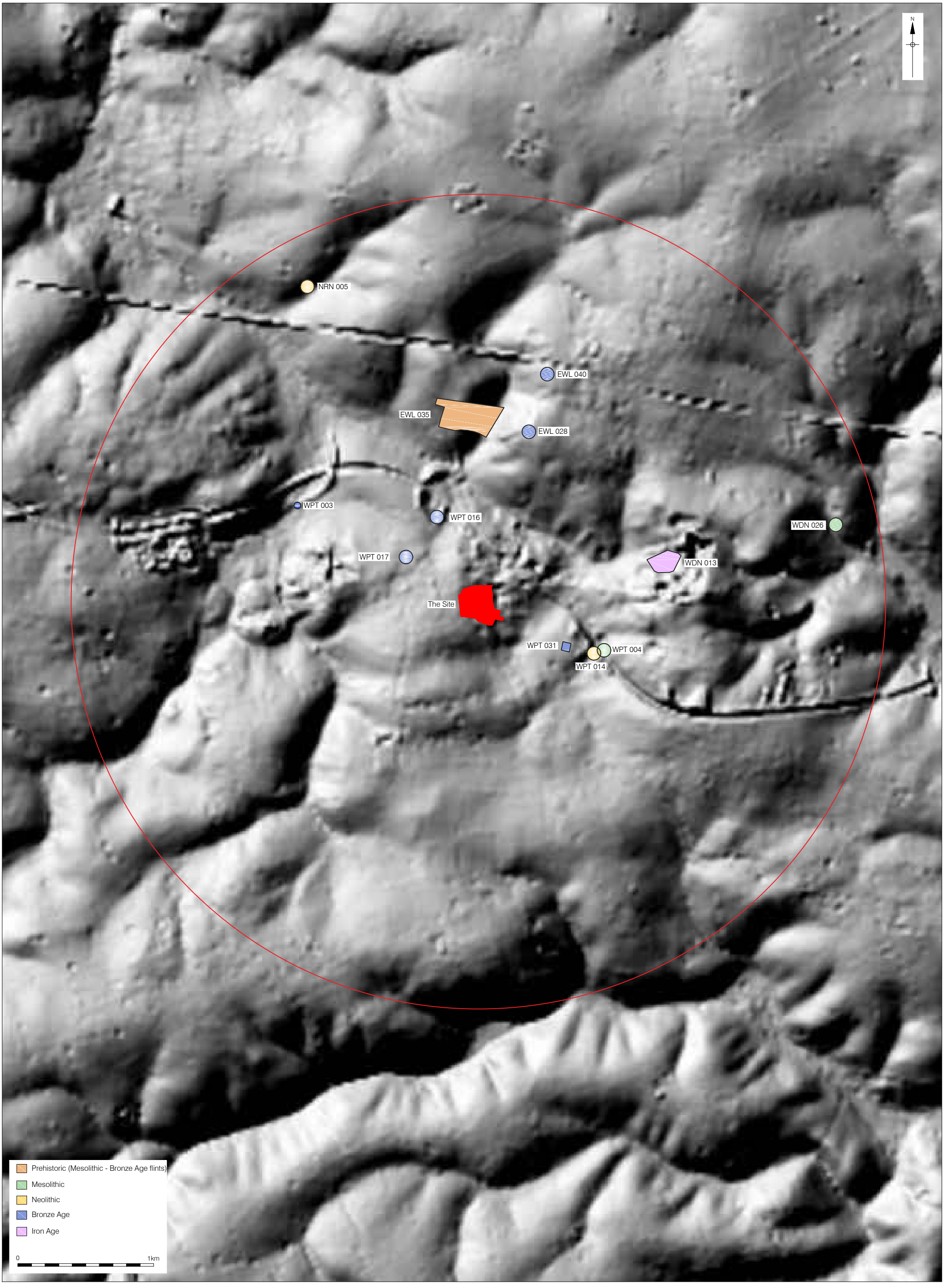


Figure 9
Illustration of Beaker from Inhumation 1 (Illustrated by Cate Davies)
1:1 at A4

25/11/2020 RS



WPT04 flint 1:1



30/11/2020 RS

Figure 11
Prehistoric HER data
1:25000 at A3

12 APPENDIX 1: PLATES

Plate 1: The excavation in progress, view E towards valley

Plate 2: Area 2 geological variations/ tree hollows (N to top)

Plate 3: Examples of tree hollows ([158] & [160]), Area 2, view W

Plate 4: Natural Feature [170], Area 2, view N

Plate 5: Natural Feature/ Gully [167], Area 2, view SE

Plate 6: Natural Feature [146], Area 3, view NE

Plate 7: Aerial view of Excavation Area 3

Plate 8: Close-up aerial view of enclosure, Area 3

Plate 9: Enclosure, Area 3, view W

Plate 10: Inhumation 1, Area 3, view N

Plate 11: Beaker accompanying inhumation, view W

Plate 12: SK149 mid-excavation, view S

Plate 13: Beaker burial in context, view SW

Plate 14: Enclosure Ditch Slot [132], view S

Plate 15: Enclosure Ditch Slot [136], view W

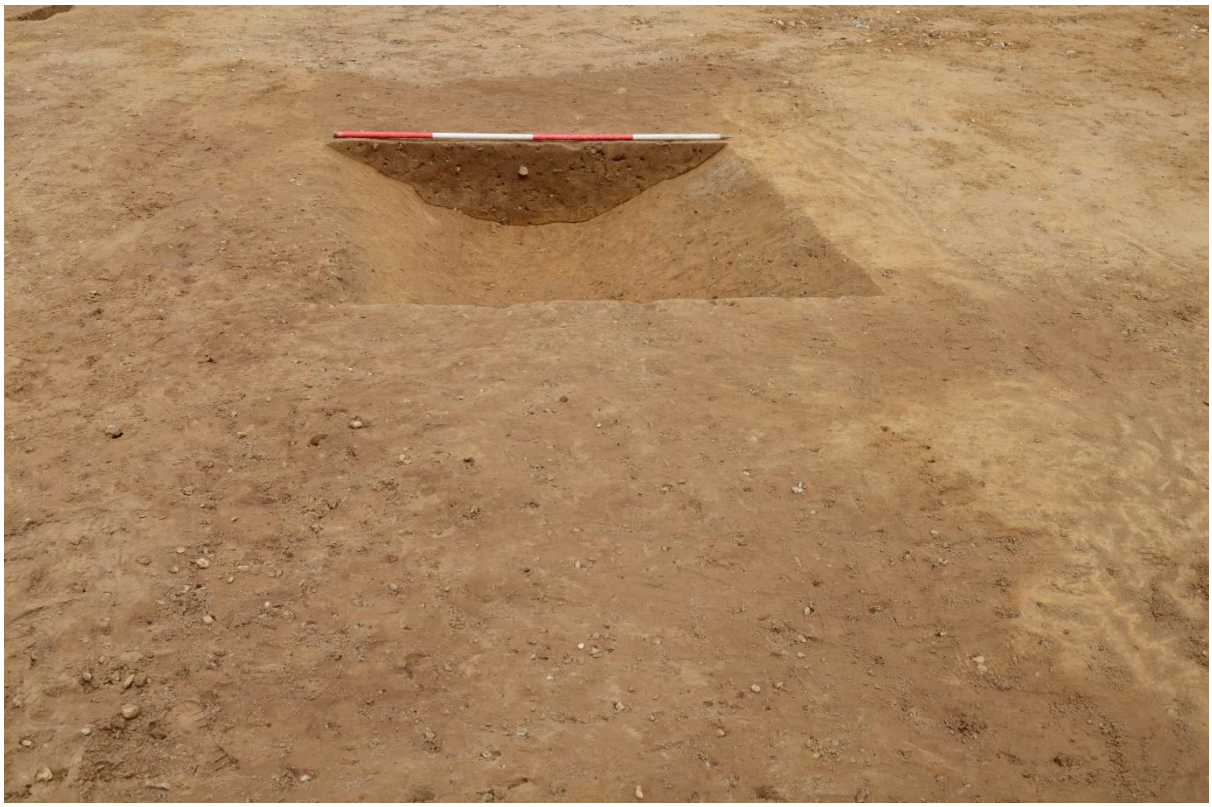


Plate 16: Enclosure Ditch Slot [142], view E

Plate 17: Enclosure Ditch Slot [182], view S

Plate 18: Stripped SW part of enclosure after removal of powerlines

Plate 19: Enclosure Ditch Slot [189], view W

Plate 20: Middle Iron Age Pit [139], Area 1, view S

Plate 21: Prospection Pit [117], Area 2, view E

Plate 22: Bone growth on the superior aspect of the inferior facet of a lumbar vertebra. Anterior side is up.

APPENDIX 2: CONTEXT LIST

Context	Cut	Area	Type	Category	Length (m)	Width (m)	Depth (m)	Description	Fill Sequence	Group	Period
100	100		Layer	Topsoil	0	0	0	Dark greyish-brown sandy silt	1/1	Site Topsoil	
101	101		Layer	Subsoil	0	0	0	Mid reddish-brown clayey silt	1/1	Site Subsoil	
102	102		Layer	Natural	0	0	0	Varied geology	1/1	Natural	
103	104	2	Fill	Natural	0.76	0.64	0.2	Moderate, mid greyish-brown sandy clay with occasional flint	1/1	Misc Natural Features	Early Neolithic
104	104	2	Cut	Natural	0.76	0.64	0.2	Sub-circular in plan, uneven sides, uneven base		Misc Natural Features	Early Neolithic
105	106	2	Fill	Natural	0.94	0.52	0.19	Moderate, mid greyish-brown sandy clay with flint inclusions	1/1	Misc Natural Features	Early Neolithic
106	106	2	Cut	Natural	0.94	0.52	0.19	Oval in plan, moderate sides, concave base		Misc Natural Features	Early Neolithic
107	108	2	Fill	Natural	1.65	0.82	0.34	Moderate, mid greyish-brown sandy clay with flint inclusions	1/1	Misc Natural Features	Early Neolithic
108	108	2	Cut	Natural	1.65	0.82	0.34	Sub-linear in plan, moderate sides, uneven base		Misc Natural Features	Early Neolithic
109	110	2	Fill	Natural	3	0.62	0.48	Moderate, mid greyish-brown sandy clay with flint inclusions	1/1	Misc Natural Features	Early Neolithic
110	110	2	Cut	Natural	3	0.62	0.48	Sub-linear in plan, steep to vertical sides, uneven base		Misc Natural Features	Early Neolithic
111	114	3	Fill	Ditch	1.8	2.25	0.48	Moderate, mid greyish-brown clayey sand with flint inclusions	3/3	Enclosure	Bronze Age-Iron Age
112	114	3	Fill	Ditch	1.8	1.1	0.22	Moderate, mid greyish-brown clayey sand with frequent flint and stone inclusions	2/3	Enclosure	Bronze Age-Iron Age
113	114	3	Fill	Ditch	1.8	0.46	0.1	Moderate, mid greyish-brown clayey sand with flint and stone inclusions	1/3	Enclosure	Bronze Age-Iron Age
114	114	3	Cut	Ditch	1.8	2.43	0.8	Curvilinear in plan, sloped to moderate sides, concave base		Enclosure	Bronze Age-Iron Age
115	115	2	Cut	Natural	1.5	0.94	0.28	Oval in plan, steep sides, concave base		Misc Natural Features	Early Neolithic
116	115	2	Fill	Natural	1.5	0.94	0.28	Compact, mid greyish-brown sand with occasional flint inclusions	1/1	Misc Natural Features	Early Neolithic
117	117	2	Cut	Pit	1.58	1.48	1.1	Rectangular in plan, vertical sides, flat base		Pit Group 2	post-medieval
118	117	2	Fill	Pit	1.58	0.96	0.3	Mid greyish-brown silty clay with moderate flint inclusions	3/3	Pit Group 2	post-medieval
119	117	2	Fill	Pit	1.58	1.45	0.76	Compact, light yellow clay with occasional flint inclusions	2/3	Pit Group 2	post-medieval
120	117	2	Fill	Pit	1.58	1.44	0.74	Compact, light greyish-yellow silty clay with occasional flint inclusions	1/3	Pit Group 2	post-medieval
121	122	1	Fill	Pit	0.55	0.4	0.25	Friable, dark blueish-brown sand	1/1	Pit Group 1	Middle Iron Age
122	122	1	Cut	Pit	0.55	0.4	0.25	Oval in plan, steep sides, concave base		Pit Group 1	Middle Iron Age
123	123	1	Layer	Topsoil	0	0	0.32	Dark greyish-brown sandy silt with frequent flint inclusions		Site Topsoil	
124	124	1	Layer	Subsoil	0	0	0.4	Mid reddish-brown clayey silt with frequent flint inclusions		Site Subsoil	
125	125	2	Layer	Topsoil	0	0	0.3	Dark greyish-brown sandy silt with frequent flint inclusions		Site Topsoil	
126	126	2	Layer	Subsoil	0	0	0.5	Mid reddish-brown clayey silt with frequent flint inclusions		Site Subsoil	
127	127	3	Layer	Topsoil	0	0	0.4	Dark greyish-brown sandy silt with frequent flint inclusions		Site Topsoil	
128	128	3	Layer	Subsoil	0	0	0.28	Mid reddish-brown clayey silt with frequent flint inclusions		Site Subsoil	
129	132	3	Fill	Ditch	1	1.9	0.08	Moderate, light to mid grey silty sand with rare subangular flint inclusions	3/3	Enclosure	Bronze Age-Iron Age
130	132	3	Fill	Ditch	1	1.8	0.32	Compact, mid orangey-brown silty sand with occasional subangular flint inclusions	2/3	Enclosure	Bronze Age-Iron Age
131	132	3	Fill	Ditch	1	0.68	0.13	Compact, light to mid greyish-brown silty sand with frequent subangular flint inclusions	1/3	Enclosure	Bronze Age-Iron Age
132	132	3	Cut	Ditch	1	1.9	0.5	Linear in plan, moderate to gentle sides, concave base		Enclosure	Bronze Age-Iron Age
133	136	3	Fill	Ditch	1.67	2.2	0.08	Moderate, light to mid grey silty sand	3/3	Enclosure	Bronze Age-Iron Age
134	136	3	Fill	Ditch	1.67	2.25	0.44	Moderate, mid greyish-brown clayey sand with flint inclusions	2/3	Enclosure	Bronze Age-Iron Age
135	136	3	Fill	Ditch	1.67	0.9	0.3	Moderate, mid greyish-brown clayey sand with flint inclusions	1/3	Enclosure	Bronze Age-Iron Age
136	136	3	Cut	Ditch	1.67	2.25	0.72	Curvilinear in plan, moderate sides, concave base		Enclosure	Bronze Age-Iron Age
137	139	1	Fill	Pit	1.56	1.6	0.18	Friable, dark blueish-grey sand with occasional flint inclusions	2/2	Pit Group 1	Middle Iron Age
138	139	1	Fill	Pit	1.61	1.6	0.38	Friable, dark brownish-grey silty sand	1/2	Pit Group 1	Middle Iron Age
139	139	1	Cut	Pit	1.7	1.6	0.38	Circular in plan, steep sides, concave base		Pit Group 1	Middle Iron Age
140	142	3	Fill	Ditch	1.84	2.7	0.3	Moderate, mid greyish-brown silty sand with occasional subangular flint inclusions	2/2	Enclosure	Bronze Age-Iron Age
141	142	3	Fill	Ditch	1.84	2.15	0.45	Moderate, light yellowy-brown silty sand with frequent subangular flint inclusions	1/2	Enclosure	Bronze Age-Iron Age
142	142	3	Cut	Ditch	1.84	2.7	0.56	Linear in plan, moderate to gentle sides, concave base		Enclosure	Bronze Age-Iron Age
143	144	3	Fill	Natural	1.5	0.56	0.22	Friable, mid greyish-brown silty sand with stone inclusions	1/1	Misc Natural Features	Early Neolithic
144	144	3	Cut	Natural	1.5	0.56	0.22	Oval in plan, sloped sides, concave base		Misc Natural Features	Early Neolithic
145	146	3	Fill	Natural	0.5	0.8	0.3	Friable, mid greyish-brown clayey sand with stone inclusions	1/1	Misc Natural Features	Early Neolithic
146	146	3	Cut	Natural	0.5	0.8	0.3	Linear in plan, steep sides, concave base		Misc Natural Features	Early Neolithic
147	148	3	Fill	Inhumation	1.83	1.12	0.29	Loose, mid greyish-brown silty sand with flint inclusions	2/2	Inhumation 1	Early Bronze Age
148	148	3	Cut	Inhumation	1.83	1.12	0.29	Sub-circular in plan, moderate sides, uneven base		Inhumation 1	Early Bronze Age
149	148	3	Fill	Inhumation	0	0	0	Tightly crouched body on its side, aligned N-S with head to the north, poor preservation of most of the body apart from feet and legs which were mostly intact, half a Beaker pot recovered from behind the individual's back	1/2	Inhumation 1	Early Bronze Age

150	151	3	Fill	Natural	0.94	0.67	0.22	Loose, mid greyish-brown silty sand with flint inclusions	1/1	Misc Natural Features	Early Neolithic
151	151	3	Cut	Natural	0.94	0.67	0.22	Irregular in plan, moderate sides, concave base		Misc Natural Features	Early Neolithic
152	154	3	Fill	Natural	1.37	0.47	0.27	Friable, mid greyish-brown sand with charcoal and stone inclusions	2/2	Misc Natural Features	Early Neolithic
153	154	3	Fill	Natural	0.67	0.47	0.18	Friable, mid brown sand with charcoal inclusions	1/2	Misc Natural Features	Early Neolithic
154	154	3	Cut	Natural	1.37	0.47	0.3	Irregular in plan, sloped sides, concave base		Misc Natural Features	Early Neolithic
155	156	3	Fill	Natural	1.9	0.7	0.28	Moderate, light yellowy-brown silty sand with occasional stone and flint inclusions	1/1	Misc Natural Features	Early Neolithic
156	156	3	Cut	Natural	1.9	0.7	0.28	Linear in plan, moderate sides, uneven base		Misc Natural Features	Early Neolithic
157	158	2	Fill	Natural	1.7	1.2	0.3	Moderate, mid greyish-brown silty sand with occasional small filnt inclusions	1/1	Misc Natural Features	Early Neolithic
158	158	2	Cut	Natural	1.7	1.2	0.3	Oval in plan, sloped sides, uneven base		Misc Natural Features	Early Neolithic
159	160	2	Fill	Natural	1.9	1.8	0.3	Moderate, mid greyish-brown silty sand with occasional charcoal pieces and moderate small flint inclusions	1/1	Misc Natural Features	Early Neolithic
160	160	2	Cut	Natural	1.9	1.8	0.3	Sub-circular in plan, sloped sides, uneven base		Misc Natural Features	Early Neolithic
161	162	2	Fill	Natural	2.5	1.35	0.1	Loose, light yellowy-brown silty sand with occasional charcoal pieces and occasional flint inclusions	1/1	Misc Natural Features	Early Neolithic
162	162	2	Cut	Natural	2.5	1.35	0.1	Irregular shape in plan, gentle sides, flat base		Misc Natural Features	Early Neolithic
163	164	2	Fill	Natural	2	1.1	0.1	Loose, light yellowy-brown silty sand	1/1	Misc Natural Features	Early Neolithic
164	164	2	Cut	Natural	2	1.1	0.1	Irregular shape in plan, irregular sides, irregular base		Misc Natural Features	Early Neolithic
165	166	2	Fill	Natural	2	1.1	0.3	Loose, yellowy-brown silty sand with occasional charcoal pieces, occasional flint inclusions	1/1	Misc Natural Features	Early Neolithic
166	166	2	Cut	Natural	2	1.1	0.3	Oval in plan, steep sides, concave base		Misc Natural Features	Early Neolithic
167	167	2	Cut	Natural	1.3	1.4	0.54	Curvilinear in plan, steep sides, concave base		Misc Natural Features	Early Neolithic
168	167	2	Fill	Natural	1.3	1.4	0.54	Mid brown, clayey silt with moderate flint inclusions	1/1	Misc Natural Features	Early Neolithic
169	170	2	Fill	Natural	1.7	1.22	0.41	Moderate, mid greyish-brown silty sand with occasional small flint inclusions	1/1	Misc Natural Features	Early Neolithic
170	170	2	Cut	Natural	1.7	1.22	0.41	Oval in plan, sloped sides, uneven base		Misc Natural Features	Early Neolithic
171	172	3	Fill	Natural	2.5	1.3	0.3	Loose, mid greyish-brown sand with flint inclusions	1/1	Misc Natural Features	Early Neolithic
172	172	3	Cut	Natural	2.5	1.3	0.3	Irregular shape in plan, irregular sides, uneven base		Misc Natural Features	Early Neolithic
173	174	3	Fill	Natural	3	1	0.1	Loose, light greyish-brown sand with flint inclusions	1/1	Misc Natural Features	Early Neolithic
174	174	3	Cut	Natural	3	1	0.1	Irregular shape in plan, sloped sides, flat base		Misc Natural Features	Early Neolithic
175	176	3	Fill	Natural	1.7	0.8	0.13	Loose, mid orangey-brown sand with flint and chalk inclusions	1/1	Misc Natural Features	Early Neolithic
176	176	3	Cut	Natural	1.7	0.8	0.13	Oval in plan, sloped sides, sloping base		Misc Natural Features	Early Neolithic
177	178	3	Fill	Natural	2.4	0.7	0.13	Loose, mid orangey-brown sand with flint inclusions	1/1	Misc Natural Features	Early Neolithic
178	178	3	Cut	Natural	2.4	0.7	0.13	Oval in plan, sloped sides, concave base		Misc Natural Features	Early Neolithic
179	180	3	Fill	Natural	3.25	2	0.12	Loose, mid orangey-brown sand with flint and stone inclusions	1/1	Misc Natural Features	Early Neolithic
180	180	3	Cut	Natural	3.25	2	0.12	Linear in plan, gentle sides, irregular flattish base		Misc Natural Features	Early Neolithic
181	182	3	Fill	Ditch	2	2.26	0.54	Moderate, mid greyish-brown silty sand with frequent small to medium sized flint and occasional charcoal inclusions	1/1	Enclosure	Bronze Age-Iron Age
182	182	3	Cut	Ditch	2	2.26	0.54	Linear in plan, sloped sides, concave base		Enclosure	Bronze Age-Iron Age
183	185	3	Fill	Ditch	2	3	0.38	Compact, light yellowy-orange silty sand with moderate manganese inclusions	2/2	Enclosure	Bronze Age-Iron Age
184	185	3	Fill	Ditch	2	2.16	0.62	Loose, light greyish-brown sandy silt with occasional flint inclusions	1/2	Enclosure	Bronze Age-Iron Age
185	185	3	Cut	Ditch	2	3	0.8	Curvilinear in plan, moderate sides, concave base		Enclosure	Bronze Age-Iron Age
186	186	2	Cut	Natural	9	1	0.15	Curvilinear in plan, moderate sides, uneven base		Misc Natural Features	Early Neolithic
187	186	2	Fill	Natural	9	1	0.15	Moderate, mid greyish-brown sandy clay with flint inclusions	1/1	Misc Natural Features	Early Neolithic
188	189	3	Fill	Ditch	2	2.6	0.54	Compact mid-greyish-/orangey-brown silty sand, mod flints	1/1	Enclosure	Bronze Age-Iron Age
189	189	3	Cut	Ditch	2	2.6	0.54	Linear in plan, mod sloping side, gradual b/o/s, concave base		Enclosure	Bronze Age-Iron Age
190	191	3	Fill	Ditch	2	2.9	0.42	Compact mid-greyish-/orangey-brown silty sand, mod flints	1/1	Enclosure	Bronze Age-Iron Age
191	191	3	Cut	Ditch	2	2.9	0.42	Curvilinear in plan, gently sloping sides, gradual b/o/s, concave base		Enclosure	Bronze Age-Iron Age

APPENDIX 3: LITHIC CATALOGUE

Context	Ref.	Feature	Trench / Area	Decortication flake	Core rejuvenation flake	Chip (<15mm)	Flake	Blade-like flake	Blade: non-prismatic	Blade: prismatic	Flake fragment <15mm	Flake fragment >15mm	Core: flake	Core fragment	Conchoidally fractured chunk	Retouched	Unworked burnt stone (no.)	Unworked burnt stone (wt:g)	Suggested date range	Comments
0		Unstrat	-	2			4					1							Meso/ ENeo	Rather mixed looking chipped flakes including two primary flakes and a possible denticulated flake. Could be mixed date.
1		Eval						1	1										Meso/ ENeo	Both slightly chipped, possibly retouched. BLF has very thick cortex
2		Eval	?26					1											Meso/ ENeo	Distal missing, possible blade. Some glossing to surface
2		Eval	?44				1												Meso-EBA	Large, thin
3		Eval							1										Meso/ ENeo	Large, partially cortical. Bluish recortication.
5	<3>	Eval	?45														5	116	Undated	Heavily and uniformly burnt nodular flint fragments (discarded)
10	<4>	Eval	?45														21	245	Undated	Heavily and uniformly burnt nodular flint fragments (discarded)
21	<1>	Eval				8				3	8	3							Meso/ ENeo	Knapping debris from systematic blade-based reduction. The 3 larger fragments are burnt. Some incipient recortication
21		Eval					5	2	1	2		1							Meso/ ENeo	All from systematic blade-based reduction, including core shaping flakes. Four pieces burnt
21		Eval														1			ENeo	Leaf-shaped arrowhead blank made on a flake of cherty grey flint with edge blunting and shallow invasive 'thinning' retouch across parts of both faces. Possibly abandoned due to the formation of step fractures. 44x34x8mm
35		Eval						1											Meso/ ENeo	Struck from an opposed platformed core
36		Eval					1	1		1		1							Meso/ ENeo	All from systematic blade-based reduction
36	<2>	Eval				1				1	3	2							Meso/ ENeo	knapping debris from systematic blade-based reduction.

36		Eval														1			Meso/ ENeo	Narrow blade-like flake with fine bifacial retouch along part of sinuous right margin and larger flakes removed inversely from left margin. Fine retouch is moderately to heavily worn cf cutting. 63x37x9mm
44		Eval	-													1			Meso/ ENeo	Edge trimmed blade-like flake or large blade with fine, steep retouch along straight left margin. Distal end missing. Light to moderate wear. >42x42x8mm
44		Eval	-				1												Meso-EBA	Thin, well struck
100		Topsoil	-	3	1		11	3	4	2									Meso-EBA	Rather mixed looking chipped flakes including a 'plunged' blade-like flake and a possible side scraper. Predominantly blade-based but could be mixed date.
103		Natural	2				1			1									Meso/ ENeo	Both small, broken
107		Natural	2											1					Preh.	Disintegrated core fragment
109		Natural	3			1		1		1									Meso/ ENeo	All from systematic blade-based reduction
111		Ditch 114	3	4		1	6								1				Meso-EBA	Rather mixed looking slightly chipped flakes. Predominantly blade-based but could be mixed date.
116		Natural	2				2												Preh.	One flake is small, the other quite 'squat'
118		Natural	2	1			1												Preh.	Decortication flake is small, other flake might be a core reshaping flake
126		Subsoil	2				5			1			1						Meso-EBA	Rather mixed looking slightly chipped flakes and a rather crudely flaked centripetally worked core weighing 34g. Some pieces blade-based but at least one flake is thick and the core could be later prehistoric
134		Ditch 136	3													1			Neo-EBA	End scraper made on a large mostly cortical flake with well-executed coarse, steep, scalar retouch around its convex distal end. Proximal end is missing. Light wear. >45x55x20mm
134		Ditch 136	3				2	2	1			1							Meso-EBA	Mostly blade-based but one flake is thick and not well detached.
137	<101>	Pit 139	1									1							Preh.	Burnt flake fragment
140		Ditch 142	3	1			2	1											Meso/ ENeo	Predominantly blade-based. DF is quite 'squat' and could be later?
147		Inhumation 148	3				1												Preh.	Possible flake - small and badly detached
153		Natural	3						1										Meso-EBA	Sharp, core shaping?
161		Natural	2	1															Meso/ ENeo	Narrow, well struck
165		Natural	2				1												Preh.	Undiagnostic although reasonably well struck

168		Natural	2	1			1	1	1										Meso-EBA	Rather disparate collection in a chipped state, BLF is likely to be Meso/ENeo but others could be of later date
168		Natural	2															4	8	Undated	Variably heated flint fragments (discarded)
173		Natural	3				2													Meso-EBA	A possible blade-core-shaping flake and a small well detached flake
173		Natural	3													1				Meso/ ENeo	Edge trimmed prismatic blade with very fine retouch / use-wear or worn serrations along part of straight right margin and cortex 'backing along left margin. Moderate wear. 59x17x4mm
175		Natural	3				1													Meso-EBA	Well struck, bluish recortication
183		Ditch 185	3	2			2													Meso-EBA	Nothing very diagnostic, both flakes are well struck
184		Ditch 185								1										Meso/ ENeo	Very narrow, proximal end missing

Appendix 4: Pottery Catalogue

Area	Feature no.	Context no.	Feature type	Group name	Gorup date	Fabric group	Fabric type	Sherd type	No. sherds	Wt. (g)	Spot Date	Date range	Decorative category	Decorative motif	Residue type	Rim type	Form	Type
	0	0	Unstratified			Q	Q1OXS	U	1	5	MIA	250BC-50BC						
2	108	107	Natural	Misc Natural Features	Neolithic	F	QF2	U	1	2	EN	3650BC+						Plain
3	114	111	Ditch	Enclosure	Bronze Age–Iron Age	F	F2OX	U	2	9	EN	3650BC+						Plain
3	136	134	Ditch	Enclosure	Bronze Age–Iron Age	Q	QF1	D	4	2	LNEBA	2600-1800BC	STCI	Band			Beaker	
1	139	137	Pit	Pit Group 1	Middle Iron Age	Q	Q1	R	1	25	MIA	350BC-50BC	incised scored	vertical		ext lip flat	Jar	A
1	139	137	Pit	Pit Group 1	Middle Iron Age	Q	Q1	RU	2	1	MIA	350BC-50BC				flat	Cup	A
3	142	141	Ditch	Enclosure	Bronze Age–Iron Age	F	F1	U	2	3	LNEBA	2600-1800BC					Beaker	
3	146	145	Natural	Misc Natural Features	Neolithic	F	F2OX	U	2	19	EN	3650BC+						Plain
3	146	145	Natural	Misc Natural Features	Neolithic	Q	Q	U	13	2	NCD							
3	148	147	Inhumation	Beaker Burial	Early Bronze Age	Q	QFlRFGrGF	RD	47	165	LNEBA	2600-1800BC	STCI	filled bands		direct flat	Beaker	Short necked
3	148	147	Inhumation	Beaker Burial	Early Bronze Age	Q	QF1	U	1	2	LNEBA	2600-1800BC			sooted int			
2	160	159	Natural	Misc Natural Features	Neolithic	F	F2	U	1	4	EN	3650BC+						Plain
2	167	168	Natural	Misc Natural Features	Neolithic	Q	QF2mica	U	1	6	EN	3650BC+	channelled				Bowl	Carinated
2	167	168	Natural	Misc Natural Features	Neolithic	Q	Q	U	1	1	EN	3650BC+						Plain
3	189	188	Ditch	Enclosure	Bronze Age–Iron Age	Q	QF2	U	1	6	EN	3650BC+						
3	191	190	Ditch	Enclosure	Bronze Age–Iron Age	F	F2OX	U	1	5	EN	3650BC+						
3	191	190	Ditch	Enclosure	Bronze Age–Iron Age	F	F2OX	U	1	1	NCD							
									82	258								

16 APPENDIX 5: RADIOCARBON DATING CERTIFICATES

University of BRISTOL

brams
Bristol Radiocarbon Accelerator Mass Spectrometer
43 Woodland Road,
BRISTOL, BS8 1UU,
UK

Tuesday, 23 February 2021

Report on Radiocarbon Age Determination for BRAMS-4245

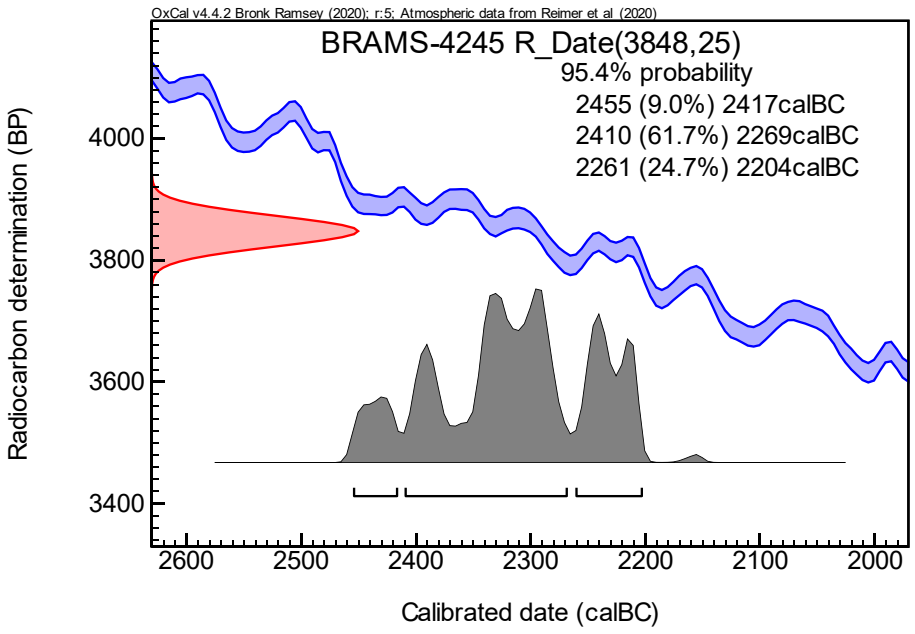
Submitter:	Sian O'Neill
Submitter's Code:	<116> (147)
Project:	WPT054
Sample material:	Bone
Pretreatment Code:	BC

$F^{14}C$	**0.6194± 0.002**
Result	**3848 ± 25 BP**
Indicative $\delta^{13}C$	**-24.1 ‰**

The result is given in uncalibrated radiocarbon years Before Present (BP). Data given are corrected for isotopic fractionation using the $^{13}C/^{12}C$ ratio measured on the AMS. The $\delta^{13}C$ value was measured on the AMS and may have been subject to additional isotopic fractionation. The error associated with this value is typically ±1‰.

Calibration Plot

Calibration was performed using OxCal software v4.4 and the IntCal20 atmospheric calibration curve



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Dr. Timothy Knowles
BRAMS Manager

University of BRISTOL

brams
Bristol Radiocarbon Accelerator Mass Spectrometer
43 Woodland Road,
BRISTOL, BS8 1UU,
UK

Wednesday, 17 February 2021

Report on Radiocarbon Age Determination for BRAMS-4247

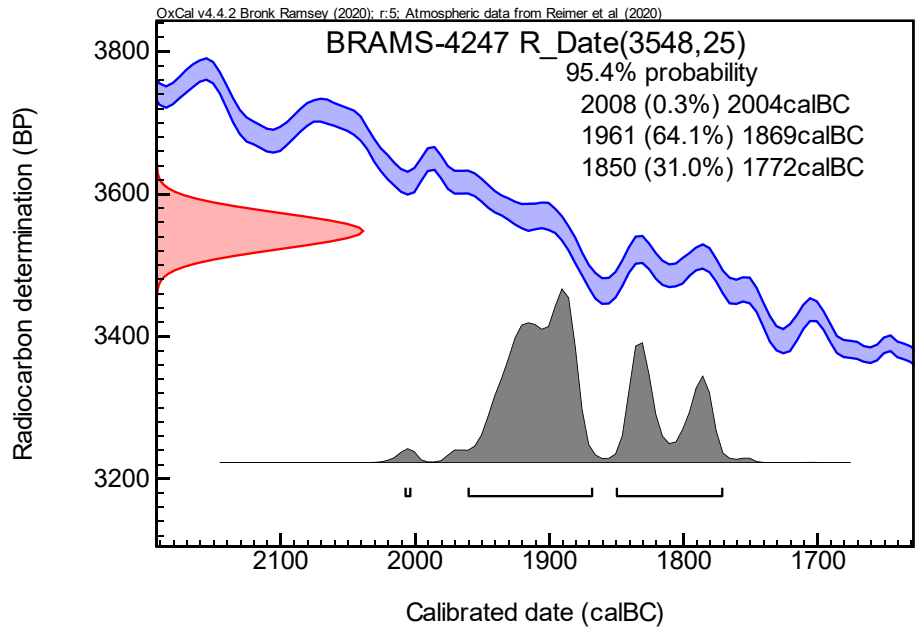
Submitter:	Sian O'Neill
Submitter's Code:	<118> (183)
Project:	WPT054
Sample material:	Charcoal
Pretreatment Code:	ABA

$F^{14}C$	**0.6429± 0.002**
Result	**3548 ± 25 BP**
Indicative $\delta^{13}C$	**-26.8 ‰**

The result is given in uncalibrated radiocarbon years Before Present (BP). Data given are corrected for isotopic fractionation using the $^{13}C/^{12}C$ ratio measured on the AMS. The $\delta^{13}C$ value was measured on the AMS and may have been subject to additional isotopic fractionation. The error associated with this value is typically ±1‰.

Calibration Plot

Calibration was performed using OxCal software v4.4 and the IntCal20 atmospheric calibration curve



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Dr. Timothy Knowles
BRAMS Manager

University of BRISTOL

brams
Bristol Radiocarbon Accelerator Mass Spectrometer
43 Woodland Road,
BRISTOL, BS8 1UU,
UK

Wednesday, 17 February 2021

Report on Radiocarbon Age Determination for BRAMS-4246

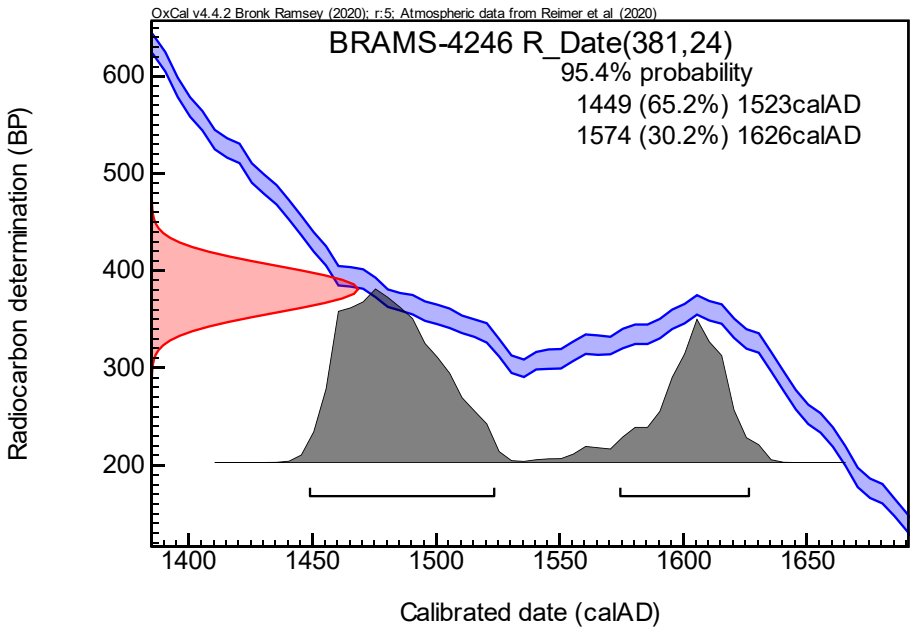
Submitter:	Sian O'Neill
Submitter's Code:	<117> (181)
Project:	WPT054
Sample material:	Charcoal
Pretreatment Code:	ABA

$F^{14}C$	**0.9537± 0.0029**
Result	**381 ± 24 BP**
Indicative $\delta^{13}C$	**-24.1 ‰**

The result is given in uncalibrated radiocarbon years Before Present (BP). Data given are corrected for isotopic fractionation using the $^{13}C/^{12}C$ ratio measured on the AMS. The $\delta^{13}C$ value was measured on the AMS and may have been subject to additional isotopic fractionation. The error associated with this value is typically ±1‰.

Calibration Plot

Calibration was performed using OxCal software v4.4 and the IntCal20 atmospheric calibration curve



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Dr. Timothy Knowles
BRAMS Manager

Notes:

Pretreatment methods employed and their respective pretreatment codes are described in Knowles et al., 2019 along with details regarding graphitization, AMS measurement and data reduction.

Knowles, T.D.J., Monaghan, P.S., Evershed, R.P., 2019. Radiocarbon Sample Preparation Procedures and the First Status Report from the Bristol Radiocarbon AMS (BRAMS) Facility. *Radiocarbon* 1–10, doi:10.1017/RDC.2019.28.

Bronk Ramsey, C., 2009. Bayesian Analysis of Radiocarbon Dates. *Radiocarbon* 51, 337–360.

Reimer, P., Austin, W., Bard, E., Bayliss, A., Blackwell, P., Bronk Ramsey, C., Butzin, M., Cheng, H., Edwards, R., Friedrich, M., Grootes, P., Guilderson, T., Hajdas, I., Heaton, T., Hogg, A., Hughen, K., Kromer, B., Manning, S., Muscheler, R., Palmer, J., Pearson, C., van der Plicht, J., Reimer, R., Richards, D., Scott, E., Southon, J., Turney, C., Wacker, L., Adolphi, F., Büntgen, U., Capano, M., Fahrni, S., Fogtmann-Schulz, A., Friedrich, R., Köhler, P., Kudsk, S., Miyake, F., Olsen, J., Reinig, F., Sakamoto, M., Sookdeo, A., & Talamo, S. (2020). The IntCal20 Northern Hemisphere radiocarbon age calibration curve (0–55 cal kBP). Radiocarbon, 62.

OASIS ID: preconst1-397939

Project details

Project name	Old Stowmarket Road, Woolpit Excavation
Short description of the project	An archaeological excavation was carried out on land south of Old Stowmarket Road, Woolpit, following a geophysical survey and two phases of trial trench evaluation. The fieldwork comprised three separate excavation areas, all on the higher ground in the south of the development site and targeted on prehistoric archaeological remains identified by the evaluation. Area 1 contained three small pits with finds indicative of Middle Iron Age (c. 350-50 BC) occupation. Area 2 had a highly variable natural geology with numerous striations and lenses, some probably glacial in origin and others likely to be tree hollows. Some of these contained small amounts of Early Neolithic (c. 4000-3000 BC) pottery and/ or struck flint, which are likely to derive from surface scatters of occupation debris that were present on the prehistoric ground surface, some of which became incidentally incorporated into underlying hollows as they filled in. Area 3 revealed a few further Early Neolithic tree hollows and glacial features, but its principal interest was the exposure of an unusual rectangular/ sub-square ditched enclosure. This contained the poorly preserved crouched inhumation burial of a mature/ elderly adult male accompanied by an Early Bronze Age Beaker vessel.
Project dates	Start: 29-06-2020 End: 17-07-2020
Previous/future work	Yes / No
Any associated project reference codes	WPT 054 - Sitecode
Any associated project reference codes	1636/16 - Planning Application No.
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	ENCLOSURE Late Prehistoric
Monument type	INHUMATION Early Bronze Age
Monument type	TREE HOLLOW Early Neolithic
Monument type	PIT Middle Iron Age
Significant Finds	BEAKER Early Bronze Age
Significant Finds	STRUCK FLINT Early Neolithic
Significant Finds	POTTERY Middle Iron Age
Significant Finds	COIN Medieval
Significant Finds	HUMAN BONE Early Bronze Age
Investigation type	'''Open-area excavation'''
Prompt	Planning condition

Project location

Country	England
Site location	SUFFOLK MID SUFFOLK WOOLPIT Land south of Old Stowmarket Road, Woolpit
Postcode	IP30 9RA
Study area	0.2 Hectares
Site coordinates	TL 9805 6227 52.222486158769 0.899890371746 52 13 20 N 000 53 59 E Point
Height OD / Depth	Min: 58m Max: 63m

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Suffolk County Council Archaeological Service
Project design originator	Judyta Mlynarska
Project director/manager	Tom Woolhouse
Project supervisor	Jonathan House
Type of sponsor/funding body	Developer
Name of sponsor/funding body	David Wilson Homes

Project archives

Physical Archive recipient	Suffolk County Council
Physical Archive ID	WPT 054
Physical Contents	''Animal Bones'',''Ceramics'',''Environmental'',''Human Bones'',''Metal'',''Worked stone/lithics''
Digital Archive recipient	Suffolk County Council
Digital Archive ID	WPT 054
Digital Contents	''Animal Bones'',''Ceramics'',''Environmental'',''Human Bones'',''Metal'',''Survey'',''Worked stone/lithics''
Digital Media available	''Database'',''Images raster / digital photography'',''Spreadsheets'',''Survey'',''Text''
Paper Archive recipient	Suffolk County Council
Paper Archive ID	WPT 054
Paper Contents	''Stratigraphic''
Paper Media available	''Context sheet'',''Drawing'',''Plan'',''Report'',''Section'',''Survey'',''Unpublished Text''

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land at Old Stowmarket Road, Woolpit, Suffolk: Archaeological Excavation Report
Author(s)/Editor(s)	Woolhouse, T. and House, J.
Other bibliographic details	PCA Report No. R14325
Date	2020
Issuer or publisher	Pre-Construct Archaeology
Place of issue or publication	Pampisford
Description	Approximately 125 page bound A4 typed report with 9 figures/ illustrations and 20 colour plates
Entered by	Thomas Woolhouse (twoolhouse@pre-construct.com)
Entered on	27 November 2020

18 APPENDIX 7: PSIAH FIELDWORK SUMMARY

Woolpit, Land South of Old Stowmarket Road (TL 9805 6227; WPT 054)

Excavations took place in June–July in advance of house building. The fieldwork comprised three separate excavation areas, all located on an outcrop of sand and gravel geology on the higher ground in the south of the site. These areas targeted prehistoric archaeological remains identified during two phases of trial trench evaluation. Area 1 contained three small pits with finds indicative of Middle Iron Age (c. 350–50 BC) occupation in the near vicinity. Area 2 had highly variable geology with numerous striations and lenses, some probably glacial in origin and others likely to be tree hollows. Some of these natural features contained small numbers of Early Neolithic (broadly c. 4000–3000 BC) struck flints and Mildenhall Ware potsherds, which are likely to derive from surface scatters of occupation debris that were present on the prehistoric ground surface, some of which became incidentally incorporated into underlying hollows as they filled in. Area 3 revealed a few further Early Neolithic tree hollows and glacial features, but its principal interest was the exposure of an unusual sub-square ditched enclosure measuring 22.5 by 18.5m (externally). This contained the poorly preserved crouched burial of a mature/ elderly adult male (estimated 45 years+) accompanied by a fragmentary ceramic Beaker. A sample of bone from the individual's femur returned an AMS radiocarbon date in the Chalcolithic or Early Bronze Age (BRAMS-4245; 3848±25 BP; 2455–2417 (9.0%), 2410–2269 (61.7%) or 2261–2204 (24.7%) cal. BC). The enclosure ditch itself contained little datable material. Two small pieces of wood charcoal from the ditch fills returned dates in the Early Bronze Age and late medieval–early post-medieval period, respectively, but are of unknown provenance and depositional history so do not necessarily reflect the age of the enclosure ditch or its infill. There do not appear to be any published British parallels for Bronze Age sub-square mortuary enclosures or funerary monuments. It may be that this enclosure was later than the Beaker grave: similar small, sub-square enclosures known from cropmarks and excavation in Suffolk and elsewhere in East Anglia appear to date from the Iron Age or early Roman period.

Whatever its date, the enclosure appears to have had some kind of funerary, mortuary, or other 'ritual' function; its small size, the absence of an entrance, and the lack of associated features or finds all weight against an association with occupation or agriculture.

Tom Woolhouse and Jon House, Pre-Construct Archaeology, for RPS Consulting Ltd.

Discovering Prehistoric Woolpit: Excavations South of the Old Stowmarket Road, Summer 2020

The excavations at Old Stowmarket Road, view east (road to left of photo)

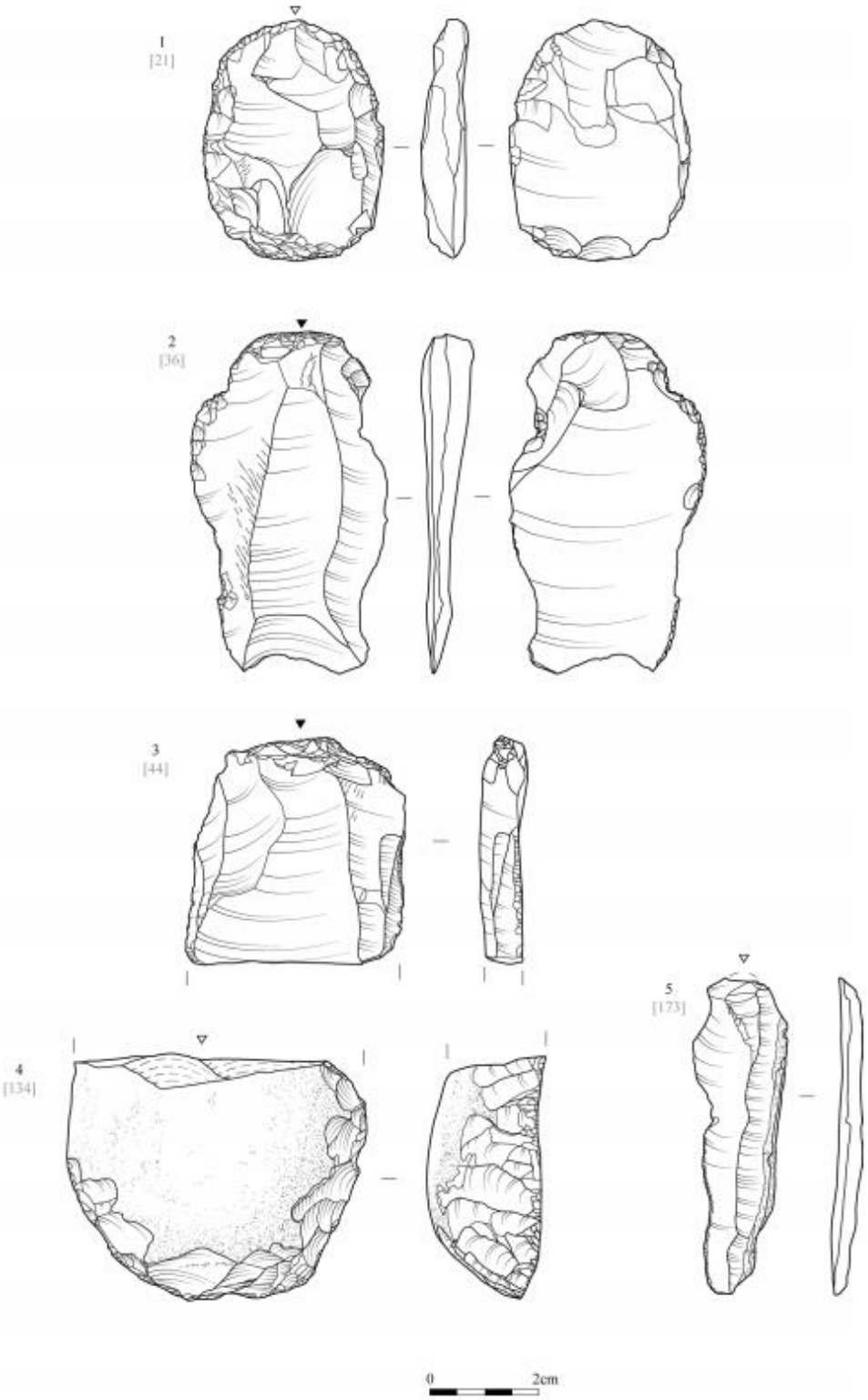
In June and July 2020, Pre-Construct Archaeology carried out an archaeological excavation on land south of the Old Stowmarket Road, ahead of construction of new houses by David Wilson Homes. The site had previously seen two stages of archaeological evaluation, with 'trial trenches' being dug systematically across the site to identify any areas of surviving buried archaeology.

After forming part of Woolpit Heath during the medieval period, and then farmland for perhaps several hundred years, the site had become part of the adjacent brickworks by the middle of the 19th century. The trial trenches found extensive evidence for brickearth quarrying across the northern and central parts of the site. This took the form of numerous rectangular, steep-sided and flat-based pits, which might each represent the output or piecework of an individual hired labourer.

On the rising ground in the south of the site, the geology changes from brickearth to sand and gravel, and it was on these lighter soils that the arguably more significant, prehistoric, archaeological remains were found. The excavation focused on this part of the site.

The earliest finds here were small numbers of struck flint tools, flint-working waste, and 'Mildenhall Ware' pottery sherds, which are characteristic of activity during the Early Neolithic period, very broadly 4000–3000 BC. The flint tools include a number of small blades which are typical of Mesolithic ('Middle Stone Age', *c*. 8000–4000 BC) and Early Neolithic flint knapping, as well as an unfinished flint arrowhead that might have been abandoned because of flaws in the piece of flint.

The majority of these objects were found in small numbers in a series of probably natural hollows, some of them geological in origin and other likely to be the hollows left by fallen trees. However, one pit contained a larger assemblage of objects, including a quite large group of pottery sherds, animal bone, struck flints, charred wheat grains and hazelnut shells.



Some of the Mesolithic to Early Neolithic struck flint tools

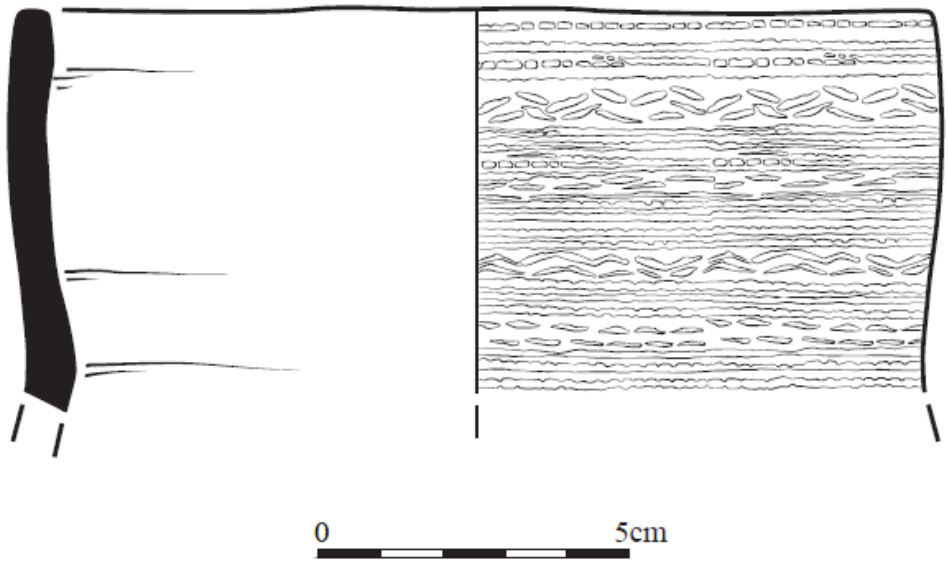
Despite the arrival of domesticated crops and animals in Britain around 4000 BC, Early Neolithic communities seem to have still lived a largely mobile (nomadic) existence, moving around the landscape in small, extended family groups, and periodically stopping to hunt and gather natural resources. They seem to have been particularly fond of hazelnuts given how frequently the shells are found on Neolithic sites!

Some places, usually located on sandy soils and close to streams and rivers, seem to have been particularly favoured as temporary or seasonal camp sites. These can sometimes be recognised by clusters of pits containing the debris of everyday Neolithic life: broken pottery, animal bones from food preparation, burnt seeds and cereal grains, and struck flint tools. At some sites there is evidence that certain objects were carefully chosen for burial in the pits, perhaps to commemorate particular events in the life of the community or to stake a claim to locations in the landscape. One such Early Neolithic 'camp site', contemporary with the finds from Woolpit, has recently been discovered just 5km away, at Fishponds Way, Haughley.

Burial of an elderly man, who died c. 2455–2204 BC, with crushed pottery Beaker behind his head (view north)

The higher ground in the south of the site continued to be important around a thousand years later, in the Late Neolithic to Early Bronze Age. Perhaps the most striking discovery made during the excavation was the burial of an adult man, perhaps 45 years or more old when he died – and therefore venerable by the standards of his day (average life expectancy was probably 30–35). The man had been buried in a tightly

‘crouched’ position, with his head to the north and feet to the south. He was accompanied by a profusely decorated pottery ‘Beaker’ or drinking cup (a form of vessel and style of decoration characteristic of this period). Radiocarbon analysis dates the burial to between approximately 2455 and 2204 cal. BC, the period now referred to as the ‘Chalcolithic’ (‘Copper Age’, before bronze-smelting had developed) or the very early part of the Bronze Age. There were some slight indications that there was originally a mound or cairn over the grave, but this is not certain. This early Woolpit resident appears to have suffered from facet joint osteoarthritis, a condition which would have caused him lower back pain. Dental plaque and extensive tooth wear indicate an abrasive diet and rather poor oral hygiene.



Decorated pottery Beaker

The Beaker burial being excavated, view south

While an intriguing find, the ‘Beaker burial’ is in many respects typical of its period. Other, similar, Late Neolithic–Early Bronze Age graves have been excavated at a range of sites in Suffolk.

However, what is unusual at Woolpit is that the grave is surrounded by a square-ish ditched enclosure, measuring 22.5 x 18.5m (externally). People may be familiar with the broadly circular burial mounds or ‘barrows’ that are quite commonly associated with Late Neolithic and Bronze Age burials, and which often survive as above-ground earthworks in areas of pasture or heathland that have not been ploughed.

The Bronze Age–Iron Age enclosure (south to top)

However, if it is contemporary with the burial, then this sub-square/rectangular enclosure would be unique for its time, and a significant addition to our understanding of Beaker-period burial customs in Britain. Unfortunately, the finds from the fill of the enclosure ditch are inconclusive as to its date; some small pieces of charcoal from the ditch have been radiocarbon dated to the Early Bronze Age (in the range 2008–1772 cal. BC) and the late medieval period (1449–1626 cal. AD), respectively, but because of where these fragments were found, neither date is thought to be reliable.

Perhaps the best guess is that the enclosure was a later Bronze Age or Iron Age addition to the hilltop, perhaps deliberately surrounding an earlier cairn or barrow over the Beaker grave. Although conjectural, this might perhaps have been a way in which later people living in the area paid their respects to the 'ancestors' buried there. Similar-sized burial or mortuary enclosures have been excavated at a few other sites in Suffolk, and in neighbouring counties, are often seem to date to the Iron Age.

Providing some weight for an Iron Age date, a few 'rubbish' pits excavated towards the western edge of the site indicate a Middle Iron Age (*c*. 350 – 50 BC) settlement somewhere close by.

There was no evidence of activity at the site after the Iron Age and it may be that the site had already become heathland grazing by the Roman period. This land-use continued into Anglo-Saxon times and through the medieval period. A silver long-cross penny of Edward III (1327–1377), found in the topsoil by metal-detector, may have been a chance loss, though probably not by one of the poor shepherds who are likely to have been the most frequent visitors to the heath at this time.

Tom Woolhouse

Pre-Construct Archaeology

On behalf of RPS Consulting and David Wilson Homes, who kindly funded the excavations.

20 APPENDIX 9: WRITTEN SCHEME OF INVESTIGATION

LAND AT OLD STOWMARKET ROAD, WOOLPIT, SUFFOLK

WRITTEN SCHEME OF INVESTIGATION FOR A PROGRAMME OF ARCHAEOLOGICAL EXCAVATION

LOCAL PLANNING AUTHORITY: MID SUFFOLK DISTRICT COUNCIL

PLANNING APPLICATION NUMBER: 1636/16

SITE CODE: WPT 054

JUNE 2020 (REV 2)

PRE-CONSTRUCT ARCHAEOLOGY

Written Scheme of Investigation for a Programme of Archaeological Excavation at Land at Old Stowmarket Road, Woolpit, Suffolk

Local Planning Authority:	**Mid Suffolk District Council**
Planning Reference:	**1636/16**
Parish Code:	**WPT 054**
Oasis Reference:	**preconst1-397939**
Central National Grid Reference:	**TL 9805 6227**
Written and researched by:	**Judy Mlynarska**
Project Manager:	**Mark Hinman**
Commissioning Client:	**RPS Consulting**
Contractor:	**Pre-Construct Archaeology Ltd** **Central Office** **The Granary** **Rectory Farm** **Brewery Road** **Pampisford** **Cambridgeshire** **CB22 3EN**
Tel:	**01223 845522**
E-mail:	**mhinman@pre-construct.com**
Website:	**www.pre-construct.com**

June 2020

CONTENTS

1 INTRODUCTION

1.1 General Background

1.1.1 Pre-Construct Archaeology (PCA) has been commissioned by RPS Consulting to undertake a programme of archaeological excavation at the proposed development at Land at Old Stowmarket Road, Woolpit, Suffolk (NGR TL 9805 6227) in response to an archaeological brief issued by Gemma Stewart (2020) of the Conservation Team of Suffolk County Council's Archaeological Service (SCCAS).

1.1.2 The 6.5 hectares proposed development is for the erection of up to 120 dwellings, construction of a car park associated with Woolpit Health Centre, access to the site and individual accesses to five self-build plots and associated open space (Planning Application No. 1636/16). A condition for planning consent requiring archaeological work has been placed on the site due to the high archaeological potential of the proposed development. This is in line with the National Planning Policy Framework 2019 paragraphs 189 and 190.

1.1.3 This document comprises a Written Scheme of Investigation (WSI) for the archaeological excavation only and conforms to the SCCAS Requirements for Archaeological Excavation (updated March 2017). This document alone will not result in the discharge of the archaeological condition. Following initial stripping of non-archaeological overburden from the excavation areas, the exposed surfaces will be cleaned to define any archaeological features or deposits, and these will be surveyed. At this stage, following initial stripping but before any significant excavation of archaeological features has taken place, a review meeting will be held between SCCAS and the RPS consultant; a base plan of the features will be available at this meeting.

1.1.4 Upon the receipt of a signed Transfer of Title from the landowner, the site archive will be deposited within SCCAS Archaeological Store.

1.2 Archaeological Background

1.2.1 The following archaeological background is taken from the Archaeology

Assessment for the site produced by Archaeological Risk Management (Tindall 2015) and the evaluation report (Heard 2019)

1.3 Prehistoric

1.3.1 Sporadic finds of prehistoric material have been made in the surrounding landscape, but only two sites have provided evidence for prehistoric activity within 500m of the site. Some apparently Palaeolithic faunal remains were found at the New Kiln Brickworks to the north of the site (WPT 023), and a small blade fragment from a Late Bronze Age socketed axe (WPT 017) was found by metal detecting to the northwest of the site.

1.4 Roman

1.4.1 Roman finds have been made to the southwest of the site. These include a Sestertius of Hadrian (AD 117–138) found in a garden in Steeles Road (WPT 001) and scatters of 1st- to 2nd-century greyware pottery sherds (WPT 009 and WPT 010) found during field walking in the same area. Coins of Carausius (AD 286–293) and Constantine II (AD 337–340) have also been found to the west of the site, in the churchyard of St Mary (WPT 007).

1.5 Anglo-Saxon and Medieval

1.5.1 In the early medieval period, Woolpit formed part of Thedwastre Hundred, within the Liberty of St Edmund. The name is first recorded in 1013 as Wlpit, in the Domesday Book of 1086 as Wlfpeta, and in 1095 as Uulfpet, and probably derives from the Old English wulfpytt, meaning ‘pit for trapping wolves’ (Ekwall 1960, 533). At the time of the Norman Conquest, the manor was held as an outlier by the Abbey of St Edmund (Morris 1986, 14.55).

1.5.2 There were fifteen acres in alms belonging to the church, presumably a predecessor of the Parish Church of St Mary. The present parish church (WPT 007) [LB 280888] is a Grade I Listed Building, with surviving late 13th-century fabric and notable for its mid-15th century south porch and clerestory with double hammerbeam roof.

1.5.3 To the northeast of the church is the ‘Lady's Well’ (WPT 002), a holy well or spring first recorded in 1574 and possibly marking the site of a chapel. It is

surrounded by an apparently unoccupied, partially water-filled moat and is a Scheduled Monument (SF 201 / SM 1005992).

1.5.4 Woolpit does not appear to have been a wealthy settlement until the late medieval period, and it was not granted a market until 1481 (Dymond and Martin 1999, 79). The nucleus of the late medieval settlement lay around the parish church and village green. The settlement core is defined by a cluster of late medieval Listed Buildings, mainly of 15th- to 17th-century date. The only Listed Building in close proximity to the site is the Grade II Southlands [LB 280881], dating from the 16th century. It is on the north side of Old Stowmarket Road, approximately 180m east of the site.

1.5.5 Finds of the medieval period are concentrated west of the site, near to the historic core of the settlement. They include the following:

WPT 010: scatter of 11th- to 13th-century pottery, a St Nicholas Token and two possibly French jettons

WPT 046: lead seal matrix found in a garden on Green Road

WPT 017: lead scallop-shaped ampulla

WPT 044: medieval pottery

WPT 045: three late medieval/early post-medieval coins from the area northwest of Old Stowmarket Road.

1.6 Post-Medieval and Modern

1.6.1 Hodskinson's Map of Suffolk (1783) shows the historic settlement of Woolpit clustered around the parish church, with the old Bury to Stowmarket Road, turnpiked in 1711, heading eastwards towards 'Hawleigh Park'. The area of the current site, to the south of that road, was then part of Woolpit Heath.

1.6.2 Although much of the surrounding land was presumably agricultural, there is evidence for gravel and clay extraction, and brickmaking, in Woolpit from the

16th century. Notably, there was 'a great gravel pit made by the Lord's tenants of Woolpit' near the site (Scarfe 2002, 155), while a Manorial Extent of 1574 mentions clay pits and 'le bryckell' at Woolpit. An estate map of 1761 shows a 'Kiln Close' on the north side of Old Stowmarket Road.

1.6.3 The tithe map of 1846 indicates that the site, then part of Heath Field, was under arable cultivation and multiple occupancy, suggesting piecemeal enclosure from the former heath. On the north side of Old Stowmarket Road, the tithe map showed the 'House, Kiln and Premises' of William Caldecott, presumably known previously as Kiln Close, and including the Listed Building Southlands. Caldecott owned or occupied much of Heath Field, including two large fields east of the current site (Town Field and House Field), which later became the site of the Woolpit Brick and Tile Works.

1.6.4 The Woolpit Brick Company was formed in 1844, and by the late 19th century was a major concern, manufacturing and exporting Suffolk White bricks on an industrial scale. The First Edition 25-inch Ordnance Survey map of 1884 shows the 'Woolpit Works (Brick and Tile)' to the east of the current site and associated large clay pits extending southwards almost to Heath Road. A track was used to transport the excavated material from the quarry to the nearby kilns. An isolated and relatively small clay pit is shown to the west of the brickworks and close to Old Stowmarket Road, east of the current site.

1.6.5 The 1884 map shows two other major brickworks to the north of Old Stowmarket Road, with extensive clay pits, some of which were labelled as 'old'. The only feature shown on this map within the area of the current site was a small gravel pit in its west, at the end of a trackway running northwards to Old Stowmarket Road.

1.6.6 The Second Edition 25-inch Ordnance Survey map of 1904 shows a more fully developed brickworks and indicates that new pits had been dug to its west, ultimately becoming the fishing lake now located immediately east of the current site. A notable feature of this map is the network of tramways that ran down into the quarries, by which the excavated material was transported.

Within the site area, the gravel pit shown on the preceding map had apparently been backfilled and the trackway extended to access a larger pit located just outside the southern boundary of the site; this pit remains partially extant.

1.6.7 Subsequent maps show no obvious changes in land use on the site, with the trackway leading the gravel pit in existence until at least the 1950s. Map evidence suggests that the Woolpit Brickworks were disused by the late 1930s, and an account on the village website states that they went out of business at the beginning of the Second World War (www.woolpit.org/history). An attempt to re-open the quarry after the War (by the London Brick Company) apparently failed when the workings became flooded.

1.6.8 Although Ordnance Survey maps show no features within the site area (apart from the aforementioned small western gravel pit and trackway), a geological survey of the site carried out in 1978 (Bristow and Gregory 1978) recorded an arc of five disused quarry pits, defining the known western extent of the Woolpit Beds. Three of those pits were located within the current site boundary, while the fourth is the extant gravel pit immediately south of the site boundary. The same survey also shows the steep slope defining the western edge of the extensive former quarries, immediately east of the current site.

1.6.9 It is clear from the above that relatively small-scale quarrying of brickearth took place within the site boundary, and that some of those pits were still open in the late 1970s. From the map evidence, it is unclear if quarrying within the site area was associated with the adjacent Woolpit Brickworks, although this seems likely.

1.6.10 It is assumed that the clay pits had been backfilled and the site returned to agricultural use by the 1980s. Google Earth images demonstrate that the site remained in cultivation until at least 2015.

1.7 Previous archaeological work on the site

1.7.1 Prior to the first phase of trial-trench evaluation, the only archaeological work on the site was a geophysical survey (Schofield 2016). This revealed a series of positive linear trends indicative of post-medieval field boundaries, linear

areas of magnetic enhancement associated with modern quarrying, negative linear anomalies deriving from modern agricultural practices, a curvilinear anomaly of geological or archaeological derivation and discrete anomalies identified as potential rubbish pits (ibid. 9).

1.7.2 The first phase of archaeological evaluation, conducted by Suffolk Archaeology (Cuthbert 2016) revealed and further trenching conducted by ASE (Heard 2019), revealed a small area of Neolithic and Early/Middle Iron Age occupation, in the form of pits and ditches in the extreme southern part of the site. Both phases revealed extensive post-medieval brickearth quarrying activity at the site.

2 GEOLOGY AND TOPOGRAPHY

2.1 Geology

2.1.1 The underlying solid geology of the site is Crag Group – Sand. Overlying superficial deposits comprise Lowestoft Formation – Diamicton in the western part of the site, and Woolpit Beds – Clay and Silt in the eastern part of the site. A localised outcrop of Croxton Sand and Gravel Member – Sand and Gravel is recorded above the Woolpit Beds, just to the north of the site (BGS 2019).

2.1.2 The Lowestoft Formation is an extensive sheet of chalky till (boulder clay), together with outwash sands and gravels, silts and clays, that forms the plateau area of much of East Anglia.

2.2 Topography

2.2.1 The site is located on a NE-facing slope, overlooking a shallow tributary valley of the Black Bourn. The site falls in height from c. 63m OD in the southwest corner to c. 58m OD in the northeast, with a distinct change in level (particularly noticeable in Trenches 12, 34 and 35), occurring in the centre of the site. Notably, the ground level in the northeast corner of the site was approximately 1.5m below the level of the adjacent road surface, suggesting widespread truncation in that part of the site.

2.2.2 Ground level falls sharply at the eastern boundary, where the disused brickearth pits of the former Woolpit Brick and Tile Works are screened by mature, mixed woodland and hedgerows, and where a large fishing lake has been created from a former quarry pit, to the east of the site. The ground level also falls away, though less sharply, at the southern boundary, where a disused gravel pit shown on historic maps is still visible.

3 AIMS AND OBJECTIVES

3.1 Broad Aims

3.2 The purpose of the archaeological investigation will be to seek to contribute to an understanding of the character, condition, date and extent of any archaeological remains within the proposed development area.

3.3 The excavation will include a comprehensive appraisal of the context in which the archaeological evidence rests and should aim to highlight any research priorities relevant to any further investigation of the site (see 3.5).

3.4 The excavation will provide a model of the archaeological remains present on the site and include an appraisal of their significance. The archaeological remains will be examined in their local and wider regional context in order to fully contextualize the results. Particular attention will be given to tying in the results of excavation with related remains that have been previously excavated on adjacent sites. In 2016 and 2019 archaeological trial trench evaluations conducted within the application area identified evidence of Neolithic and Early/Middle Iron Age occupation, in the form of pits and gullies on the sandy soils at the south end of the site. These contained flint-working débitage, pottery, animal bone (some with butchery marks), charred cereals and other plant macrofossils, suggesting habitation in the immediate area (Heard 2019).

3.5 The excavation will aim to put the results in a local, regional and national context, as appropriate, with reference to the East Anglian regional research agendas:

-Research and Archaeology: A Framework for the Eastern Counties: 1. Resource Assessment (Glazebrook 1997)

-Research and Archaeology: A Framework for the Eastern Counties: 2. Research Agenda and Strategy (Brown and Glazebrook 2000)

-Regional Research Framework for the Eastern Region (Medlycott and

Brown 2008)

-Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011)

3.6 In particular, it is anticipated that the excavation will have the following aims, although others may become apparent as the project develops:

-To better-define the date and character of the Early Neolithic activity represented by the pits and associated finds in trenches in the south of the site (Trenches 21 and 24, but also residually in Trenches 44 and 47).

-To recover, where possible, samples of material for absolute dating, e.g. charcoal or charred grain/ seeds. Suitable material is certainly present/ survives in some features, for example, evaluation Pit 24/0020.

-To recover sufficient finds assemblages to characterise the nature of the activities being carried out at the site during the Early Neolithic, including probable flint-working, butchery, cooking and consumption of food, as well as the evidence for crop-cultivation, resource-gathering, and possible animal husbandry. This will involve extensive bulk-sampling of suitable deposits, as well as possible on-site coarse-sieving of any suitable deposits for recovery of flint micro-debitage, as has recently been carried out to good effect with the Early Neolithic pits at nearby Fishponds Way, Haughley (Mlynarska and Woolhouse 2020).

-To attempt to establish the extent, scale and temporal nature of the Early Neolithic occupation(s), for example, was this site a temporary encampment or a more permanent settlement site? If the former, do the remains indicate a one-off visit or could the site have been repeatedly visited, by either the same or different groups of people?

-To better-define the date and character of the Early to Middle Iron Age activity represented by the pits revealed in Trench 45. Does the evidence indicate an

earlier Iron Age settlement in this part of the site?

3.7 For the Neolithic period, current regional research themes and questions are discussed by Medlycott (2011, 13–14). In relation to this site, the following questions and areas of research are likely to be most relevant:

-The examination of the Mesolithic/Neolithic transition through radiocarbon dating of characteristic sites and artefacts needs further work, in particular the apparent ‘late start’ to the Neolithic in the region needs further study.

-Understanding of the chronological development of pottery could be improved by the application of traditional methodologies of stratigraphic succession and typological comparison, supported by radiocarbon and/or thermoluminescence dating.

-The continuing debate over 'non-permanent' settlement in the Neolithic. We cannot presume nomadism, especially where non- or poor survival is a real issue, and evidence for houses should still be sought. The transition from a shifting, semi-permanent, settlement to a more settled landscape of fields and farms remains an area of interest. Neolithic ‘stability’ is suspiciously late, as far as we know.

-The domestication of plants is unclear. Arable farming is thought to have been a late development, but we do not understand what it looked like in Neolithic East Anglia.

3.8 For the earlier Iron Age, current research themes and questions are discussed by Medlycott (2011, 29–32). In relation to this site, the following questions and areas of research are likely to be most relevant:

-The need for better dating, utilising radiocarbon dates and Bayesian modelling where appropriate. The chronology of Early Iron Age pottery is poorly understood and the date when Middle Iron Age-tradition pottery appeared needs finalising. Radiocarbon dating of deposits with good Middle

Iron Age pottery assemblages is particularly important to refine this understanding, as is targeted scientific dating of contexts with (rare) Early to Middle Iron Age metalwork.

-The Bronze Age/ Iron Age transition: there appears to be a marked change, with the abandonment of many later Bronze Age field systems and population/ settlement contraction. The scale, rate and nature of these changes is poorly understood.

- There is clear evidence in some parts of the region for complex 'off-site' activities, including isolated pits and waterholes, pit alignments, deposits in barrow ditches, isolated four posters etc. Understanding more about these settlement patterns and use of the landscape is a key question.

- Further work needs to be done on developing regional pottery sequences and establishing a chronology for pottery assemblages. In particular, Early Iron Age pottery chronologies are poorly understood. This is because of a lack of radiocarbon dates and associations with datable metalwork, but also because Early Iron Age pottery may not fit straightforward chronological sequences. Large, closed assemblages of Early Iron Age pottery are always in need of dating.

- The nature of the agrarian economy needs further study. Is a real understanding of continuity and change emerging? What are the relative proportions of cereals and livestock and is there a changing dynamic throughout the period?

3.9 The excavation report will aim to use the full spectrum of environmental techniques appropriate for this aspect of investigation to attempt to model the past landscape of the area and how it was transformed throughout various phases of land use but also through natural processes.

3.10 The excavation assessment report will include a comprehensive appraisal of the geological, topographical, historical and archaeological context of the

excavated evidence and will highlight any research priorities relevant to further post-excavation research.

4 METHODOLOGY

4.1 All aspects of the investigation shall be conducted in accordance with the Chartered Institute for Archaeologists' Code of Conduct, the Standard and Guidance for Archaeological Excavation (CIfA 2014), the Suffolk County Council Requirements of Archaeological Excavation (SCCAS 2017) and Standards for Field Archaeology in the East of England (EAA Occasional Paper 14, 2003).

4.2 Machining and Site Planning

4.2.1 The scheme will comprise three open area excavations (Figure 2). Where extensive deposits of made ground are present a phased approach to machining may be required in localised areas.

4.2.2 Should significant archaeological remains be encountered, there is provision to extend each or all of the excavation areas in order to fully expose the remains, until a 10m archaeology-free buffer zone has been achieved.

4.3 Excavation

4.3.1 The Brief for the works has requested the following excavation programme:

- Initial site clearance of topsoil under archaeological supervision

- Where applicable, phased vertical stripping will be undertaken in order to reveal and allow for full investigation of surviving archaeological stratigraphy

- All excavation areas will be subjected to a metal detector survey

- Base planning of archaeological features

- Review with SCCAS and RPS Consulting

- Full excavation of archaeological features

- Post excavation assessment and Updated Project Design of the research potential for the resulting site archive

- Programme of relevant post-excavation analysis, production of a full

archive report and publication of the project results

4.3.2 Within the excavation area the topsoil, subsoil or man-made made ground deposits will be machine stripped by a mechanical excavator with toothless ditching bucket down to the archaeological horizon or geological horizon, whichever comes first. Upon encountering any archaeological features the procedure followed is detailed below.

4.3.3 Exposed archaeological features and deposits will be cleaned as necessary to define them using hand tools.

4.3.4 Metal-detecting will be carried out of any stripped deposits throughout the excavation process and all archaeological features and spoil heaps will be surveyed by metal-detector as they are encountered. The metal detector will not be set to discriminate against iron.

4.3.5 Limits of excavation of all trenches, pre-excavation and post-excavation plans of archaeological features and heights above Ordnance Datum (m OD) will be recorded using a Leica 1200 Global positioning System (GPS) rover unit with RTK differential correction, giving three-dimensional accuracy of 20mm or better.

4.4 Recording and Sampling

4.4.1 Field excavation techniques and recording methods are detailed in the PCA Fieldwork Induction Manual (Operations Manual I) by Joanna Taylor and Gary Brown (2009).

4.4.2 All features will be investigated and recorded in order to properly understand the date and nature of the archaeological remains on the site and to recover sufficient finds assemblages to assess the chronological development and socio-economic character of the site over time.

4.4.3 Drawn records will be in the form of survey plans, drawn plans and section drawings of all archaeological features at an appropriate scale (1:10, 1:20, 1:50) while all individual deposits and cuts will be recorded as written records on PCA pro-forma context sheets.

4.4.4 In order to avoid duplication of numbering from the evaluation stage of fieldwork, which used the same identifier/ site code (WPT 054), context numbering for the excavation will start at '100'. The first stage of site evaluation recorded context numbers 1–50; numbering in the second phase of evaluation was organised by trench number, with the identifier for each feature or deposit within the trench beginning with the trench number and then having a sequential number beginning at '001'; for example, the ploughsoil in Trench 25 was numbered '25/001'.

4.4.5 Linear features will be investigated by means of slots excavated across their width and measuring at least 1m in length, positioned to avoid areas of intercutting/ disturbance in order to provide uncontaminated finds assemblages. If stratigraphic relationships between features are not visible in plan, slots will also be positioned at feature intersections to determine relationships in section with the aim to assist with phasing the site as required in consultation with the project manager and site supervisor.

4.4.6 Discrete features such as pits and postholes will be at least 50% excavated and when considered appropriate 100% excavated. Postholes associated with buildings will be initially 50% excavated, sampled for sieving and 100% excavated if appropriate.

4.4.7 Significant features such as structural remains (e.g. eaves drip gullies, sunken feature buildings and beam slots), industrial features (kilns, ovens, domestic hearths, metalworking furnaces) and burials (cremations and inhumations) will be recorded and excavated in plan and suitable cross-sections will be recorded (except for inhumations). These features will then be 100% hand excavated. Appropriate sampling (including bulk sampling and sieving) will be implemented for all significant features.

4.4.8 High-resolution digital photographs (at least 16.5 megapixels) will be taken at all stages of the excavation process. Digital photographs will be taken of all archaeological features and deposits and black and white film photographs will be taken when considered appropriate by the excavator and supervisor.

4.4.9 Artefacts and ecofacts will be collected by hand and retained, receiving appropriate care prior to removal from site (CIfA 2014; Walker 1990; Watkinson 1981).

4.4.10 A metal detector will be used during excavation in order to enhance finds recovery. The metal detector will not be set to discriminate against iron. Initial metal-detecting will be carried out by either David Curry or Tom Lucking, both PCA Supervisors with extensive professional and hobbyist experience of metal-detecting in Suffolk and the wider region.

4.4.11 Bulk samples, 40 litres in volume, will be taken by the excavator and in consultation with the project's environmental specialist where practicable, in order to recover micro- and macro-botanical environmental remains. The broad aim of such sampling is to recover evidence relating to the past environment and agricultural economy of the site, and how these changed over time under both natural and anthropogenic influence.

4.4.12 Buried soils and associated deposits will be inspected on site by the PCA project manager in consultation with the PCA geoarchaeologist whose advice will be sought as to whether soil micromorphology or other analytical techniques will enhance understanding of depositional processes and transformations at the site.

4.4.13 Some of the questions that will be addressed, in terms of plant remains are:

- the nature of biological remains;

- a broad indication of habitats represented;

- indications of origin of material;

- range of preservation types (charred, mineral-replaced, waterlogged), and their quality

- concentrations of macro-remains

- are there differences in remains from undated and dated features (thus the

degree of likely association/disassociation)

- variation between different feature types and areas of site

-research questions that should be formulated if full analysis of any material is recommended;

-Waterlogged organic materials will be dealt with following guidelines set out in the English Heritage documents Guidelines for the care of waterlogged archaeological leather (1995) and Waterlogged Wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood 3rd edition (2010). Subsamples of waterlogged remains will be retained and considered for absolute dating where appropriate.

4.4.14 Environmental sampling will make reference to the following guideline documents:

- English Heritage, 2011, Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recovery to Post-excavation (second edition).

- Association for Environmental Archaeology, 1995, Environmental archaeology and archaeological evaluations. Recommendations concerning the environmental archaeology component of archaeological evaluations in England. Working Papers of the Association for Environmental Archaeology 2, 8 ff. York: Association for Environmental Archaeology;

- Dobney, K., Hall, A., Kenward, H. and Milles, A., 1992, A working classification of sample types for environmental archaeology. Circaea 9.1 (1992 for 1991), pg. 24-26;

- Murphy, P.L. and Wiltshire, P.E.J., 1994, A guide to sampling archaeological deposits for environmental analysis.

4.4.15 On site sampling will largely comprise bulk environmental sampling of 40 litres

(where the feature allows for this volume) to be hand collected and retained for analysis in suitable sealed containers (10L buckets). Additional sampling on site may include pollen and soil micromorphological tins (ranging from 10cm to 50cm in length) which will be either sterile plastic or metal containers which will be taken form appropriate features and deposits and sealed on site to prevent modern contamination. Radiocarbon samples will be hand collected on site or in the office during processing of finds and environmental samples and will be selected, noted and contained in a sealed foil packet to be sent to the relevant specialist. The need for any other forms of sampling (and any associated costs involved with this) will be discussed on site with a suitable specialist, SCCAS and the client.

4.5 Monitoring

4.5.1 The first monitoring meeting will be held after the initial stripping of non-archaeological overburden from the excavation areas, and manual cleaning of the exposed surfaces to define any archaeological features or deposits, but prior to any significant hand-excavation of the features. A base plan will be available at this meeting. Subsequent monitoring meetings will be held and arranged during the course of the project.

4.5.2 SCCAS officers are responsible for monitoring all archaeological work within Suffolk and will need to inspect site works at an appropriate time during the fieldwork and review the progress of reports and/or archive preparation.

4.5.3 SCCAS will be given 10 working days' notice of the commencement of ground works on the site and a monitoring visit will be booked with SCCAS prior to works commencing. The method and form of development will also be monitored to ensure that it conforms to agreed locations and techniques in the WSI.

4.5.4 Any changes to this WSI that the RPS Consultant or Project Manager may wish to make after approval will first be communicated directly to SCCAS for approval.

4.5.5 If exceptional, complex or unexpected features or deposits are uncovered,

SCCAS will be informed and their advice sought so that an investigation strategy can be agreed.

4.5.6 SCCAS will be kept regularly informed about developments both during the site works and subsequent post-excavation work.

4.5.7 If unexpected remains are encountered, SCCAS will be informed immediately. Amendments to this WSI may be required to ensure adequate provision for archaeological recording.

4.6 Treasure

4.6.1 All finds defined as Treasure will be removed to a safe place and reported to the local coroner according to the procedures outlined in the Treasure Act 1996 (as amended by the Treasure Designation Order 2002 No. 2666). Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft. Any finds that could be considered treasure under the terms of the Act made during the process of fieldwork will be immediately reported to the Finds Liaison Officer, so that it is properly reported to the appropriate Coroner within 14 days of discovery in line with the Treasure Act.

4.7 Human Remains

4.7.1 If human remains are encountered, SCCAS and RPS Consulting will be informed. Excavation will be carried out in accordance with all appropriate Environmental Health regulations and only with a Ministry of Justice license in place. Due to the wide range of variables, costs of excavation, removal and analysis of human remains are not included in any statement of costs accompanying or associated with this specification.

5 ACCESS AND SAFETY

5.1.1 Access to the site will be arranged by the client. The client will secure safe access to the site for archaeological personnel and provide suitable welfare provision. The client will also ensure that all deep excavations are adequately shored, conforming to current health and safety regulations and that the archaeological investigations are enabled through the provision and operation of adequate water extraction/pumping equipment.

5.1.2 Any costs incurred to secure access or incurred as a result of withholding of access will not be PCA's responsibility. The costs of any delays as a result of withheld access will be passed on to the client in addition to the project costs already specified.

5.1.3 Overhead Electricity Cables are running east south east - west north west through the middle of Area 3. The height of these overheads (9m) has been measured by ASE Surveyors. Only a machine fitted with a restricting device will be used for the stripping of this Area.

5.1.4 All relevant health and safety legislation, regulations and codes of practice will be respected. The Health and Safety policies will be those of Pre- Construct Archaeology Ltd. and in accordance with all statutory regulations. A Health & Safety Risk Assessment for the site will be produced and made available to all staff.

5.1.5 There is a duty of care for the client to provide all information reasonably obtainable on contamination and the location of live services before site works commence.

6 TIMETABLE AND STAFFING

6.1 Timetable

6.1.1 Working days are based on a 5-day working week, Monday to Friday. The fieldwork program is estimated to last up to 2-3 weeks providing there are no major inhibiting factors to site work (including but not exclusively access-related issues, dangerous contamination of the ground and site flooding).

6.2 Staffing and Support

6.2.1 The project will be managed and led by Mark Hinman, Project Manager of PCA Central who will ensure all staff are familiarised with the site, the archaeological background of the area and the ground conditions to maximise the effectiveness of the monitoring programme.

6.2.2 Key team members will include Mark Hinman, Project Manager of PCA Central and a PCA Supervisor. Additional Site Assistants will be drawn from a pool of qualified and experienced staff if required.

6.2.3 The following staff will form the project team:

1x Project Manager
1x Supervisor
3x Site Assistant
1x Survey Supervisor
1x Finds Supervisor
1x Finds Assistant
1x Illustrator for post-excavation work.

6.2.4 Specialists will be employed for consultation and analysis during post-excavation work as necessary. Specialists will be approached to carry out analysis as required from the list in Appendix 1.

7 REPORTING

7.1 The site will use the Event Number/Site Code WPT 054. This reference will be used to identify the archive.

7.2 All stages of reporting on the excavation will include incorporation of the relevant results from the two stages of trial trench evaluation on the site. The relevant parts of the evaluation archive (for example, the prehistoric finds from Trenches 21, 24 and 45) will be sought from Suffolk Archaeology and Archaeology South-East in order that they can form part of the assessment, analysis and publication.

7.3 Within four weeks of the end of fieldwork a written timetable for post-excavation assessment, updated project design and/or reporting will be produced for approval by SCCAS. The need for a full Post-Excavation Assessment (PXA) report will be agreed with SCCAS at this stage. In certain circumstances, for example, where the level or significance of the archaeological remains is low or the site's research potential is clear from the outset, it may be appropriate to progress directly to an Archive Report. Any such decision would require SCCAS' prior approval.

7.4 A DRAFT Post-Excavation Assessment report (PXA) will be produced within 6 months of the end of fieldwork. Specialists will be employed for consultation and analysis as necessary. The PXA will present a clear and concise assessment of the archaeological value and significance of the results, and identify their research potential in the context of the Regional Research Framework (East Anglian Archaeology, Occasional Papers 3, 8 and 24, 1997, 2000 and 2011). The PXA will include an Updated Project Design with a timetable for analysis, dissemination of results and archive deposition. The PXA will provide the basis for measurable standards for SCCAS to monitor this post-excavation work.

7.5 Following approval of the DRADT version by SCCAS, PCA will provide the client with a copy or copies of the PXA report. A final digital copy of the report will be presented to SCCAS. After PXA stage, a written statement of progress

on further post-excavation analysis, publication and archiving will be issued to SCCAS at 6-monthly intervals.

7.6 Publication plans as outlined in the UPD will be completed in accordance with the guidelines contained in Historic England's Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England 2015). The final consultation with SCCAS will occur on presentation of the DRAFT Archive Report and Publication Report. This will take place within 2 years of completion of the fieldwork. Upon approval of these documents, SCCAS will be able to recommend discharge of the archaeological planning condition.

7.7 Further to its acceptance the contractor will supply an additional copy for inclusion into the Suffolk Historic Environment Record (SHER). Contingency will be made for the publication of results. The minimum requirement will be for an appropriate note to be made available in the Archaeology in Suffolk section of the Proceedings of the Suffolk Institute of Archaeology and History. This summary should be included in the project report, or submitted to SCCAS by the end of the calendar year in which the work takes place, whichever is the sooner.

7.8 Outreach

7.9 Due to the current COVID-19 pandemic and government guidance on social distancing to minimise and prevent the spread of infection, it is not appropriate to hold a site open day/ tours. Therefore, public engagement with the project and the site's archaeology will be by means of a short article for the parish magazine and, if/ when restrictions have eased, a talk in a parish/ community hall.

8 OWNERSHIP OF FINDS, STORAGE AND CURATION OF ARCHIVE

8.1 To assist with the creation and curation of the project's archive, the Project Manager will contact the SHER office to obtain an Event Number at the outset of the project. SHER use this number as a unique identifier linking all physical and digital components of the archive. The unique event number will be clearly indicated on this specification once received for this project. It will be shown on all paperwork created on site (context forms and plans etc), on relevant ensuing reports and on the OASIS data collection form. The Event Number will also be used as the unique Site Code for the site.

8.2 During production of the PXA, PCA will seek the transfer title of ownership of the complete project archive to the Suffolk County Council depository or store by issuing a "Deeds of Transfer Agreement" form.

8.3 During post excavation analysis all artefactual material recovered will be held in storage by PCA Central. Arrangements for the long term storage and deposition of all artefacts must be agreed with the landowner and SCCAS before or during the reporting stage. Transfer of title and the transfer of the ownership of the archive to the County Archive Facility or another local registered depository will be finalised during the completion of the PXA and indicated in the UPD.

8.4 PCA will recommend that ownership of all such archaeological finds will be given over to the relevant authority to facilitate future study and ensure proper preservation of all artefacts. In the unlikely event that artefacts of significant monetary value are discovered, and if they are not subject to treasure act legislation separate ownership arrangements may be negotiated following full analysis and assessment of the objects by the appropriate specialist.

8.5 The project archive shall be compiled in accordance with SCCAS guidelines (SCCAS Conservation Team 2019 Archaeological Archives in Suffolk. Guidelines for preparation and deposition) and the advice contained in Guidelines for the Preparation of Excavation Archives for Long Term Storage (UKIC 1990), and Standards in the Museum Care of Archaeological

Collections (Museum and Galleries Commission 1992).

8.6 A copy of the report will accompany the archive when it is deposited with the SCCAS archaeological stores.

8.7 The Suffolk Historic Environment Record is registered with the Online Access to Index of Archaeological Investigations (OASIS) project. PCA will provide appropriate details relating to this project by completing the OASIS form at http://ads.ahds.ac.uk/project/oasis, in accordance with the guidelines provided by English Heritage and the Archaeology Data Service.

9 FURTHER CONSIDERATIONS

9.1 Insurance

9.1.1 Pre-Construct Archaeology Ltd is covered by Public and Employer's Liability Insurance: Public & Products Liability £10,000,000 (Aviva Insurance Ltd & AIG Europe Ltd), Policy nos: 24765101CHC/000133 & 25035008, Employers Liability £10,000,000 (Aviva Insurance Ltd) Policy no: 24765101CHC/000133; Professional Indemnity £5,000,000 RSA (Hiscox Insurance Company Ltd) Policy no: 9446188, Hired in Plant and Equipment £250,000 (Aviva Insurance Ltd) Policy no: 24765101CHC/000133.

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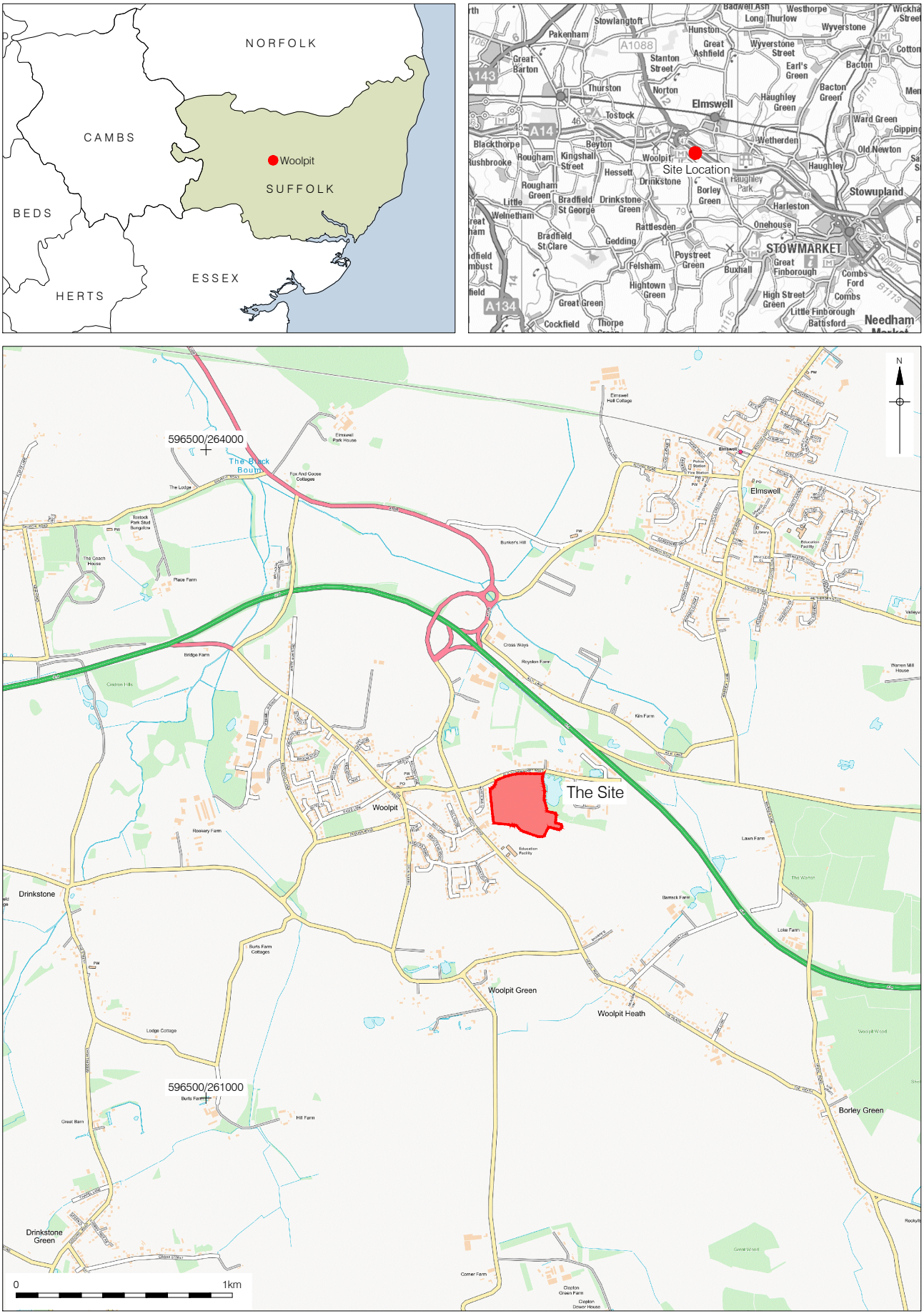

18/03/2020 RS

Figure 1
Site Location
1:2,000,000, 1:250,000, 1:25,000 at A4

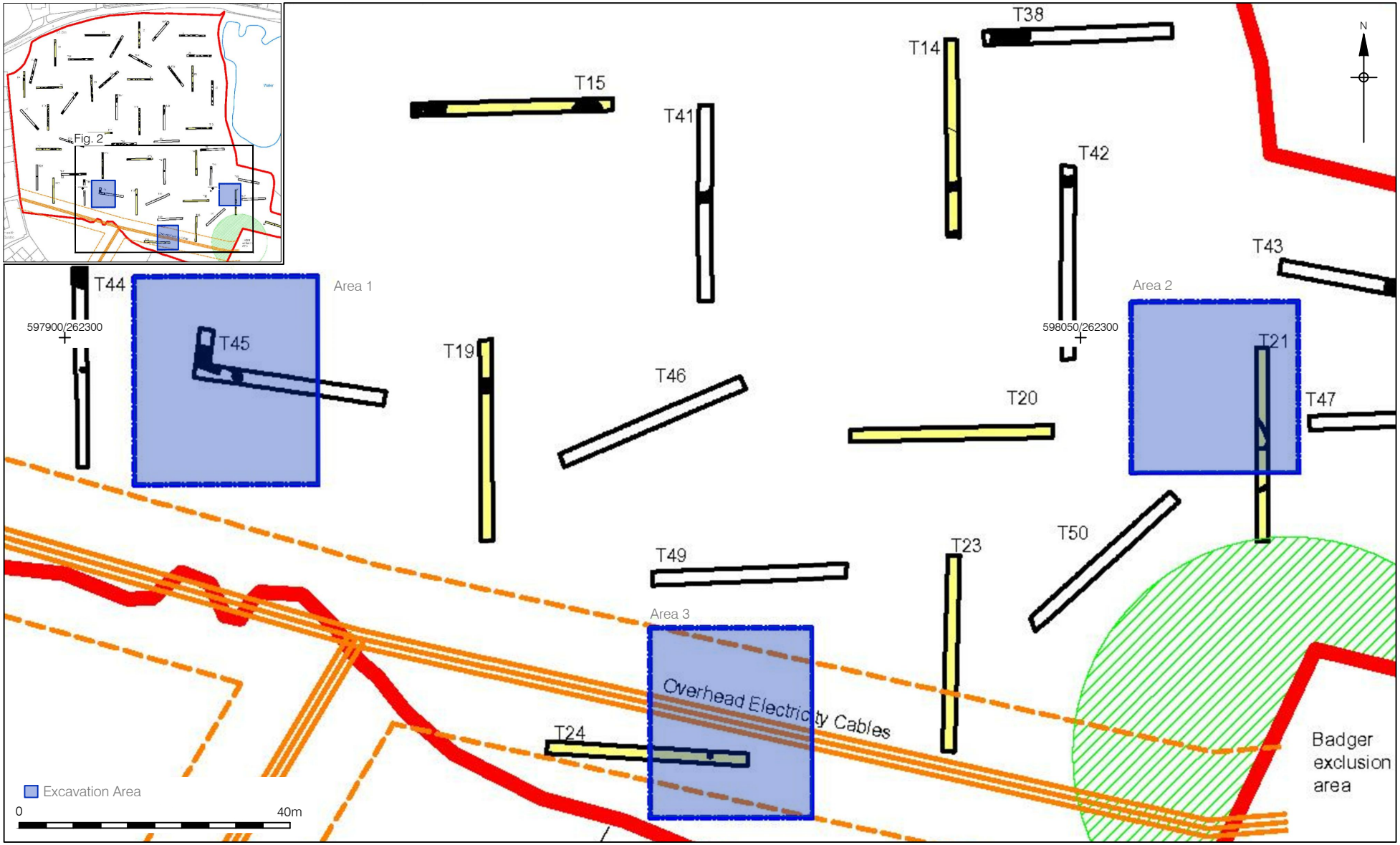

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Figure 2
Excavation Areas
Inset 1:6250, Plan 1:800 at A4

APPENDIX 1: FINDS, ENVIROMENTAL AND OTHER SPECIALIST SERVICES

Prehistoric Pottery: Matt Brudenell, Sarah Percival, Lawrence Morgan-Shelbourne
Roman Pottery: Katie Anderson (in house), Eniko Hudak (in house), Kayt Hawkins, Jo Mills (samian), Gwladys Monteil (samian), Joanna Bird (decorated samian), David Williams (amphora)
Post-Roman Pottery: Chris Jarrett (in house), Berni Seddon (in house), Sue Anderson
Clay Tobacco Pipe: Chris Jarrett (in house)
CBM: Berni Seddon (in house), Kevin Hayward (in house), Amparo Valcarcel (in house)
Stone & Petrological Analysis: Kevin Hayward (in house), Mark Samuel (moulded stone)
Glass: Chris Jarrett (in house), John Shepherd (in house), Ruth Beveridge, Hilary Cool, Rachel Tyson
Coins: James Gerrard (in house), Ruth Beveridge
Inscriptions & Graffiti: Roger Tomlin
Animal Bone: Kevin Rielly (in house), Karen Deighton (in house), Philip Armitage, Robin Bendrey, Ryan Desrosiers
Lithics (inc Palaeolithic): Barry Bishop (in house)
Osteology: James Langthorne (in house), Petra Ivanova (in house)
Timber: Damian Goodburn, Nigel Nayling (Wales), Mike Bamforth
Leather: Quita Mould
Small Finds: Marit Gaimster (in house), James Gerrard (in house), Hilary Major, Ian Riddler (esp worked bone), Ruth Beveridge
Metal slag: Gary Taylor (in house), Lynne Keys
Textiles: Sue Harrington, Penelope Walton Rogers
Conservation: Drakon Heritage, Karen Barker, Stefanie White (Colchester Museums), Emma Hogarth (Colchester Museums)
Dendrochronology: Ian Tyers
Archaeomagnetic dating: Mark Noel
Environmental: Kate Turner (in house), Tegan Abel (in house), Kath Hunter, Val Fryer, QUEST, University of Reading

Documentary Research: Guy Thompson (in house), Chris Phillpotts, Frederick Hamond (NI), Gillian Draper, Jeremy Haslam, Roger Leech

Industrial Archaeology: Gary Taylor (in house), David Cranstone

Finds Illustration: Cate Davies (in house), Roz Hall (in house), Rita Goncalves-Pedro (in house), Mark Roughley (in house)

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