Northamptonshire Archaeology

Archaeological excavations at Sacombe Road, Bengeo, Hertfordshire May 2011

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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Archaeological excavations at Sacombe Road, Bengeo, Hertfordshire, May 2011	
Short description	Two adjacent areas, totalling 0.5ha, were excavated by Northamptonshire Archaeology. A group of at least thirteen pits ranged from 2.4m to over 5.0m deep. Two were fully excavated, while the depth of the others was established by auger. Some residual Beaker pottery, of the early Bronze Age, was recovered from one of these pits, whilst others produced small quantities of late Bronze Age pottery and worked flint. Other shallower pits and truncated ditches are undated, but may have been contemporary parts of a late Bronze Age field system. A more substantial ditch formed the north side of an enclosure, with remnants of an external gravel bank. Charcoal from an upper fill of dense fire-cracked stone has given a radiocarbon date in the late Bronze Age, 1120-930 cal BC (2 sigma). The linear boundary ditches that extent to the east are dated by pottery to the late 1st and 2nd centuries AD. One of these was cut by a curvilinear gully, perhaps enclosing a roundhouse. Quantities of Roman pottery and tile were also recovered from the surfaces of the Bronze Age pit fills, indicating the survival of earthwork hollows or subsidence above many of the pits. It is also suggested that the late Bronze Age ditch and bank may have survived as an earthwork into the Roman period. A shallow pit containing burnt debris, comprising carbonised oak logs and some burnt hazelnut shells has been radiocarbon dated to the middle to late Saxon period, 770-900 cal AD (2 sigma).	
Project type	Area excavation	
Site status	None	
Previous work	DBA (Smith 2010b), Trial trench evaluation (Simmonds 2011)	
Current Land use	Residential development	
Future work	None	
Monument type/period	Bronze Age and Roman	
Significant finds	Flint, pottery, tile and brick	
PROJECT LOCATION		
County	Hertfordshire	
Site address	Sacombe Road, Bengeo	
Study area	*c*2.1ha	
OS Easting & Northing	TL 3220 1414	
Height OD	*c*68m above Ordnance Datum	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Alison Tinniswood, Hertfordshire County Council	
Project Design originator	Matthew Smith, CgMs Consulting Ltd	
Director/Supervisor	Jim Brown, Northamptonshire Archaeology	
Project Managers	Adam Yates (NA) and Matthew Smith (CgMs)	
Sponsor or funding body	Fairview Homes	
PROJECT DATE		
Start date	May 2011	
End date	May 2011	
ARCHIVES	Location (Accession no)	Content (eg pottery, animal bone etc)
Physical	HETFM 2011.10	Flint, pottery, tile and brick
Paper		Context sheets, permatrace plans & sections, site registers, photographic archive, background documents
Digital		Client PDF report
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report	
Title	Archaeological excavations at Sacombe Road, Bengeo, Hertfordshire	
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ARCHAEOLOGICAL EXCAVATIONS AT

SACOMBE ROAD, BENGEO

HERTFORDSHIRE

May 2011

Abstract

Two adjacent areas, totalling 0.5ha, were excavated by Northamptonshire Archaeology. A group of at least thirteen pits ranged from 2.4m to over 5.0m deep. Two were fully excavated, while the depth of the others was established by auger. Some residual Beaker pottery, of the early Bronze Age, was recovered from one of these pits, whilst others produced small quantities of late Bronze Age pottery and worked flint. Other shallower pits and truncated ditches are undated, but may have been contemporary parts of a late Bronze Age field system. A more substantial ditch formed the north side of an enclosure, with remnants of an external gravel bank. Charcoal from an upper fill of dense fire-cracked stone has given a radiocarbon date in the late Bronze Age, 1120-930 cal BC (2 sigma).

The linear boundary ditches that extent to the east are dated by pottery to the late 1st and 2nd centuries AD. One of these was cut by a curvilinear gully, perhaps enclosing a roundhouse. Quantities of Roman pottery and tile were also recovered from the surfaces of the Bronze Age pit fills, indicating the survival of earthwork hollows or subsidence above many of the pits. It is also suggested that the late Bronze Age ditch and bank may have survived as an earthwork into the Roman period.

A shallow pit containing burnt debris, comprising carbonised oak logs and some burnt hazelnut shells has been radiocarbon dated to the middle to late Saxon period, 770-900 cal AD (2 sigma).

1 INTRODUCTION

During May 2011 Northamptonshire Archaeology (NA) carried out an archaeological excavation at Sacombe Road, Bengeo, Hertfordshire (Fig 1; NGR TL 3220 1414). The work was carried out for CgMs Consulting (CgMs) on behalf of Fairview Homes in advance of residential development.

An archaeological desk-based assessment was conducted by CgMs (Smith 2010a). This was followed in April 2011 by trial excavation, which revealed the potential for archaeological remains likely to be affected by the construction works (Simmonds 2011). Following these preliminary investigations Hertfordshire County Council, as archaeological advisors to the planning authority, required that a further program of archaeological works be undertaken prior to development. The scope of the works was defined by CgMs Consulting Ltd and set out in a Written Scheme of Investigation (WSI) prepared by Northamptonshire Archaeology (Yates 2011). The WSI identified two open areas for strip map and record archaeological investigation, centred on the main concentration of features identified during trial excavation, and a further area of ground was also agreed for excavation as a contingency, dependant upon the extent of remains uncovered. The excavations were monitored by Hertfordshire County Council and all work was conducted in accordance with the agreed WSI. Outside the areas an archaeological watching brief was a condition on construction and road access.

Given the small quantity of material retrieved, it was agreed that post-excavation assessment could move directly to full analysis without an intermediate stage of reporting. This document comprises the report for all of the work undertaken and will form the basis of any future publication note.

2 BACKGROUND

2.1 Archaeological background

Archaeological desk-based assessment

A full survey of the archaeological and historical background was conducted consulting the Historic Environment Record and cartographic sources (Smith 2010a). The desk-based assessment suggested that the potential for identifying remains of all periods was low, in part due to its location away from known sites and find spots.

The area around Bengeo has limited evidence for prehistoric and Roman use of the landscape although some remains are present in the vicinity. These include Palaeolithic flints recovered from gravels within the vicinity of the site (MHT1162). There are probable Bronze Age enclosures (MHT7610) and a possible Romano-Celtic temple (MHT7996) within a 1km radius of the site.

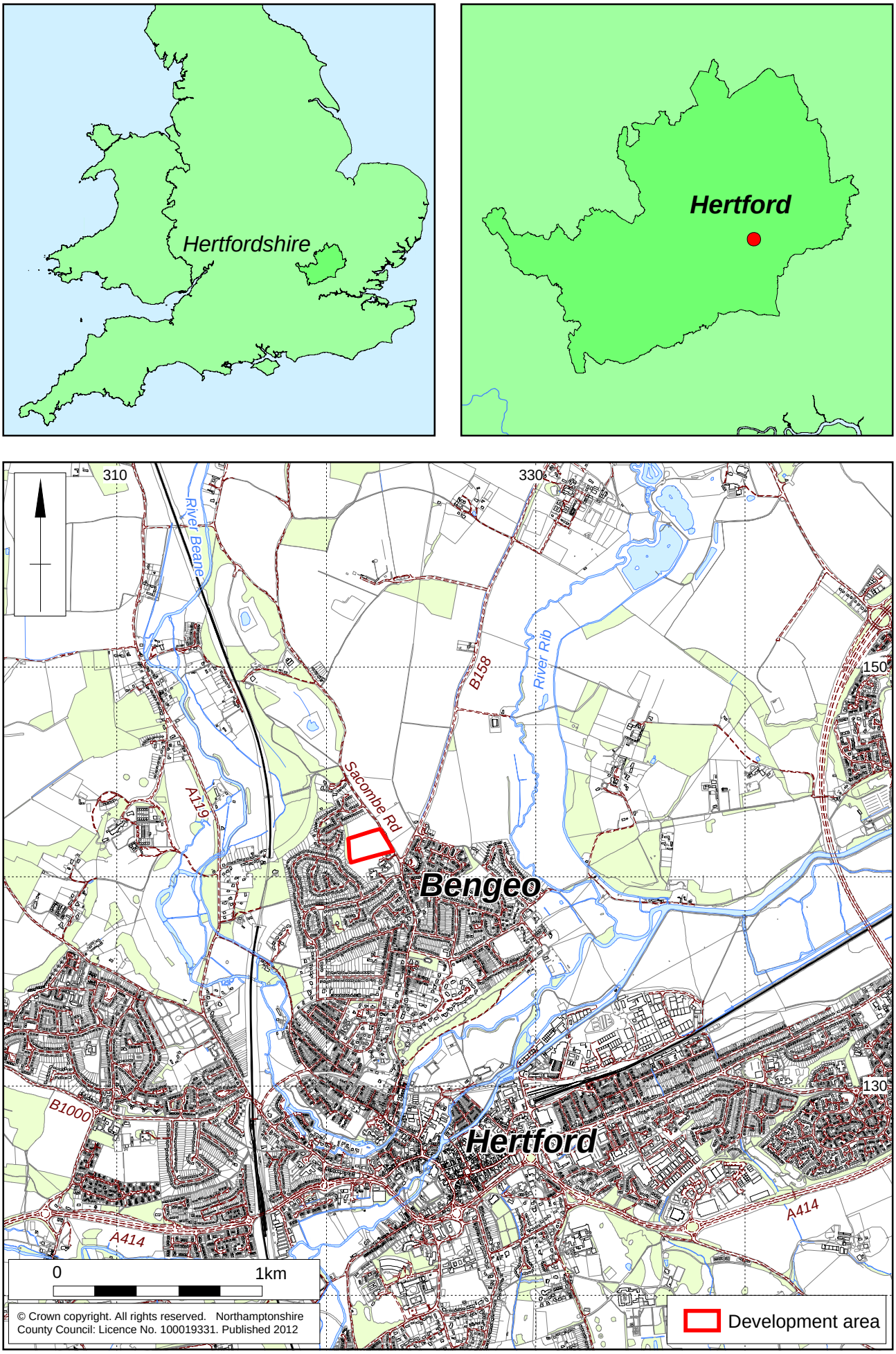
The focus for settlement in the medieval period was likely to have been to the south, in the vicinity of the church. Domesday Book records a manor at Bengeo. The present Church of St Leonard was built in the 11th century. Historic map evidence suggested that the land was peripheral to any settlement and was probably used for pasture or agriculture.

Trial excavations

A specification for archaeological trial trench evaluation was produced by CgMs and the evaluation works were undertaken by NA (Smith 2010b; Simmonds 2011). Evaluation encompassed a 5% sample of the total development area, comprising nineteen trenches, each of which was 30m long by 1.8m wide. The location of trenches was based on a broad random distribution across the site. Trial excavations indicated the presence of prehistoric remains and identified a substantial ditch associated with scattered pits. Worked flint was in good condition. Some of the flint-gritted pottery indicated middle to late Bronze Age activity, whilst other grog-tempered sherds were probably late Iron Age in date. Environmental sampling indicated that whilst charred seeds and other ecofacts were present, they were of generally poor quality and in insufficient quantities to present anything meaningful for analysis.

2.2 Topography and geology

Bengeo lies on high ground and is located between two tributary river valleys, the Rib and the Beane, which feed into the River Lea. The town of Hertford is to the south beside the River Lea. The site is *c*2.14ha in extent on the northern side of Bengeo (Fig 1). The ground slopes down from the west towards Sacombe Road at between 69-66m above Ordnance Datum. The southern edge of the plot is bordered by Bengeo Primary School; the eastern is bounded by Sacombe Road and the western edge by other development. A playing field lies immediately to the north with residential areas beyond. The area was scrubland until the recent archaeological work. There was a raised platform comprising modern made ground in the north-western corner of the site.



Scale 1:25,000

Site location Fig 1

Scale 1:750 (A4)

Areas of excavation Fig 2

The underlying geology comprises Upper Chalk overlain by Boulder Clay and Glacial Gravel (BGS GeoIndex; Smith 2010a). The soils are Ludford association which tend to be deep well drained loamy soils, which are flinty in places and form above glaciofluvial drift (LAT 1983).

3 EXCAVATION STRATEGY

3.1 Aims and objectives

The objective of the work was to preserve the archaeological evidence contained within the site by record and attempt a reconstruction of the history and use of the site with reference to relevant research themes from the Regional Research Agendas, where they may be applicable (Glazebrook 1997; Brown and Glazebrook 2000; Medlycott and Brown 2008; Medlycott 2011).

Specific research priorities were to characterise the nature of the prehistoric and post-medieval activity and to model the landscape and its transformation through time.

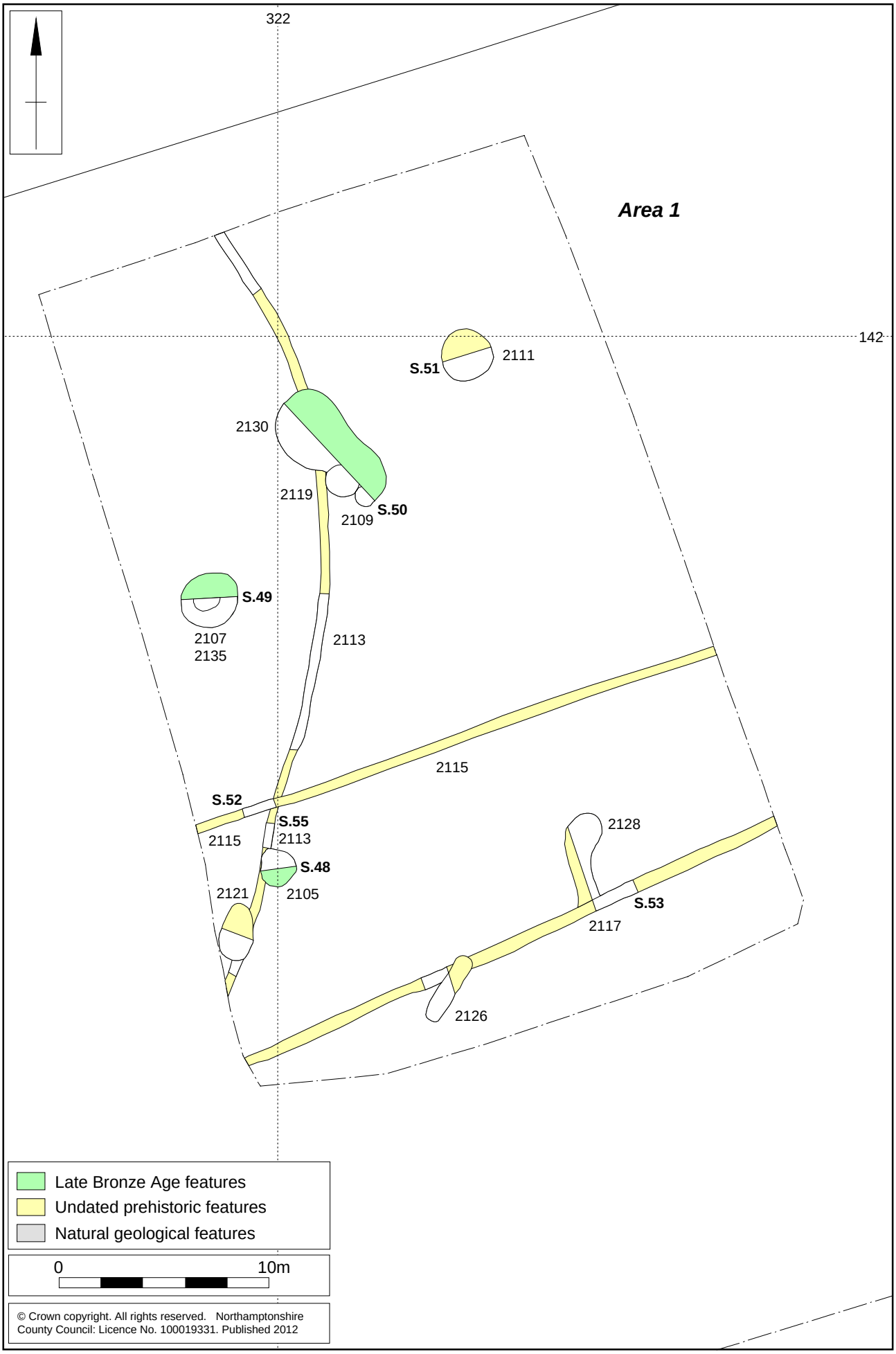
3.2 Methodology

The open area excavations were divided into two parts (Fig 2); Area 1, a rectangular area to the north that was 40m long by 27m wide (*c*0.1ha) and Area 2, a larger rectangular area that was extended to include the contingency area and site compound footprint, was 110m long by 50m wide (*c*0.41ha). The development haul road corridor was also monitored by archaeological watching brief during the topsoil strip. The total 0.51ha of open area excavations comprised *c*24% of the development area.

The open area excavations were set out by NA using survey grade GPS (Leica System 1200). Topsoil and subsoil deposits were removed by a tracked 360° mechanical excavator, fitted with a toothless ditching bucket and operating under archaeological direction. Spoil was stacked using a 13-ton dump truck, retaining topsoil and subsoil deposits in bunds beyond the edge of excavation, separate from each other. Excavation proceeded to the surface of the significant archaeological horizon or, where this was absent, the natural substrate. Movement of machinery during site preparation was conducted in such a manner as to avoid impact on the archaeology.

The excavation area was cleaned sufficiently to enable the identification and definition of archaeological features. A hand drawn site plan of all archaeological features was made at scale 1:100, related to the Ordnance Survey.

All archaeological deposits and artefacts encountered during the course of excavation were fully recorded. The recording methodology followed the standard NA context recording system with context sheets, cross-referenced to scale plans, section drawings and photographs (NA 2006). Deposits were described on *pro-forma* context sheets to include measured and descriptive details of the context, its relationships, interpretation and a checklist of associated finds. The record was supplemented by direct annotations of the site general plan as required. All levels were related to Ordnance Survey datum. Sections of sampled features were drawn at scale 1:10 or 1:20, as appropriate, and related to Ordnance Survey datum. Representative samples of all exposed archaeological features were excavated, generally using sections of between 1-3m length and allowing them to weather to expose smaller variations within them.



Scale 1:250 (A4)

Plan of features in Area 1 Fig 3

All discrete features were sampled to no less than 50% of the whole, features of particular interest were 100% excavated. Linear features were sampled at frequent intervals to determine their function and date with interventions placed at terminals and midsections. Intersections were excavated where the relationships were not clear in plan. Artefacts and soil samples were collected by hand. Hand spoil and the surface of archaeological features was scanned with a metal detector to ensure maximum finds retrieval from secure contexts.

Pits that were over 1.5m deep were augered to ascertain their full depth where possible. Two out of thirteen of these deep pits were chosen for deep trench excavation. In these instances, following hand excavation of the upper portion, an area of ground surrounding the pit was stepped out by mechanical excavation in order to make the lower portion of the feature safely accessible for full hand excavation.

Environmental samples were taken from charcoal rich deposits and from secure deep contexts in the pits. Samples were only sought in deposits with a potential for the recovery of charcoal, carbonised plant remains and other ecofacts from secure and uncontaminated contexts (EH 2002). A minimum of 40 litres was taken for flotation in each case.

All works were conducted in accordance with *Standards for Field Archaeology in the East of England* (Gurney 2003), The Institute for Archaeologists' *Standard and Guidance for archaeological excavation* (1995, revised 2008) and *Code of Conduct* (1985, revised 2010).

4 THE EXCAVATED EVIDENCE

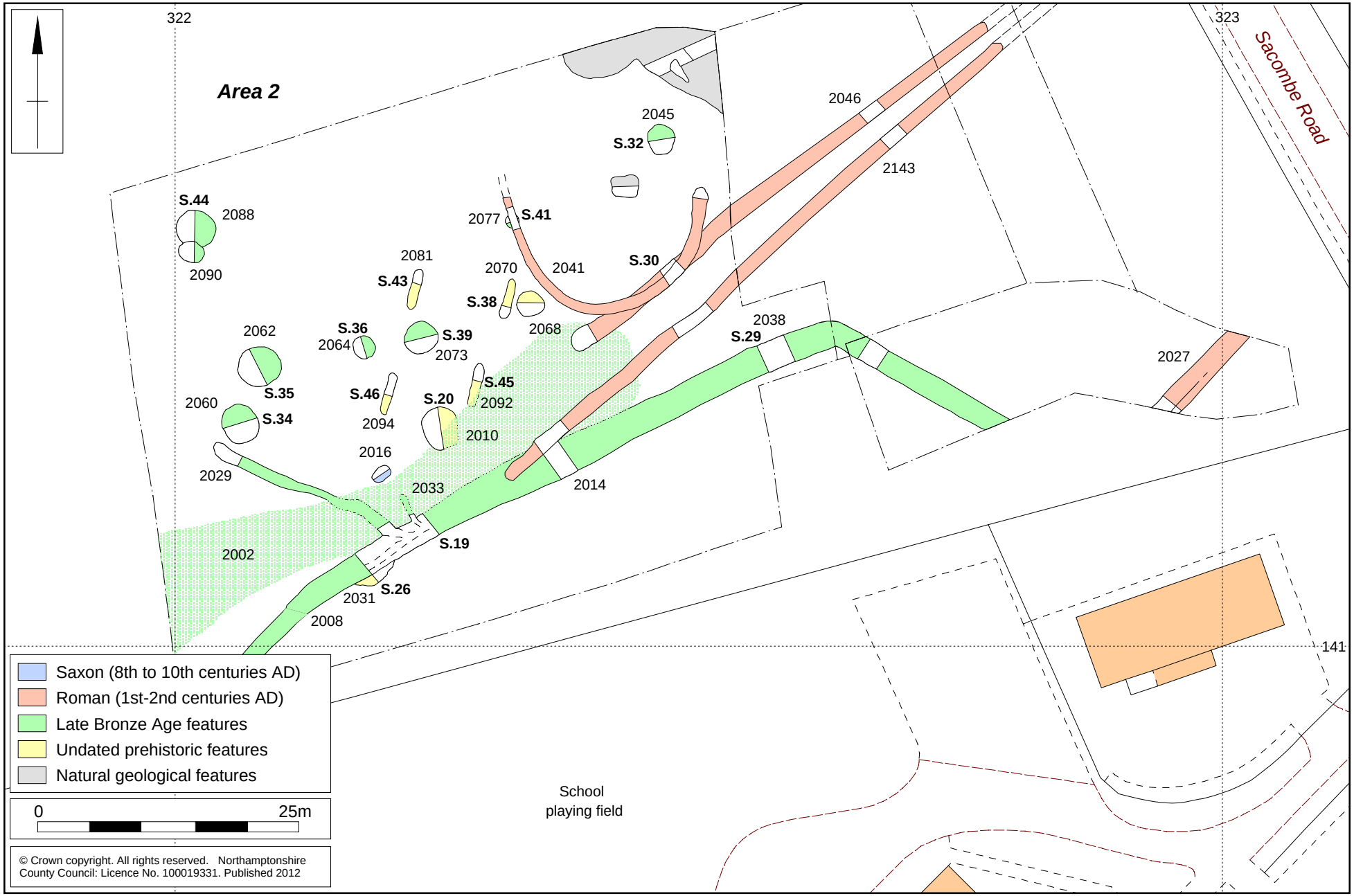
The topsoil was soft mid- to dark greyish-black and brown sandy clay loam containing infrequent to moderate well sorted pebble flint <80mm in size. The soil was generally free draining and was 250-450mm thick across the site.

4.1 Summary of the site chronology

Table 1: Site chronology

Period	Nature of activity
Undated prehistoric	Pits and ditches, as indicated by worked flint
Late Bronze Age (*c*1500-750 BC)	Vertical-sided pits, *c*2.42-4.97m deep or more North side of a possible enclosure
Roman (1st-2nd centuries AD)	Ditches extending to the east of Sacombe Road Levelling of the Bronze Age bank and ditch
Middle to late Saxon (8th-9th centuries AD)	A small fire pit cutting the bank levelling deposit
Post-medieval (18th-19th centuries AD)	Filling of former earthworks for agricultural land use

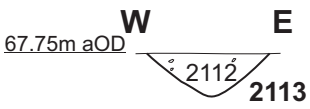
Scale 1:500 (A4)



Plan of features in Area 2 Fig 4

Area 1

Section 55



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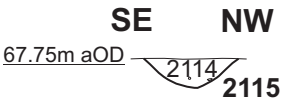

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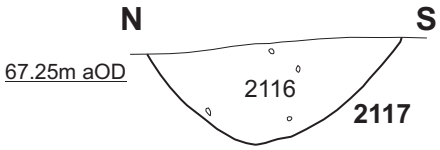
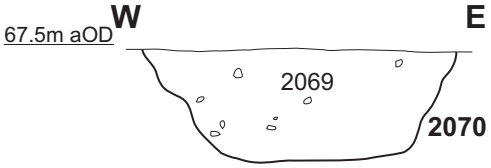


Section 51

Area 2, slots

Section 38



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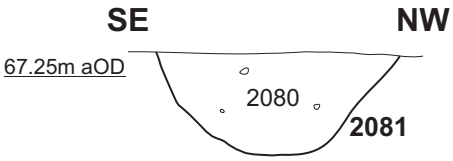
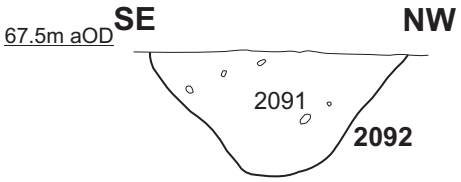
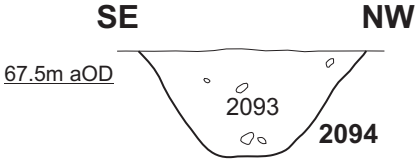


Section 45



Section 46



Scale 1:25 Sections of undated prehistoric features Fig 5

4.2 Undated prehistoric pits and ditches

The majority of features in Area 1 were undated (Fig 3). At least one of the undated features, ditch 2113, was stratigraphically earlier than the late Bronze Age pits. The other undated features in Area 1 bore no distinct relationship to datable deposits but are broadly late Neolithic to middle or late Bronze Age in date as indicated by the worked flint.

Area 1

Ditch 2113 formed an irregular curving arc from the south-west to the north-west. The ditch was 0.40m wide by 0.15m deep with relatively sharp sides that curved rapidly into a narrow pointed base (Fig 5, S55). The fill comprised hard greyish-brown sandy clay with occasional pebble flint <40mm in size. Two pieces of worked flint were recovered. This ditch was cut directly by late Bronze Age pits 2130 and 2105 (see below), undated pit 2121 and undated ditch 2115.

Pit 2121 was roughly elliptical, 2.64m long by 1.10m wide by 0.60m deep. The sides were relatively gradual at 45°, sloping into a slightly pointed base. The fill comprised hard yellowish-grey sandy clay with occasional pebble flint gravel inclusions and produced one piece of worked flint.

Ditch 2115 was relatively shallow and at 0.32m wide by 0.10m deep it had clearly been subject to severe truncation (Fig 5, S52). The sides were sharp and curved slightly, meeting with a narrow pointed base, similar to the earlier curving boundary. The ditch was aligned north-east to south-west and was roughly parallel to ditch 2117, which was also undated. Ditch 2117 had a similar profile, but was more substantial at 0.84m wide by 0.32m deep (Fig 5, S53). The fills, like most of the features in the vicinity, comprised hard light yellowish-grey sandy clay with occasional pebble flint.

Physical relationships between ditch 2117 and pits 2126 and 2128 were also noted. The latter appeared to have been an ancient root disturbance, since it had no definitive cut profile and the base was irregular, exhibiting smaller hollows filled with greyish silty sand. Pit 2126, however, cut the ditch in a more convincing fashion. This pit was an elongated slot, aligned north-east to south-west, 3.50m long by 0.80m wide by 0.38m deep. The sides were steep, sharply angled at 60°, with a rapid break of slope to a flattish base. Fill materials comprised light to mid-orange-brown sandy clay with occasional worm castes and moderate pebble flint <50mm in size, and it produced a single worked flint.

The northern end of Area 1 contained one further undated pit, 2111, which was circular and separate from other features. The pit was fairly unique in form compared to the other dated and undated features. This pit, which was 1.90m in diameter and 1.0m deep, was more substantial than all of the 'shallow features', those truncated features around the site that were generally less than 0.40m deep, and yet it was not as deep as the more frequently observed late Bronze Age pits, which were *c*2.42-4.97m deep or more. The pit had slightly tapering, inward sloping sides, which grew gradually steeper towards the base, which was flat (Fig 5, S51). It had a basal fill of a mid yellowish-brown sandy clay, 2136, containing moderate poorly sorted flint <60mm in size, and an upper fill of firm mid greyish-brown sandy clay, 2110, that was much the same.

Area 2

Undated features were also present in Area 2, although fewer in number (Fig 4). Two out of five of these pits, 2010 and 2092, were overlain by Roman spread 2002, but this was their only stratagraphic relationship.

Four of the pits may form a group, since they were all of similar size, shape, alignment and distribution (Fig 5, S38, S43, S45, S46). These pits; 2070, 2081, 2092, 2094, were also similar to pit 2126 in Area 1. All of the pits were elongated slots, aligned north-east to south-west, and lay at the four corners of a parallelogram that was *c*13-14m long by *c*6-7m wide. Each individual pit was 3.80-4.20m long by 0.74-1.04m wide by 0.33-0.41m deep. The sides were all steep, sharply angled at 60°, with a rapid break of slope to a flattish base. The fills were generally light yellowish-grey silty sand with worm castes and mixed pebble flint <40mm in size. Other than their apparent similarity, there was nothing else to indicate what the pits might have been, and it is not known whether they may have supported megalithic structures or been the product of a less significant function.

A single pit, 2010, bore greater comparison to datable late Bronze Age pits than anything else on site (Fig 6, S20). The pit was sub-circular, 3.62m long by 2.85m wide, and it had an eroded upper edge that dropped sharply into a steep-sided pit that tapered inward towards a narrow and slightly rounded base, 2.72m deep. The basal fill comprised soft mid-dark brownish-yellow sandy loam, 2131, 0.45-0.80m thick with few pebbles. Above this, and clinging to the sides of the pit was soft mid-brown silty sand, 2018, which seemed to be a gradual accumulation of material that had fallen down the main shaft. The bulk of the pit was filled by firm mid-orange-brown sandy clay, 2009, containing moderate unsorted pebble flint that was <80mm in size. This latter fill seems to have been deliberate backfill, which contained three pieces of worked flint.

Pit, 2068, was also sub-circular, and 2.90m long by 2.68m wide by 0.78m deep. Whilst this had steep, near vertical sides and a broad flat base, it was markedly different from all other pits in that it stopped at a near solid natural gravel horizon. It may have been intended as a much deeper feature. The fill comprised a sequence of four thin orangey-brown sandy clay layers containing flinty gravel, but no finds.

A further pit, 2031, was partially truncated by later features. A portion 1.35m long by 0.45m deep was examined in section, which had a gently sloping rounded profile (Fig 13, S26). The fill comprised hard greyish-brown clay, 2030, with silty patches and occasional pebble flint, but no finds.

4.3 Late Bronze Age pits

Scattered within both excavation areas were a total of twelve substantial and datable pits (Figs 2-4). The pits did not have any distinct arrangement and, other than their similarities, there was nothing to indicate that they were contemporary features, only that they were probably created within the broad period *c*1500-750 BC.

All of the pits were sub-circular and fall within two general categories as defined by their size and form. There were seven large steep-sided pits that mostly had a wide shallow weathering cone that exhibited erosion, and there were five narrow steep-sided pits that had no weathering cone (Figs 8-9; Table 2). This may mark a difference in function or a change in practise and could have a chronological implication as it implies that larger pits may have been left open for a period of time, while narrower pits were filled much sooner. Unfortunately this distinction was not evident when compared with

the study of prehistoric pottery fabrics (Table 4) and the pits had no stratigraphic relationships with each other. All of these pits were augered to ascertain their depth. In addition to the main pits, two other shallower pits cut the top fill of much deeper pits, suggesting that at least some of the pits were filled before others were created.

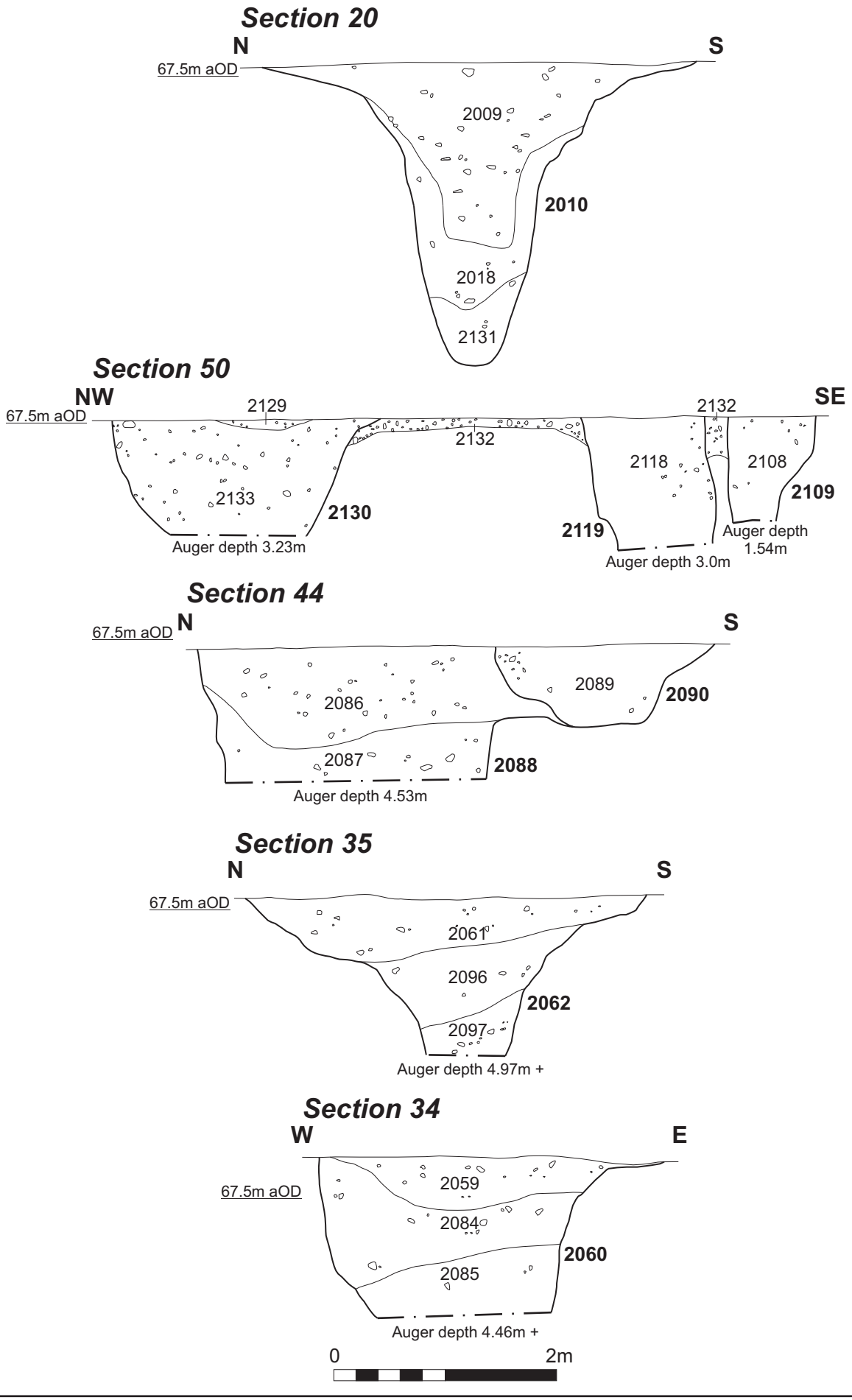
The fill materials that were examined within each of the pits were, for the most part, fairly similar and tended to merge between contexts. Lower fills were softer mid- to dark brown, yellowish-brown or orange-brown in colour and usually had sandy or silty clay loam textures with fewer pebble flint inclusions. This was also true of the basal fill in pits 2010 and 2077, which were excavated to their full depth. Despite extensive bulk soil sampling, the pit fills were largely sterile of environmental materials, and the overall poor survival of bone on the site suggests that soil acidity conditions may be a root cause. As a consequence of this lack of material finds, we do not know if the pits originally contained organic material at the base.

Table 2: Late Bronze Age pits

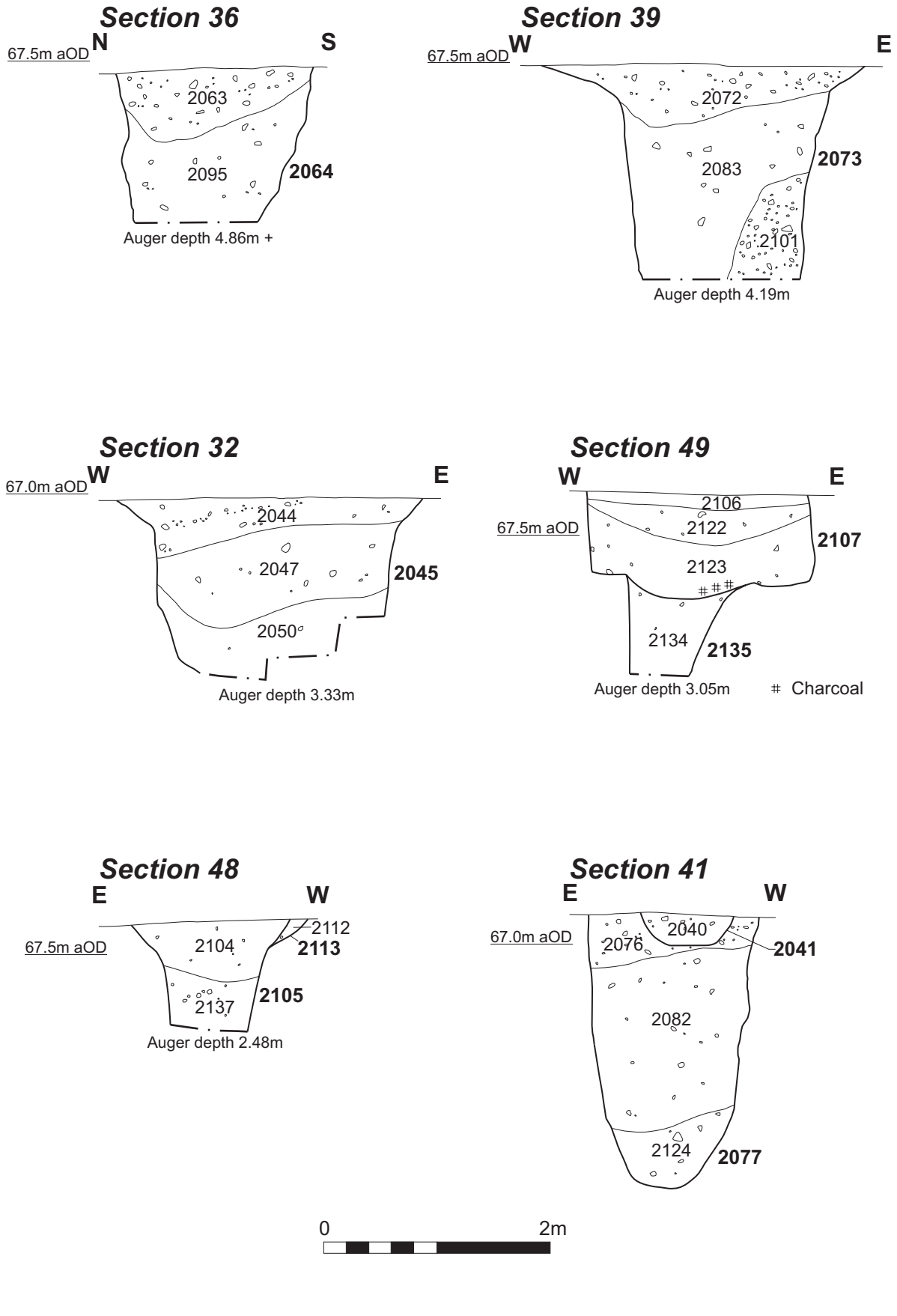
Pit cut	Fill	Section (Figs 6-7)	Length (m)	Width (m)	Depth (m)	Notes	Finds
Large steep-sided pits with evidence for erosion*							
2130	2129	S.50	2.50	2.40	3.23	upper fill	
	2133					lower fill, excavated to 1.02m	
2088	2086	S.44	3.75	2.72	4.53+	upper fill	Rom+LBA pot, tile, flint
	2087					lower fill, excavated to 1.25m	
2062	2061	S.35	4.70	3.60	4.97+	upper fill	LBA pot, flint
	2096					upper fill	
	2097					lower fill, excavated to 1.42m	
2060	2059	S.34	3.60	2.58	4.46	upper fill	Rom pot, tile
	2084					upper fill	LBA pot
	2085					lower fill, excavated to 1.45m	
2064	2063	S.36	2.00	1.74	4.86+	upper fill	LBA pot
	2095					lower fill, excavated to 1.34m	
2073	2072	S.39	2.95	2.84	4.19	upper fill	Rom pot, flint
	2083					upper fill	Beaker pot
	2101					lower fill, excavated to 1.88m	
2045	2044	S.32	2.75	2.70	3.33	upper fill	Rom+LBA pot, flint
	2047					upper fill	flint
	2050					lower fill, excavated to 1.60m	
Narrow steep-sided pits with no evidence for erosion							
2119	2118	S.50	1.25	1.20	3.00	upper fill, excavated to 1.18m	
2109	2108	S.50	0.92	0.80	1.54	upper fill, excavated to 0.92m	LBA pot, flint
2135	2134	S.49	-	0.86	3.05	upper fill, excavated to 1.60m	LBA pot
2105	2104	S.48	1.80	1.45	2.48	upper fill	LBA pot, flint
	2137					lower fill, excavated to 0.94m	
2077	2076	S.41	1.65	1.50	2.42	upper fill	Rom+LBA pot, flint
	2082					middle fill	LBA pot, flint
	2124					lower fill, base excavated	LBA pot
Later pits cutting fills 2134 and 2086 (later)							
2107	2106	S.49	2.40	2.00	0.85	upper fill	flint
	2122					middle fill	
	2123					lower fill, base excavated	flint
2090	2089	S.44	2.40	1.94	0.75	single fill, base excavated	

*Undated pit 2010 was 2.72m deep and probably belongs to this group

The upper fills were generally of a slightly different nature, tending to be firmer light or mid-greyish-brown, and often with moderate pebble flint content. Notably, whilst the lower fills produced only prehistoric pottery or worked flint, the upper fills occasionally produced Roman pottery or tile showing a chronological sequence in section. The greyish colouration of the upper fills was also seldom more than 0.45m thick, and in larger pits the strata of the fill material sagged visibly. No Roman finds occurred in the main shafts, deeper down in the pits. It is likely that the reason for this difference between upper and lower fills was that hollows in the ground surface, caused by the soft sand settling over thousands of years, were filled or levelled up in Roman times.



Scale 1:50 Sections of late Bronze Age pits (S20-S34) Fig 6



Scale 1:50

Sections of late Bronze Age pits (S36-S41) Fig 7

Bronze Age pit 2045, looking north Fig 8

Bronze Age pit 2064, looking east Fig 9

Base of undated prehistoric pit 2010, looking east Fig 10

Base of Bronze Age pit 2077, looking south-east Fig 11

4.4 A late Bronze Age boundary

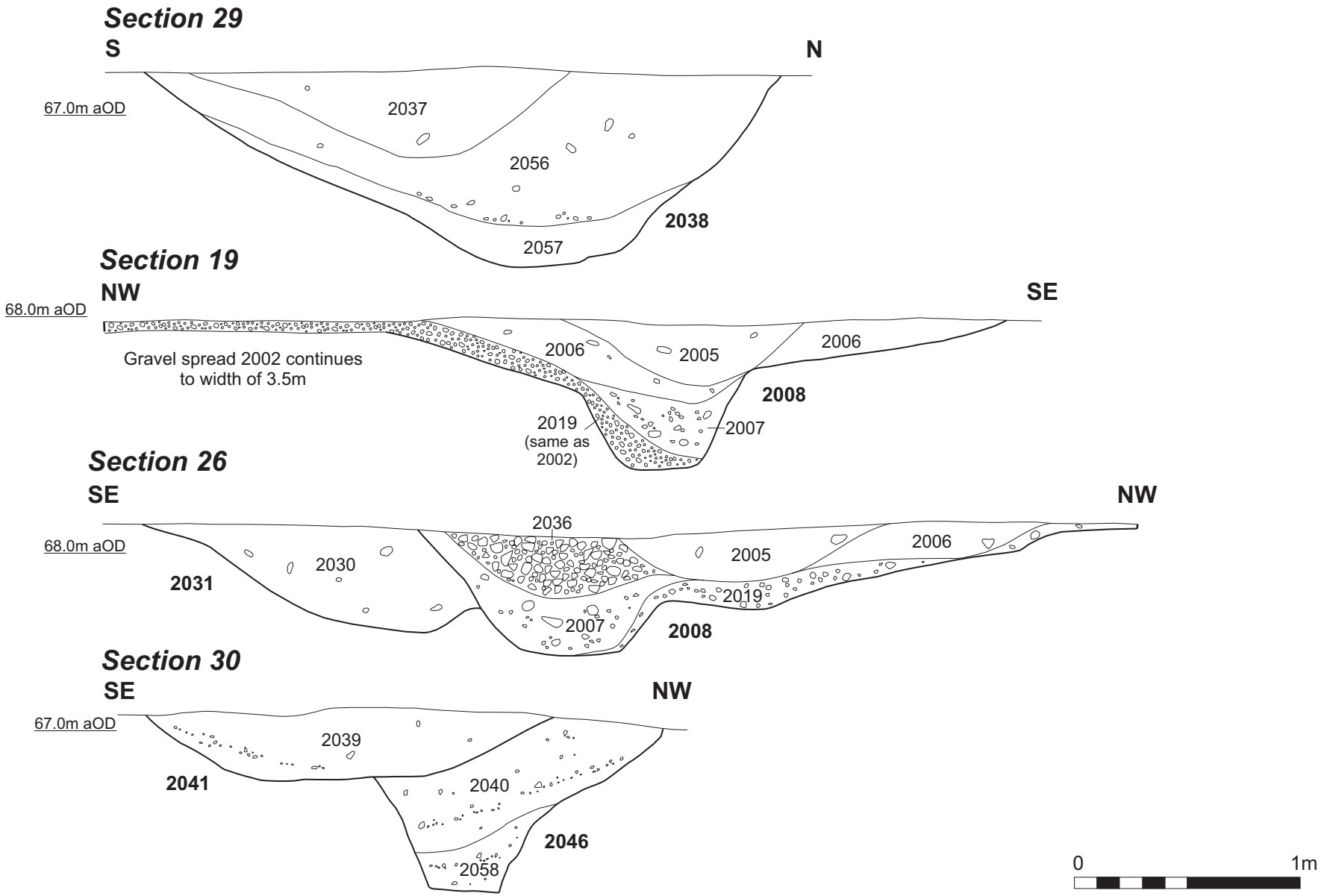
The south-east quadrant of the development area contained ancient boundaries, their positions marked by ditches, one of which indicated some evidence for a possible bank that survived as a spread (Fig 4). The general distribution of the ditches suggests that they belong to a wider landscape of enclosure to the south and east. For the most part the ditches were linear boundaries, with one curvilinear ditch, 2041. Phasing these ditches proved difficult due to low concentrations of datable finds, with both Roman and Bronze Age pottery represented. A filled and flattened late Bronze Age enclosure was considered, formed by ditch 2008/2014/2038, partly due to the extent of bank material, 2002, which had been levelled out over prehistoric features, and partly because of the radiocarbon date from the fire-cracked flint fill, 2036, which was 1120-930 cal BC. Post-medieval tile from ditch 2008 and its immediate sealing topsoil, as well as post-medieval ironwork at the surface of ditch 2038 are considered to be the result of filling depressions that had subsided since the Roman levelling had taken place.

Ditch 2008, looking west Fig 12

The ditch and bank

A late Bronze Age enclosure probably lay to the south of the excavation (Area 2). The northern boundary of this enclosure was formed by ditch 2008/2014/2038, which was aligned south-west to north-east and then turned south-east. The ditch varied in shape, size and depth along its course.

Scale 1:25



Sections of ditches Fig 13

At the north-east corner ditch 2038 was 2.80m wide by 0.88m deep, with a steep slope on its north side and a slightly shallower slope on its south side (Fig 13, S29). The base was filled with soft greenish-grey clayey sand, 2057, which formed a sediment wash 0.18m thick. The principal fill above this was firm mid-orange-brown sandy clay and sandy gravel, 2056, with worm castes and moderately sorted pebble flint <40mm in size. Both lower fill deposits were sterile of finds. A slump of firm mid greyish-brown silty clay loam lay at the surface which contained post-medieval finds and was the result of filling the earthwork in the 18th-19th centuries.

The mid-point, ditch 2014, was similar in profile and the shallow southern slope extended the total width to 4.6m, but retained a similar depth of 0.70m. The fill comprised a variety of merging mid orange-brown sandy clay with occasional pebble flint. A group of 29 flint flakes were recovered from the basal fill, 2020.

Towards the south-west the character of ditch 2008 was very different (Fig 13, S19 and S26). The ditch had a shallow slope at the upper edge, but then dropped fairly sharply at a steep angle to meet a flat base, and was 2.70m wide by 0.65m deep. On the north side of the ditch was a short gully spur, 2033, and a smaller ditch, 2029, both of which drained into the principal boundary. These features were filled with material identical to the basal deposit in ditch 2008.

Ditch 2029 followed a course from its north-west terminal, south-east, to meet with ditch 2008. The full length was *c*18m and its profile was 0.96m wide by 0.26m deep with gently rounded 45° sloping sides that curved into a rounded base. The short gully spur, 2033, was 2.5m long, only 0.25m wide and 0.16m deep, forming a narrow V-shape.

Ditch 2008 and pit 2031, showing burnt flint dump, looking south-west Fig 14

At its north-west terminal the fill of ditch 2029 was greyish-orange sandy clay, 2028, but at its south-east confluence an 8m long portion of the ditch, gully 2033 and the base of ditch 2008 were filled by hard greyish-orange sandy gravel, 2019, with frequent mixed pebble flint <20mm in size. The gravel looked almost natural, but was dirty with silty patches, it had cascaded down the north side of the ditch to fill the base (Fig 13, S19). In addition to filling the smaller features on the north side of the ditch, it also formed a spread, 2002, that was *c*50m long by 10m wide by up to 0.18m thick alongside ditch 2008 on its north side (Fig 4). This is considered to be the remnants of a bank that was raised after ditch 2029 and gully 2033 became redundant. Above this, compact greyish silty gravel, 2007, gradually accumulated through erosion of the bank by surface flow water until the bank was flattened and the former ditch filled with mid- orangey-grey silty sand, 2006. Unfortunately no pottery was recovered from this deposit to date its accumulation. As part of the filling process a single event dump of compact dark blackish-grey silty clay, 2036, packed heavily with fragmented burnt flint <50mm in size, was cast into the ditch (Fig 13, S26; Fig 14). This produced charcoal with a radiocarbon date of 1120-930 cal BC. Examination of the charcoal and comparison with pit 2016 indicated totally different assemblages that cannot have been from the same fire. A diverse range of species were present. As had occurred further to the north-east, a slump of firm mid greyish-brown silty clay loam lay at the surface which contained post-medieval finds.

4.5 Roman activity

The pottery sherds found within the uppermost fills of the Bronze Age pits included grogged sherds of the mid- to late 1st century AD, other sherds amongst the ditches are less closely datable, probably later 1st or 2nd century. The time period is not greatly dissimilar, suggesting that the levelling and the disuse of the Roman ditches may be closely dated with the filling of the uppermost pit horizons. The filling of pits and levelling of any earthworks would probably have been contemporary. The likelihood is that the Bronze Age bank was reused as a boundary in the Roman period before its clearance.

1st to 2nd-century Roman boundaries

Three ditches were all aligned south-west to north-east, and extended beyond the limit of excavation to the east of Sacombe Road.

Ditches 2046 and 2143 were examined during the watching brief where they became gradually shallower to the point of near total truncation. Towards the south-west ditch 2046 was 1.4m wide by 0.8m deep with steep V-shaped sloping sides and a narrow flat base, a typically Roman ditch form (Fig 13, S30). The basal fill, 2058, comprised firm mid greyish-brown silty sand, and the upper portion had been backfilled with firm light orange sandy clay gravel, which preserved tip lines. The other ditch, 2143, shared a similar profile and was 1.10m wide by 0.45m deep, but its sandy clay fill was badly disturbed by post-depositional root action. These ditches either flanked a hedgerow, or were recuts on the same alignment. Ditch 2046 had a terminal cutting spread 2002 at its north-east edge, whilst ditch 2143 cut through the spread and probably terminated within the fill of ditch 2008 (Fig 13, S19 and S26). Only ditch 2143 produced Roman pottery.

In the south-east corner of the site, ditch 2027 was identified during the watching brief near to the site entrance. The original ditch had steep V-shaped sides and a characteristically narrow flat base, 1.35m wide by 0.84m deep. The fill comprised firm

mid-greyish-brown silty sand, 2026, with mottled orange tinges suggestive of wet silt accumulation, which also produced pottery. The ditch had a wider recut, 2.35m wide by 0.65m deep, also with steep sides and a flat base, but was slightly more U-shaped. Distinction of the south-east side against fill 2026 was poor, since the recut had also accumulated very similar mottled greyish-brown sandy silt. Roman pottery was recovered from the deeper fill, and a single medieval rim sherd of Hertfordshire Grey Ware was squashed down into the top of the fill from above.

A curvilinear ditch

The south side of semi-circular ditch 2041 cut across the fill of ditch 2046 (Fig 13, S30). The distance across the inside of the arc was *c*16.5m, which compares favourably with most excavated examples of roundhouse ditches, which are typically between 15-18m in diameter. There were no internal earthfast features, which is also fairly usual. The profile of the ditch was broad, 1.8m across, fairly shallow, 0.30m deep, and had gently sloping sides with a flat base. The fill comprised firm mid-orange-grey and brown sandy clay, with a slight tip line of gravel on one side. Pottery comprised residual Bronze Age sherds only, leaving its dating by stratagraphic means alone.

4.5 Middle to late Saxon activity

Fire pit 2016, fully excavated, looking north Fig 15

Fire pit 2016

An isolated shallow elliptical pit, 1.95m long by 1.2m wide by 0.23m deep, was little more than a rounded scoop in the ground. It was located on the north side of ditch

2008, immediately adjacent to and cutting the edge of the bank material, spread 2002. The sides of the pit were scorched reddish-brown from *in situ* burning (Fig 12) and the fill was dark greyish-black silty clay loam, rich in charcoal. There was very little burnt stone. A small amount of cattle bone was recovered, but no pottery. Identification of the charcoal indicates that it was almost entirely comprised of good solid oak logs, which have been radiocarbon dated to 770-900 cal AD (2 sigma). Burnt hazelnut shell fragments were also recovered.

4.7 Medieval and post-medieval land use

It is likely that when the land came under agricultural use once more, following a period with minimal impact, the sandy fills of the ditches had settled leaving some ditches as depressions. Through deliberate infilling or ploughing, the ground was levelled up, introducing a few medieval and post-medieval artefacts into the uppermost horizon of earlier features.

5 THE FINDS

5.1 Worked flint by Yvonne Wolframm-Murray

There are one hundred pieces of worked flint, which were recovered from Bronze Age pits and also as residual finds from Roman ditches and the topsoil. The flint comprised one core, six pieces of shatter, 82 flakes, seven blades, one scraper and three shaping flakes (Table 3).

The condition of the assemblage is good. The flint shows varied post-depositional edge damage, ranging from occasional to frequent edge nicks. Patination, in the form of a mottled white, is present on one flake. Accidental burning of the flint is evident on two flakes as thermal fracturing.

The raw material is a vitreous flint of light to dark coloured grey and occasional brown. There is also a small component of a more opaque grey and greyish-brown flint. Cortex is present on the dorsal surface on half of the assemblage and is typically light to mid-brown in colour with a generally smooth, rolled and weathered surface. The raw material is likely to have been derived from local gravel deposits.

Six pieces of shatter were found. The majority of flint that was recovered consists of waste flakes and blades. These comprise 82 flakes, of which fifteen were broken, and seven blades, of which three were broken. There were also squat flakes present. A small collection of 29 pieces of waste flakes and shatter were recovered *in situ* from the primary fill of ditch 2014.

There are also three shaping flakes, a by-product of axe manufacturing. One end or side scraper was recovered, which had abrupt and semi-abrupt retouch on the concave distal end and along the lateral edge. A single-platform flake core was recovered. Flake removals can be noted around the entire circumference of the platform. In addition to these finds a further 45 pieces of worked flint were recovered from Bronze Age pits. This material included the core, scraper and the shaping flakes.

Technological characteristics of the assemblage suggest a broad middle to late Neolithic or early to middle Bronze Age date.

Table 3: Quantification of worked flint

Description	Whole	Fragment	Burnt	Total
Core	1	-	-	1
Shatter	-	3	1	6
Flake	67	15	1	82
Blade	5	2	-	7
Shaping flakes	2	1	-	3
Scraper, end/side	1	-	-	1
Total	**76**	**21**	**2**	**100**

5.2 Prehistoric pottery by Mike Seagar Thomas

The prehistoric pottery consists wholly of small context assemblages, comprising 178 sherds (729g), most of which is small and heavily weathered. The material can be divided into two broad period groups: Beaker or early Bronze Age, represented by sherds from two contexts, and late Bronze Age, represented by sherds from nineteen contexts (Table 4).

The stratigraphic integrity of much of this material is insecure, most coming from the upper fills of linear ditches and pits, some of which was associated with Roman material.

The Beaker pottery is relatively unweathered and forms a closed assemblage that probably dates pit 2073. Five small groups of late Bronze Age sherds from the lower fills of four further pits provide plausible dates for their reinstatement. Pits 2060 and 2077 were perhaps middle to late Bronze Age; whilst pits 2045 and 2107 were clearly late Bronze Age.

The Beaker vessel

Owing to its fragmentation where the long axis of the largest surviving sherd measures less than 40mm, it is impossible to say how big the vessel was, or to draw any whole parallels for it from amongst the known Beaker koine (Fig 15, 1-4). The decorative forms and motifs employed on it however are very familiar: a thin, out-turned rim decorated inside and out with twisted-cord impressions, whip-cord 'maggot' impressions forming two or more successive bands of horizontal chevrons, and a group of longer, vertical whip-cord impressions, presumably from near the base of the vessel. There are no surviving unimpressed exterior surfaces at all (cf. Humphrey Case's Beaker style 2: Case 1992).

More interesting perhaps is its fabric, which is a soft flaky paste with no visible grog, but is instead patchily tempered with *c*7% medium to coarse 0.5–3mm burnt flint, similar to that of some of the later Bronze Age fabrics at the site. The latter, however, have a corky rather than a flaky texture. Beaker pottery often incorporates flint, in addition to the more usual grog, and the local and sometimes sloppy manufacture of

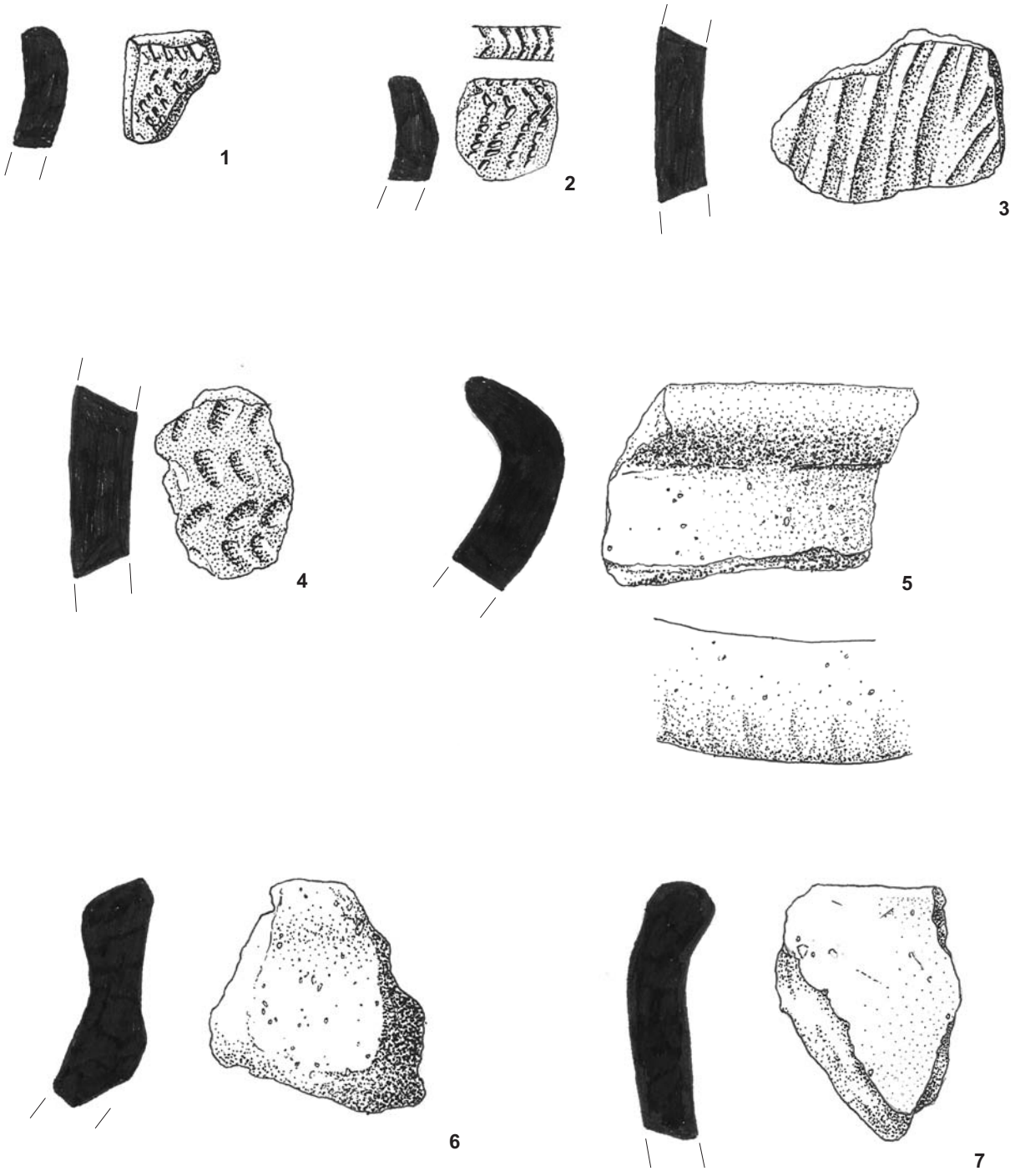
Beakers is emphasised in the literature (Case 1992, 265; Gibson 2002, 88–90). The combination in a Beaker of so coarse a fabric and with fine decoration is fairly uncommon.

The early Bronze Age sherd

There is a single, wholly grog-tempered sherd with a light corky texture and deeply oxidized exterior found amongst Collared Urn and contemporary traditions (Longworth 1984, 4; Tomalin 1988, 212). It was residual in late Bronze Age pit 2107.

Table 4: Prehistoric pottery quantification

Fill/ feature	Fabric	No. of sherds	Weight (g)	Diagnostic traits	Pottery date
2003/ditch 2004	daub	4	15	None	undated
	MF	21	70	PDR rim	LBA
	MCFG	17	63	DR–PDR fabric	later BA
	CF	4	45	DR–PDR fabric	later BA
2011/ditch 2012	MF	14	45	PDR fabric	LBA
2013/ditch 2014	F	1	5	PDR fabric	LBA
2039/ditch 2041	CF	4	25	DR–PDR fabric	later BA
2044/pit 2045	daub	4	10	None	undated
	FMF(2)	9	15	PDR fabric	LBA
	MCF	1	5	DR–PDR fabric	later BA
2050/pit 2045	F	2	4	PDR fabrics	LBA
2055/ditch 2071	FMF(2)	2	3	PDR fabric	LBA
2061/pit 2062	F	9	10	PDR fabrics	LBA
2063/pit 2064	MCF	2	8	DR–PDR fabric	later BA
	MCFG	1	4	DR–PDR fabric	later BA
2076/pit 2077	F	2	2	DR–PDR fabrics	later BA
2082/pit 2077	F	1	1	DR–PDR fabric	later BA
	MCF	1	3	DR–PDR fabric	later BA
2083/pit 2073	FMF(1)	42	60	Beaker decorative form	Beaker
2084/pit 2060	U	1	10	?PDR fabric	undated
	F	2	10	DR–PDR fabric	later BA
2086/pit 2088	FMF(2)	1	5	PDR fabric	LBA
	CF	1	3	?NEO fabric	undated
2104/pit 2105	U	1	1	None — too small	undated
2106/pit 2107	FF	2	4	PDR fabric	LBA
	MCF	1	6	PDR fabric	LBA
	G	1	5	Possible Collared Urn fabric	EBA
2108/pit 2109	F	1	3	DR–PDR fabric	later BA
2123/pit 2107	U	5	4	None	undated
	FMF(2)	1	15	PDR expanded rim	LBA
	MCF	3	65	PDR fabric	LBA
	CF	8	130	PDR fabric	LBA
2124/pit 2077	MCF	4	50	DR–PDR fabric	later BA
2134/pit 2135	MF	5	25	PDR ‘hooked’ rim	LBA
Total		**178**	**729**		



Scale 1:1 Prehistoric pottery Fig 16

The late Bronze Age assemblage

There is a collection of six fabrics, five of which are flint-tempered, and ranging from fine to coarse, with one coarse grog and flint-tempered fabric:

FF 10% <0.1-1mm burnt flint, soft matrix
FMF2 15% <0.1-1.5mm burnt flint, soft matrix
MF 10% <0.1-5mm burnt flint, soft matrix with a corky texture
MCF 10% <0.5-1mm and 3% 1-4mm burnt flint, soft matrix
MCFG 5% <0.5-3mm burnt flint and unquantifiable grog
CF 10-15% <0.5-7mm burnt flint, soft matrix with a corky texture

As a group these fabrics are characteristic of earlier plain post Deverel-Rimbury pottery traditions, dateable to the late Bronze Age, an attribution supported by the presence of three typologically diagnostic rim sherds: a burnished expanded rim in fabric FMF2 from the base of pit 2107 (Fig 15, 5) and a squared, upright rim in fabric MF from ditch 2008 that are from shouldered jars (Fig 15, 6; Waugh 1968, fig 17, 13 & 18), and an internally hooked rim in fabric MF from the upper fill of pit 2135 that is from a convex-sided jar (Fig 15, 7; Bradley & Ellison 1977). The upper end of the fabric size range for MCF, MCFG and CF overlaps with pottery immediately preceding the middle Bronze Age Deverel-Rimbury pottery tradition, and the assemblage as a whole may or may not straddle both periods.

Owing to the small size of the assemblage and the sherds comprising it, it is difficult to interpret with clarity. Apart from the Beaker, which is intrinsically interesting and adds to the understanding of Beaker morphology locally, the only thing that stands out is the possibility of continuity of use through the Bronze Age. Given the small number of sherds and the hundreds of years represented by them, the reality is that their use must nevertheless have been separated by very long periods. Rather than observing continuity of pottery use on site, it is perhaps better to observe that pottery use returned to it on repeated occasions. The reason for this is not explicable from the assemblage.

5.3 Roman pottery by Rob Perrin

There were thirty-one small sherds, weighing 151g, from the fills of five ditches and five pits. Most of the pottery has a coarse sandy fabric, with the colour (grey-brown or reddish-orange) being the only difference between sherds; this probably represents variations in firing technique rather than source. Three sherds have other, less coarse, greyware fabrics and there are also three sherds in a grogged fabric. There were only two rim sherds, both from jars, one of which (in less coarse greyware) has traces of external white/pale grey slip. All of the pottery is likely to have been locally produced.

A kiln producing gritty greywares was found at nearby Ware (Swan 1984, 138) and the major industry centred on Roman *Verulamium* is only around 20km away. The size of the sherds and the lack of diagnostic features prevents close dating, but the grogged sherds are likely to date to the mid- to late 1st century in date with the coarsewares being of later 1st or 2nd century date.

Table 5: Roman pottery quantification

Fill/feature	Fabric	Rim	Body	Base	Total	Wt (g)	Notes
2005/ditch 2008	coarse grey brown	1	1		2	42	jar, triangular end to rim
	coarse oxidised		1		1	10	
2022/ditch 2023	coarse grey brown		2		2	6	
	coarse oxidised		4		4	10	
	coarse pale grey		1		1	8	
2024/ditch 2025	coarse grey brown		1		1	2	
2026/ditch 2027	coarse grey brown		1		1	2	
2037/ditch 2038	coarse grey brown		3		3	8	
	coarse oxidised		1		1	1	
2044/pit 2045	coarse grey brown		2		2	4	
	grey brown		1		1	6	
	grey	1	1		2	6	jar, long neck, traces of white slip
2059/pit 2060	grog?		1		1	2	
2072/pit 2073	coarse grey brown		3	1	4	24	
2076/pit 2077	coarse grey brown		1		1	2	
	grog		1		1	8	
2086/pit 2088	grog?		1		1	2	
2142/ditch 2143	coarse grey brown		2		2	8	
Total		**2**	**28**	**1**	**31**	**151**	

5.4 Roman tile by Pat Chapman

One sherd of flat flanged tegula roof tile, weighing 287g, came from the uppermost fill, 2059, of pit 2060. It is 25mm thick by 38mm high, with a small flange, and made with very hard sandy orange clay with a medium grey core and brown surface. A small dark red sherd is from ditch 2025 and a tiny fragment comes from the uppermost fill, 2086, of pit 2088.

5.5 Medieval pottery by Paul Blinkhorn

A single sherd (53g) of medieval pottery occurred at the surface of ditch 2023 that was probably the introduced during levelling activity. It is a jar-rim in Hertfordshire grey ware, which is mid-12th-14th century (Turner-Rugg 1993). The original vessel had a rim diameter of 220mm, and the sherd represents 16% of the complete rim. It is in good condition, and appears reliably stratified.

The fabric, vessel type and rim form are typical of the tradition, and are common finds at medieval sites in the region. Such pottery was made at a number of centres in the county, including Hitchin and Chandler's Cross (*ibid*, 32-3).

5.6 Medieval and post-medieval tile and brick by Pat Chapman

Roof tiles

There are seven sherds of flat plain roof tiles, weighing 1243g, comprising two large sherds and four small sherds from the topsoil overlying ditch 2008 and its uppermost fill, 2005, were four smaller sherds. The tiles are all 12-15mm thick, made from hard reddish-brown or orange-brown sandy or sandy clay. A large sherd, intrusive in fill 2005, is 173mm wide (6¾ inches), which is a common size for medieval and post-medieval roof tiles.

Brick

The remains of two bricks, weighing 1327g, come from the topsoil overlying ditch 2008. The largest is handmade, 95mm wide and 60mm thick (3¾ x 2⅜ inches), made from hard heavy slightly overfired orange sandy clay with frequent flint and gravel up to 18mm long. The other fragment is similar, but a darkish red with few inclusions.

Conclusion

While the roof tiles could date from the 14th century onwards to the early 19th century, the brick fragments would most likely date from the 17th to early 19th centuries.

5.7 Post-medieval finds by Tora Hylton

A small group of seven artefacts were recovered from a post-medieval levelling layer overlying ditch 2008. The finds included a base sherd from wine bottle and six pieces of iron.

The green glass base sherd, was recovered from the top of ditch 2008 (SF51). It has a relatively high kick and the form suggests that it is a late 18th-19th-century cylindrical wine bottle.

The six pieces of iron were recovered from the surface of ditch 2038. Four of the pieces (SF55, 57-59) join together to form an incomplete parallel-sided strap fragment measuring *c*580mm long and *c*23mm wide. A thin layer of corrosion obscures the presence of any fixings which may be present. However a small nail with a flat sub-circular head and square-sectioned shank (SF56) was also recovered from the same deposit, perhaps suggesting that the strap is part of a binding strip.

6 FAUNAL AND ENVIRONMENTAL EVIDENCE

6.1 Animal bone by Karen Deighton

There are seven fragments of animal bone, weighing 35g, recovered from three contexts. These were examined to determine species and preservation.

Preservation was poor with heavy surface abrasion, which had removed any evidence for butchery or canid gnawing. The bone elements included a fragmentary cattle second mandibular molar from fire pit 2016 and a fragment of large ungulate vertebra from ditch 2025.

6.2 Charred plant remains by Val Fryer

Nine samples were submitted for assessment of potential plant macrofossil assemblages. The samples were bulk floated and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in Tables 6-7. Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern seeds and fibrous roots were also recorded.

The density of material within each assemblage is expressed in the table as follows: x = 1-10 specimens, xx = 11-50 specimens, xxx = 51-100 specimens, xxxx = 100+ specimens. Other abbreviations are expressed as follows: BA = Bronze Age, Rom = Roman.

Table 6: Quantification of the charred plant remains from Bronze Age pits

Sample	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Fill	**2050**	**2097**	**2085**	**2095**	**2083**	**2124**	**2131**
Feature	**2045**	**2062**	**2060**	**2064**	**2073**	**2077**	**2010**
Feature type	**pit**	**pit**	**pit**	**pit**	**pit**	**pit**	**pit**
Depth of sample (m)	**1.60**	**1.50**	**1.60**	**1.40**	**1.70**	**2.40**	**2.70**
Plant macrofossils							
Bromus sp.						x	
Corylus avellana L.					x		
Charcoal <2mm	x	xxx	xx	xx	x	xxx	xxx
Charcoal >2mm	x	xx		x	x	xx	x
Charcoal >5mm		x		x			x
Charred root/stem	x						
Indeterminate seed							x
Other remains							
Black porous 'cokey' material	x	x		x		x	
Sample volume (litres)	**40**	**40**	**40**	**40**	**40**	**40**	**40**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 7: Quantification of the charred plant remains from burnt deposits

Sample	**6**	**7**
Fill	**2017**	**2036**
Feature	**2016**	**2008**
Feature type	**pit**	**ditch**
Plant macrofossils		
Cereal indeterminate (grain fragment)	x	
Corylus avellana L.	x	
Charcoal <2mm	xxxx	xxxx
Charcoal >2mm	xxxx	xxxx
Charcoal >5mm	x	x
Charred root/stem	x	
Other remains		
Black porous 'cokey' material	x	
Black tarry material		x
Burnt stone	x	xx
Sample volume (litres)	**40**	**40**
Volume of flot (litres)	**1.1**	**0.2**
% flot sorted	**12.50%**	**50%**

Results

All nine assemblages were principally composed of charcoal or charred wood fragments, and in the case of the Bronze Age contexts, even these were sparse. Other plant remains were exceedingly scarce; fire pit 2016 contained a single possible grain fragment and Bronze Age pit 2077 included one brome fruit. Individual hazel (*Corylus avellana)* nutshell fragments were present within the assemblages from pit 2073, and fire pit 2016.

Other remains were also very scarce. Fragments of black porous or tarry material were probably derived from the high temperature combustion of organic remains and were recorded at a very low density within six of the assemblages studied. Ditch 2008 also included splinters of heat shattered stone.

Conclusion

Although all seven assemblages from the Bronze Age pits contain some charcoal or charred wood, the density of material is generally very low, probably indicating that the remains are primarily derived from scattered or wind blow detritus, which was accidentally incorporated within the feature fills. The Bronze Age pit assemblages from pits 2010 and 2077 contain slighter higher densities of material, but it appear unlikely to be primary deposits. The material from pit 2077 is highly abraded, possibly suggesting that it was exposed for some considerable period prior to deposition.

The burnt assemblages are both derived from fires, but study of the charcoal has demonstrated this was not from a common source (see below). The remains from within ditch 2008 are generally better preserved and less abraded. This may suggest that that the material within the ditch was buried immediately while the fire pit remained open and exposed to the elements.

6.3 Charcoal by Imogen Poole

Ten samples were examined for identification of charred and charcoalified wood fragments present to give an indication of the range of taxa present, type of wood and suitability for radiocarbon dating. These specimens derived from the flotation of 40 litre bulk soil samples.

Methodology

A random selection of up to 100 fragments from each sample was studied to determine the taxonomic identity, the state of preservation and whether any material was suitable for radiocarbon dating. Charcoalified fragments were prepared using standard methods (Gale and Cutler 2000). Anatomical structures were examined using reflected light on an Olympus BX41 compound microscope with magnifications up to x200.

The material was identified using relevant literature (e.g. Schweingruber 1990; Gale and Cutler 2000) whenever necessary. It must be noted that wood anatomy alone is often not enough to secure identification to individual species and thus the samples have been identified to generic level only except where only one native species exists in the British flora. Where possible the maturity of the wood was assessed as to whether the specimen is of heartwood or roundwood.

Fragments from each sample were grouped according to taxon and assigned an unique number to facilitate future reference (Tables 8-9). If there was some degree of doubt regarding taxonomic identity the number is preceded by a question mark. All fragments were handled using tweezers to minimise carbon contamination and like-fragments were separated in aluminium foil envelopes labelled with their respective unique number.

Samples considered suitable for radiocarbon dating were identified from short-lived taxa or fragments representing short-lived twig material or sap wood from long-lived taxa. These fragments were isolated and wrapped separately in aluminium foil to reduce the chance of any further carbon contamination from the plastic bags in which they were originally packed.

Results

The majority of the wood is considered to be mature and probably originated from relatively large diameter axes such as trunk or branch material, based on ring curvature and in some instances (e.g. *Quercus*) the presence of tyloses (Tables 8-9). None of the fragments showed significant rounding which would indicate having been subject to a high degree of weathering or abrasion.

The charcoal fragments within each sample varied in number and size with the quantification in general accordance with previous assessment (Table 6). They were briefly re-quantified to allow for a fragment count at <3mm size. Preservation was variable with many fragments exhibiting well-preserved anatomy and good reflectivity but some showed evidence of distorted anatomy and homogenised cell walls, usually coupled with high reflectivity, or poor preservation.

Fragments were generally larger and more numerous in the burnt deposits when compared with the Bronze Age pits. Preservation did not vary significantly between the samples. The samples from the burnt deposits are taxonomically more diverse than those from the Bronze Age pits.

Table 8: Summary of charcoalified wood fragments from burnt deposits

Sample	Context	Taxa	Number of fragments	Notes
6	fill 2017 pit 2016	*Quercus*	91	heartwood with tyloses, some fragments with high reflectivity; anatomy generally well preserved
		indeterminate	9	
		?*Quercus* twig	1	roundwood, no cortex
7	fill 2036 ditch 2008	*Populus/Salix*	9	
		Corylus	12	
		Acer	12	
		indeterminate	42	distorted anatomy; compression, small size
		rootlet	3	cortex present; dark brown not charred
		?*Quercus*	6	
		indeterminate twig	1	pith and cortex present, charcoalified (Beta-315792)
		?*Alnus*	1	
		?*Populus/Salix*	11	small size
		Prunus	2	

Table 9: Summary of the charcoalified wood fragments from Bronze Age pits

Sample	Context	Taxa	Number of fragments	Notes
8	fill 2050 pit 2045	indeterminate	9	small size
9	fill 2097 pit 2062	indet. twig	1	mid-brown with pale anatomy
		?*Quercus* or *Castanea*	23	heartwood with tyloses
		indeterminate	33	small size, poor preservation
10	fill 2085 pit 2060	indeterminate	2	small size
11	fill 2095 pit 2064	indeterminate	7	small size and poor preservation
		?*Quercus* or *Castanea*	2	
12	fill 2083 pit 2073	indeterminate	4	small size and poor preservation
		?*Quercus* or *Castanea*	2	wood twig (Beta-315793)
13	fill 2124 pit 2077	?Maloideae	11	
		indeterminate	26	compressed, high reflectivity, size and preservation
		indet. twig	1	cortex and pith present; brown in colour, not charred
		?*Quercus* or *Castanea*	3	
		?*Prunus*	1	
		Quercus	1	

Table 9 (cont'd)

14	fill 2131 pit 2010	*Quercus* or *Castanea*	8	heart wood with tyloses
		indeterminate	17	small size
		Quercus	2	heart wood with tyloses

Table 10: Summary of the taxonomic identity of charcoal

Family	**Subfamily/*Genus***	**Common name**	**Roman features**	**Bronze Age pits**
Betulaceae	*Alnus* sp.	alder	?	
	Corylus avellana	hazel	✓	
Fagaceae	*Quercus* sp.	oak	✓	✓
	Castanea	sweet chestnut		✓?*
Rosaceae	Maloideae			?
	Prunus sp.	cherry	✓	?
Saliceae	*Populus* sp.	poplar	✓?*	
	Salix sp.	willow	✓?*	
Sapindaceae	*Acer campestre*	field maple	✓	

Discussion

Bronze Age pits

The quantity of material derived from the Bronze Age pit samples is much lower relative to the burnt deposits even though the number of samples is greater. Moreover the taxonomic diversity is also much lower. Oak (*Quercus*) and sweet chestnut (*Castanea*) appeared to be the most frequently encountered taxon but the small fragment size prevented the distinction between these two taxa. It is often difficult to separate oak from sweet chestnut, and poplar from willow, if certain key anatomical characters are obscured or badly preserved. Sweet chestnut is thought to have been introduced to Britain by the Romans and if this is indeed the case then the taxon encountered in these Bronze Age pits would, therefore, be oak or else the whole of the Bronze Age pottery assemblage is residual amongst Roman fills. Possible *Prunus* (plum, cherry, blackthorn etc) and wood with affinities to the maloideae (apple, pear etc.) were also recorded. Some of the woody fragments are not obviously charred, suggesting a different source from the charcoalified fragments or they were exposed to a lower temperature (<300°C) whilst other woody fragments had been subject to much higher temperatures (Braadbaart and Poole 2008). Most of the material is indeterminate due to its small size.

Burnt deposits

Sample 6, derived from the remains of fire pit 2016, yielded a vast quantity of relatively well preserved charcoal fragments with 91% identified as oak. These fragments were all pieces of heartwood and tyloses were frequently noted, making them unsuitable for radiocarbon dating. One possible oak twig, however, is probably suitable but similar twig wood was scarce. No evidence of hazel (*Corylus*) wood was encountered although nut shell fragments had been found during assessment.

Sample 7, from a large dump of fire-cracked flint within the boundary ditch, was taxonomically diverse with six possible different taxa recognised including; poplar/willow (up to 20%), hazel (12%), maple/sycamore (12%), possible oak (6%), possible alder (1%) and *Prunus* (2%). Within this sample some of the material, such as rootlets, were brown and seemed relatively uncharred, which may be more recent fibrous roots and are therefore unsuitable for suitable for radiocarbon dating. The charcoalified twig wood, however, would be more suitable and is more likely to be of antiquity.

Conclusion

A total of three taxa were identified from the Bronze Age samples and at least six taxa from the burnt deposits. The fragments are generally small in size and in low quantities with the exception those from fire pit 2016, where relatively well preserved large fragments of oak were identified. The abundance of oak in this sample suggests that it was probably an important local source of fuel. The greater taxonomic diversity found amongst the fire-cracked flint in ditch 2008 demonstrates that the debris was derived from a source other than fire pit 2016. The small size of fragments from Bronze Age pits indicate that the material may be from scattered or wind-blown debris. The *Quercus*/*Castanea* wood type is present in the majority of these samples.

6.4 Radiocarbon dating by Jim Brown

Table 11: The radiocarbon determinations

Laboratory & sample no.	Context	Sample details	C13/C12	Conventional radiocarbon age BP	Cal BC intercept 68% confidence **95% confidence**
Beta-315792 BEN11-2036	ditch 2008 fill 2036	charcoal (twig) <0.5g	n/a	2860±30	1050-1000 Cal BC **1120-930 Cal BC**
Beta-315793 BEN11-2083	pit 2073 fill 2083	roundwood (twig) <0.5g	-29.7	±	modern, post-1950
Beta-317397 BEN6-2017	fill 2017 fire-pit 2016	Charcoal Quercus heartwood 2g	-24.7	1190+/-30	840 Cal AD 780-890 Cal AD **770-900 Cal AD**
Beta-317398 BEN9-2097	pit 2062 fill 2097	Charcoal Quercus heartwood 0.4g	-23.7	5130+/-40	3960 Cal BC 3970-3940 Cal BC **3990-3910 & 3880-3800 Cal BC**

Laboratory: Beta Analytic, Miami, Florida, USA
Calibration: INTCAL09 Radiocarbon Age Calibration

Four samples were chosen, based upon the recommendations of the charcoal analysis, for radiocarbon dating. Since the overall quantity and quality of the charcoal/charcoalified wood was generally poor, a limited quantity was suitable for scientific dating. The level of Roman disturbance was high, and it was therefore desirable to attempt to confirm the Bronze Age date of features despite their

association with prehistoric materials; fire-cracked flint in ditch 2008, charred hazelnut fragments in fire pit 2016 and pottery in two seemingly undisturbed pits.

Material was selected from pits 2073 and 2062, recovered from a depth of 1.70m and 1.42m respectively, which was associated with Beaker and post-Deverel-Rimbury prehistoric pottery fabrics. The partially charcoalified wood twig from pit 2073 has returned a modern date and it is unclear how the wood became part of the sample or if it may have been a piece of dark mineralised root. By stark comparison the oak heartwood charcoal from pit 2062 is of Neolithic date, which whilst earlier than all of the other material in the pit, fill 2097 remains chronologically consistent with the stratigraphy of those other finds.

A fully burned twig from ditch 2008 is of late Bronze Age date, amongst charcoal associated with the fire-cracked flint deposit, 2036. This confirmed a prehistoric origin for the northern side of a possible enclosure extending to the south of the site. Despite the probable bank having been levelled off in a later period, the dump of burnt stone lay undisturbed within the ditch fill.

Fire pit 2016, which was observed during machine preparation of the excavation area to cut the bank levelling deposit, 2002, has returned an 8th to 10th-century, middle to late Saxon, date.

7 DISCUSSION

Interpreting the pits with confidence is problematic. The sheer depth and narrow basal aperture sets these features apart. To excavate these with the technology available during prehistoric times would have been a massive and highly risky undertaking, which could not have been undertaken without shuttering, a task that would have been impossible in the narrowest pits. The natural substratum below the sand and gravel is chalk, which was not reached at the base of pits 2010 and 2077. Extraction of anything other than the sandy clay drift deposit is unlikely, which could have been achieved without digging deep pits. The topography of the site is on the top of a valley-side spur, which is why the modern water table was not reached, and this would probably have been true 4000 years ago. The use of the pits as wells is therefore improbable. Another explanation has therefore been sought from published examples.

Deep Bronze Age pit shafts have been excavated at Chieveley, West Berkshire (Mudd 2007, 17-26). The main shaft that was investigated was 4.0m wide at the top of the weathering cone, which sloped at 45°, and then at 2.0m depth dropped into a vertical side that was 2.5m wide by 3.0m deep. Other smaller shafts were also examined nearby in the region of 1.60-1.80m wide by 1.75-2.30m deep. Examples from other parts of the country, also overly the chalk bedrock and have been excavated at Eaton Heath, Norfolk (Wainwright 1973; Healy 1986); Wattisfield, Suffolk (Bamford 1982); Fort Wallington, Hampshire (Hughes and ApSimon 1978); Cannon Hill, Maidenhead (Bradley *et al* 1976) and Street Farm Brampton, Norfolk (Healy 1983). A further example from Stansted Mountfitchet, Essex, was dated to the late Iron Age (Mason and Morris 2008, 4, fig 3). At Chieveley it was considered that the shafts were the product of natural solution hollows in the underlying chalk, dragging the softer sandy drift deposits down from above, producing deep pits, and collecting material from activity in the area over an extended period of time (Mudd 2007, 86). This would add further explanation to the long chronology of datable materials at Sacombe Road, Bengeo, in addition to the evidence of Roman levelling.

The pits are thought to have been the focus for prehistoric activity, but it is unclear it they were ever 'open' to their full extent and it has been surmised that natural openings into the earth would have attracted the attention of prehistoric ritual activities. There is no evidence at Bengeo to support the notion of ritual deposition that might otherwise lend credence to conceptual ideas like passages into the underworld. The contents of the pits demonstrate only the accumulation of Bronze Age and later materials within their stratum. Given the argument for solution hollows, we cannot even be sure that these shaft-like pits truly represent cut features.

The close proximity of a possible late Bronze Age ditch and bank enclosure may indicate occupation at the site, and would have been a source for the pottery retrieved amongst the pits. The large dump of fire-cracked flint in the boundary ditch which was radiocarbon dated, *c*1120-930 cal BC, tallies well with the type of deposits associated with burnt mounds, but more generally interpreted as the left over residue and waste product from the heating of large quantities of water. Whilst this deposit does not constitute a burnt mound, it is likely to be the product of similar technology and this implies that the possible enclosure may have been the focus of such activities requiring hot water. Deposits of fire-cracked flint were created when cool, suggesting their deposition was separate to their heating and use. Suggestions for these deposits vary from saunas (Butterworth and Lobb 1992, 90) to roasting meat (Bowsher 1991, 17). Some authors even suggest an association with textiles (Jeffrey 1991) or brewing and leatherworking (O'Drisceoil 1988, 671). The occurrence of pits or spreads suggests a technological uniformity of role which may be misleading as they may be the product of more than one process (Hodder and Barfield 1991). What is of clear significance at Bengeo is that a significant amount of work took place in close proximity for this deposit to have been disposed of within the boundary ditch.

The subsequent abandonment of the site throughout is quite distinct. There is no artefactual material deposited during the Iron Age, and if the pits were the product of solution hollows, then we might at least expect some stray finds. Roman activity would have required some significant work to flatten off any surviving bank and to level up the hollows in the ground, and whilst a possible ditch for a native style roundhouse was excavated, no obvious settlement appears to have been associated with it and evidence for an actual structure was absent. The other Roman ditches were roughly parallel, extending eastward, and seem to be elements of a wider network of enclosure. The manner in which the ditches terminated, towards the end of the Bronze Age bank, further supports the idea that a remnant topographical feature had existed, which may have been reused for a time prior to its levelling. The levelling of the earthwork, any hollows, and the filling of the Roman ditches could well have transpired at similar times. Evidence for silting of the Roman ditches was fairly limited, and where present could only be defined at the base of features, the upper fills were seemingly deliberately deposited. Clearance activity may have taken place toward the end of the use of the Roman ditches, since these did not differ greatly in the date of their artefactual content from that of the levelled areas. The effort involved in clearance and filling of ditches probably indicates a change in land use from a landscape requiring enclosure, towards one requiring larger areas of level ground, rather than abandonment.

The isolated middle to late Saxon fire pit cut levelling material from the prehistoric bank. Any earthwork had ceased to exist by this time and a general lack of furrows indicates that cultivation did not extend over this area of ground. The fire pit represents a single event, peripheral to local settlement.

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