Archaeological excavation, recording and analysis on land at Pineham Barn, Upton Sites SMS 1 and SMS 2 Northamptonshire

Report number: 18/99

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Illustrator: Olly Dindol

Project Managers: Rob Atkins and Anthony Maull

Site codes: PBN06

NGR: SP 4713 5845

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OASIS REPORT FORM

PROJECT DETAILS	**OASIS number: molanort1-326984**	
Project title	Archaeological excavations on land at Pineham Barn, Upton, Sites SMS 1 and SMS 2, Northampton	
Between July 2006 and January 2007, Northamptonshire Archaeology, now trading as MOLA, carried out an archaeological strip, map and sample (SMS) investigation on land at land at Pineham Barn, Upton. Archaeological remains dating to the Bronze Age, Iron Age and the Roman periods were present. The Bronze Age activity comprised a ring ditch, presumably a ploughed out barrow. A largely unurned middle Bronze Age cremation cemetery comprising 13 pits lay 100m to the south of it. During the early Iron Age field systems were established which were replaced during the later Iron Age by a more substantial ditched enclosure system that contained a sequence of roundhouses and associated pits. Elements of an early Roman enclosure system was situated some distance to the west, which was the continuation of a substantial Roman settlement located to the south in a previous excavation. A moderate assemblage of Bronze Age and Iron Age pottery was retrieved.		
Project type	Excavation	
Previous work	Desk-based assessment (JSAC 1998) Geophysical surveys (GSB 1999, 2001), fieldwalking (NA 2002) evaluation trenching (Buteux and Jones 2000)	
Future work	Unknown	
Monument type and period	Bronze Age ring ditch and cremation cemetery, Iron Age enclosures and roundhouses, Roman field system	
Significant finds	Bronze Age and late Iron Age pottery	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Land at Pineham Barn, Upton, Northamptonshire	
Easting & northing	SP 4713 5845	
Area	*c*14ha	
Height OD	66m- 72m aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology/ MOLA (Northampton)	
Project brief originator	Under Construction Archaeology (2005)	
Project Design originator	Northamptonshire Archaeology (NA 2006)	
Director/ Supervisor	Jim Brown	
Project Managers	Rob Atkins and Anthony Maull	
Sponsor or funding body	ProLogis Development Ltd	
PROJECT DATE		
Start date	July 2006	
End date	January 2007	
ARCHIVES	Location	Content
Physical	MOLA Northampton PNB06	Bronze Age, Iron Age and Roman pottery, animal bone, human bone, flint, small finds, plant seeds
Paper		Proforma sheets, plans, sections, black and white contact sheets, colour slides and digital photograph contact sheets
Digital		Report, map and site data, digital images
BIBLIOGRAPHY		
Title	Archaeological excavations and recording and analysis on land at Pineham Barns, Upton, Sites SMS 1 and SMS 2, Northampton	
Serial title	18/99	
Author(s)	Tracy Preece	
Page numbers	72	
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Archaeological excavation, recording and analysis on land at Pineham Barn, Upton, Northamptonshire

Abstract

Between July 2006 and January 2007, Northamptonshire Archaeology, now operating as MOLA (Museum of London Archaeology), undertook an archaeological strip, map and sample (SMS) investigation on behalf of ProLogis Development Ltd, at Pineham Barn, Upton, Northampton. It comprised two areas of investigation; SMS 1 and SMS 2. SMS 1 was located on the north-west side of the site and placed to identify any evidence of a former Second World War bomb decoy instillation. SMS 2 was located to the south-east of SMS 1 and was between two settlements; Settlement 1 dating to the middle Iron Age and Settlement 2 dating to the Roman period, the latter having been previously excavated.

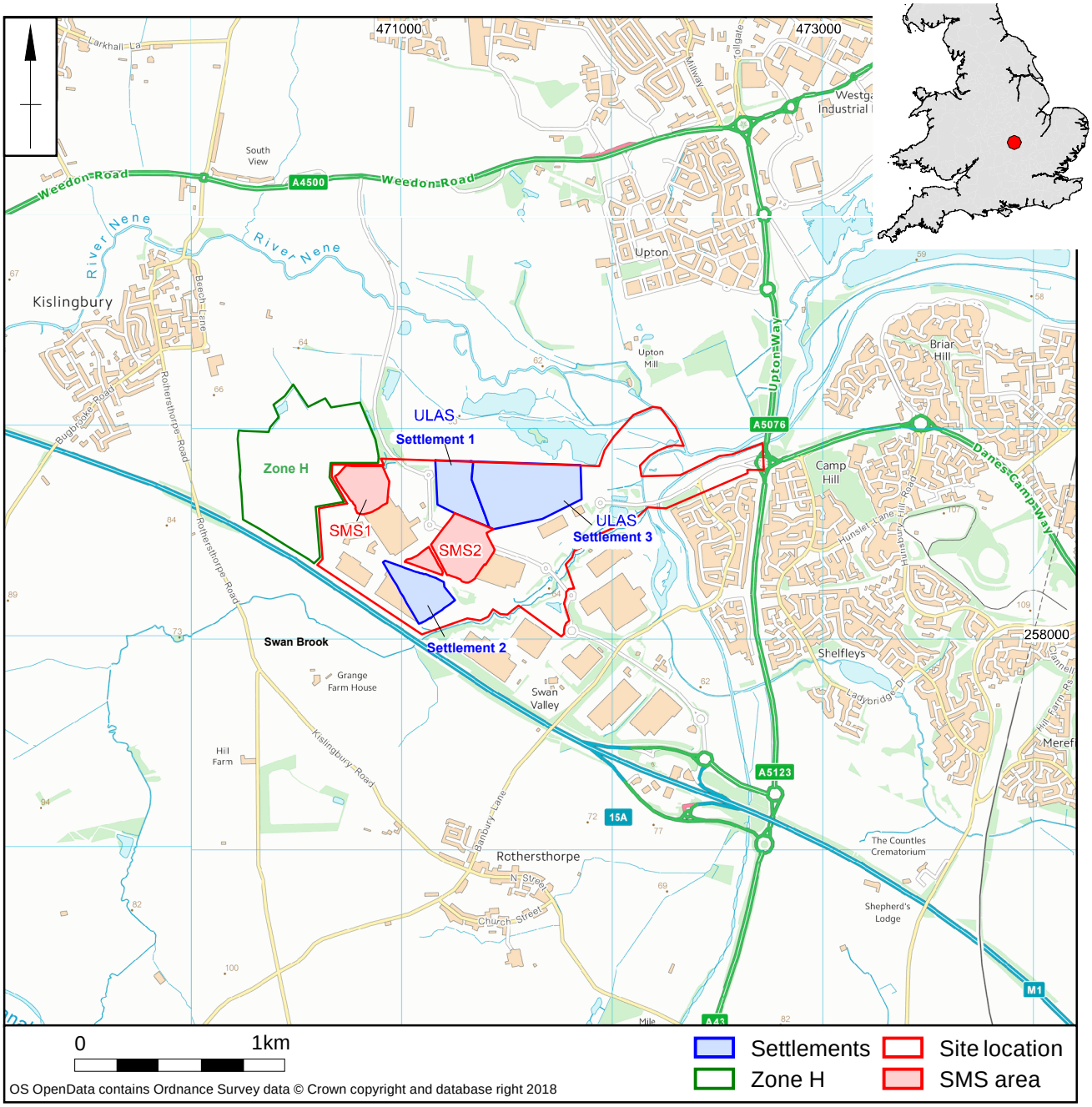
The SMS 1 investigations uncovered enclosure ditches and pits thought to date to the early Iron Age. No features were attributed to the Second World War. The investigations within SMS 2 revealed more extensive archaeological remains comprising early Bronze Age pits, a ploughed out barrow and a middle Bronze Age cremation cemetery of 13 pits of which only two were urned associated with a post alignment. Enclosure systems established in the early Iron Age were replaced during the late Iron Age by a more substantial system containing a sub-square farmstead with an internal sequence of roundhouses with associated pits, gullies and postholes. These enclosures formed part of a larger settlement to the north which suggests a possible polyfocal settlement. Remnants of an outlying Roman field system were identified some of which were a continuation of those investigated in Settlement 2 to the south.

1 INTRODUCTION

Northamptonshire Archaeology, now trading as MOLA, carried out a process of strip, map and sample (SMS) excavation on behalf of ProLogis Developments Ltd prior to the construction of industrial and distribution areas at Pineham Barn, Upton, Northampton (NGR 4713 5845). Under Construction Archaeology (UCA) acted as consultants for the project.

An initial desk-based assessment identified the potential for remains dating to the Iron Age and Roman periods within the development area (JSAC 1998). Subsequent geophysical survey, undertaken by GSB Prospection (GSB 1999 and 2001), located three areas of archaeological activity (Settlement 1-3). These areas were further investigated through a programme of fieldwalking (NA 2002) and trial trench evaluation (Buteux and Jones 2000; NA 2005) which identified two settlements dated to the Iron Age (Settlement 1) and Roman (Settlement 2), the latter has since been excavated (Carlyle 2006). There was also the possibility for remains of a World War II bomb decoy instillation (NSMR 5088/01).

Two areas of SMS were undertaken, one to the north-west of the site (SMS 1) in the vicinity of the former bomb decoys and the other to the south-east (SMS 2) where the Iron Age Settlement 1 was located (Fig 1).



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Site location Fig 1

2 BACKGROUND

2.1 Location and topography

SMS 1 and SMS 2 were both located on arable fields in the south-east part of Kislingbury parish, between Upton and Kislingbury, Northampton, to the north of the M1 motorway (Fig 1). SMS 1 covered an area of *c*4.3 hectares and was situated on level ground at *c*66m above Ordnance Datum. SMS 2 comprised large parts of three fields covering *c*9.8 hectares between Settlement 1 in the north-west and Settlement 2 in the south-east. The topography changed from a relatively level hilltop occupied by Settlement 1 at *c*72m above Ordnance Datum to a gentle slope that fell away to the south and west towards the flood plain of the Swan Brook (Fig 2). The height was *c*70m above Ordnance Datum where it met the north perimeter of Settlement 2.

2.2 Geology by Steve Critchley

Soils on the site changed considerably with the topography (Fig 3). The area of SMS 1 and the north-east portion of SMS 2 contained soils of the Wick 1 (541r) soil association, comprising deep, well-drained coarse loamy brown earths typical of the Wick series and intermixed with gleyic brown earths of the Arrow series and the brown sands typical of the Newport series (SSEW 1983). To the south-east of SMS 2, in the area of the flood plain, the soils were of Denchworth (712b) association. Soils on the higher slopes to the west of SMS 2 belonged to the Hanslope (411d) series.

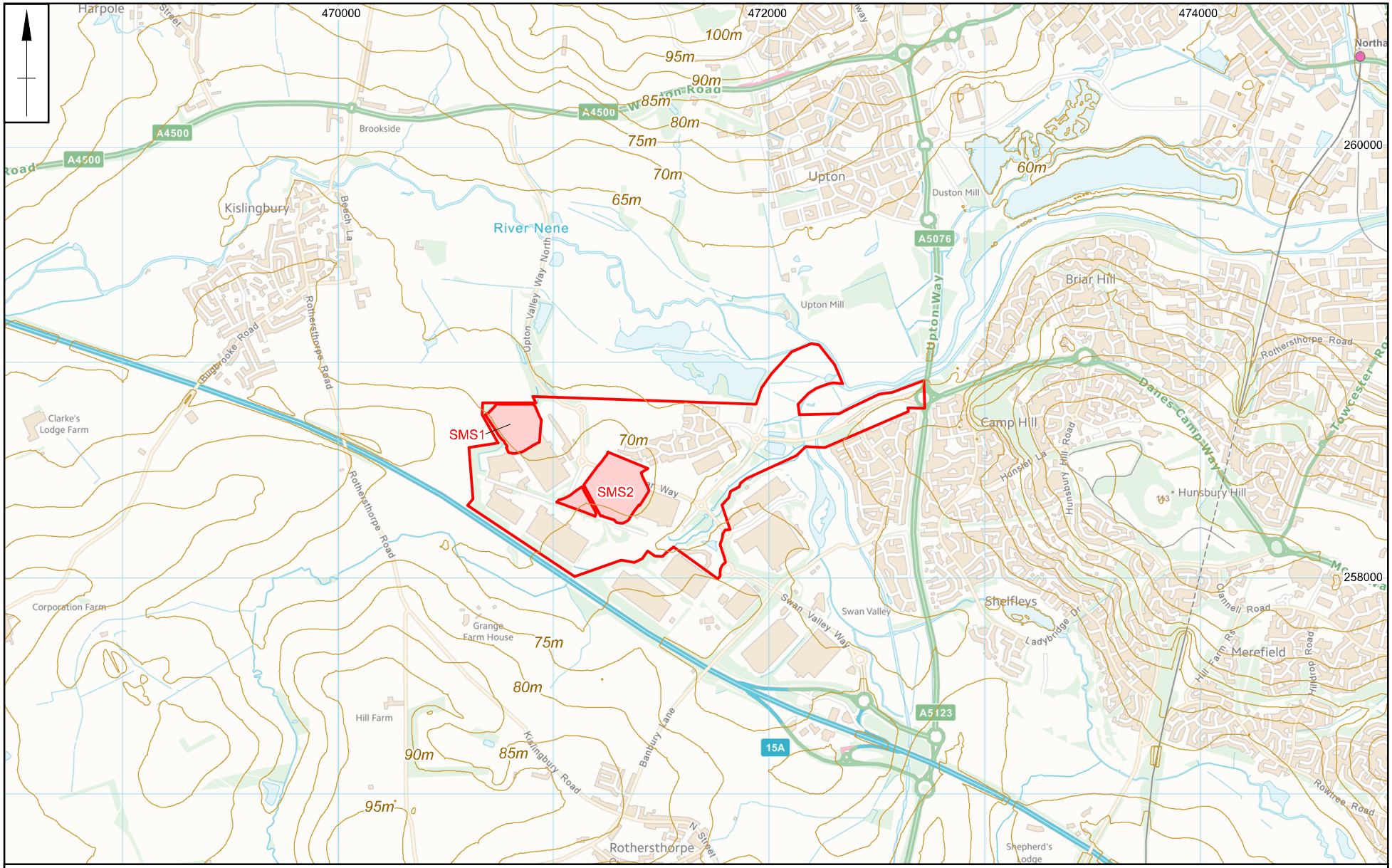
The drift geology was equally varied. In the majority of the area the soils had developed over the Jurassic Middle Lias Silts and Clays; the surface of which had been modified by periglacial action. On the hilltop to the east they overlay heavy silty clay gravels, deposited during the Anglian glaciation, on top of the Jurassic Middle Lias Silts and Clays. As a result there was a high level of water retention within the silty clay gravel and poor drainage despite the hilltop location.

2.3 Historical and archaeological background

The investigation areas lie in a rich archaeological landscape and several other archaeological investigations and finds have been made in the immediate vicinity. The open area excavation of Settlement 2, a multi-phase Iron Age and Roman settlement was undertaken in 2006 by Northampton archaeology, now MOLA (Carlyle 2006) (Fig 1). Settlement 3 and parts of Settlement 1 were investigated by University of Leicester Archaeological Services (ULAS) in 2014-2015 (Harvey and Speed 2016). In 2015-2016 a further investigation was undertaken at Pineham Expansion Zone H which identified Iron Age, Roman and Saxon features (Simmonds 2017). In addition, to this there have been several other discoveries close to the site spanning the prehistoric to Saxon periods.

Neolithic

To the north, a causewayed enclosure at Briar Hill would have dominated the landscape (Bamford 1985). Several pits were identified at Upton (Muldowney 2014) and over 20 pits were identified immediately to the east at the ULAS investigations (Harvey and Speed 2016) some of which contained Neolithic pottery as well as worked flints. Residual scatters of worked flint assemblages were found at the Settlement 2 excavations (Carlyle 2006).



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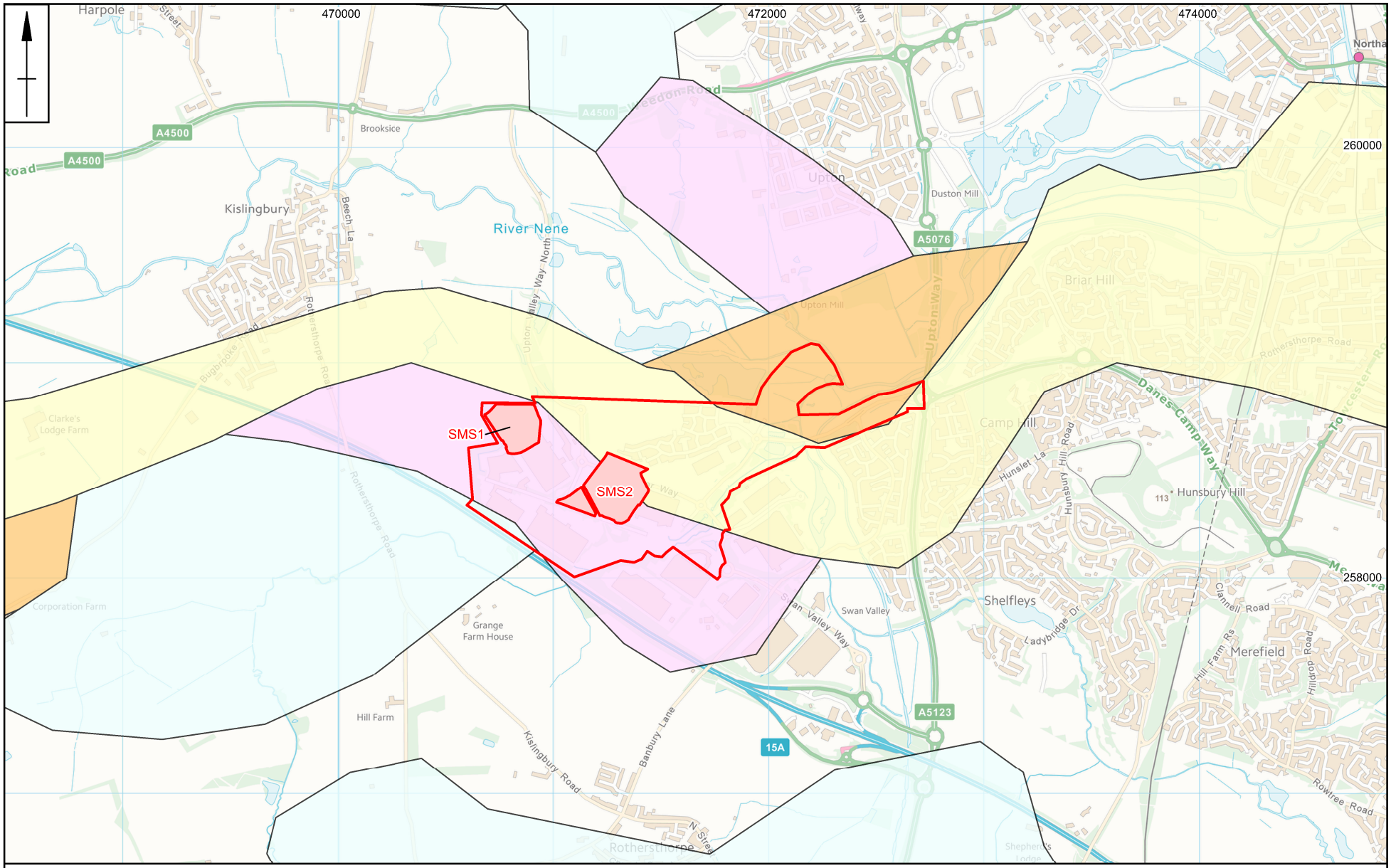
Site topography Fig 2



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Site geology Fig 3

Bronze Age

Four pit alignments thought to have originated in the late Bronze Age along with associated ditches were investigated at the Zone H Pineham Expansion Zone in 2015-16 located to the north-east (Simmonds 2017) (Fig 4). Other pit alignments have been identified parallel to the River Nene and its tributaries, the most notable of which was an east to west line recorded at Upton (Walker and Maull 2010), Quinton House School (Foard-Colby and Walker 2010) and near the A45 (Carlyle 2010).

Iron Age

The area was extensively settled in the early to middle Iron Age with Hunsbury Hillfort *c*2.5km to the east dominating the local landscape. Dating to the early- middle Iron Age it is thought to have been abandoned by the late Iron Age. Several settlements have been excavated in the vicinity such as Briar Hill (Bamford 1985) and Wootton Hill Farm (Jackson 1989). There are also lower lying sites to the west of the Hunsbury Ridge at Swan Valley (Holmes and Chapman 2005). More recent investigations include Iron Age settlements at Upton (Walker and Maull 2010) and Quinton House, Upton (Foard-Colby and Walker 2010) which identified Iron Age enclosures and associated roundhouses and ditches (Fig 4). Several of these settlements show continuation of use throughout the Iron Age, Roman and Saxon periods.

Located immediately to the south, the 2006 Pineham excavations revealed a late Iron Age settlement comprising roundhouses and pits that was followed by substantial Roman rectilinear ditched enclosures (Carlyle 2006). Adjacent to the north the continuation of Settlement 1 was investigated in 2014 by University of Leicester Archaeological Services (Harvey and Speed 2016).

Roman

The Roman town of Duston lies 2km to the north-east of the area which was located at a junction of roads from *Bannaventa* and *Lactodorum* (Towcester) and may have been a regionally important trading zone as well as the commercial and agricultural centre for the area. The Roman town is thought to have ceased to have been in use sometime in the 4th century. The town had extra mural settlement on its western side comprising enclosures, trackways and boundary ditches (Walker and Maull 2010; Muldowney 2014). A small enclosed area of industrial and grain processing activity was also present.

To the south, the extensive Roman settlement (Settlement 2) had multiple ditched enclosures with evidence for maintenance and modification, roundhouses and a T-shaped malting oven (Carlyle 2006). The settlement continued in use between the late 1st and early 3rd century AD and was seemingly abandoned during the mid-3rd century AD with an increase in activity in the later 3rd to later 4th century AD. To the north-east another Roman settlement was identified as part of Settlement 3 investigated by ULAS (Harvey and Speed 2016) which saw settlement activity from the 1st to 4th centuries AD and which continued to be utilised into the Anglo-Saxon period.

Saxon

The Zone H investigations identified inhumation burials as well as several enclosures dated to this period (Simmonds 2017). A Sunken Featured Building (SFB) was recorded during widening of the A45 with at least 60 loom weights (Jackson *et al* 1969). The remains of a timber building, of 6th to 7th century date, were recorded west of the church at Upton. Located close to Duston is an inhumation cemetery

dating to the mid 5th to mid 6th centuries AD (Brown and Flitcroft 2004). Less than 1km to the north of the development area, during flood attenuation works for CVLR, the tip of a hazel stake was recovered from a silted up palaeochannel of the River Nene (Carlyle 2010) (Fig 4). The hazel stake has been radiocarbon dated to the AD 7th to 8th century.

3 OBJECTIVES

The purpose of the mitigation was the preservation of the archaeological deposits by record and the programme of works provided the opportunity to examine the Iron Age and Roman settlement patterns. Specific research objectives drawn from the assessment report (Brown 2007) included:

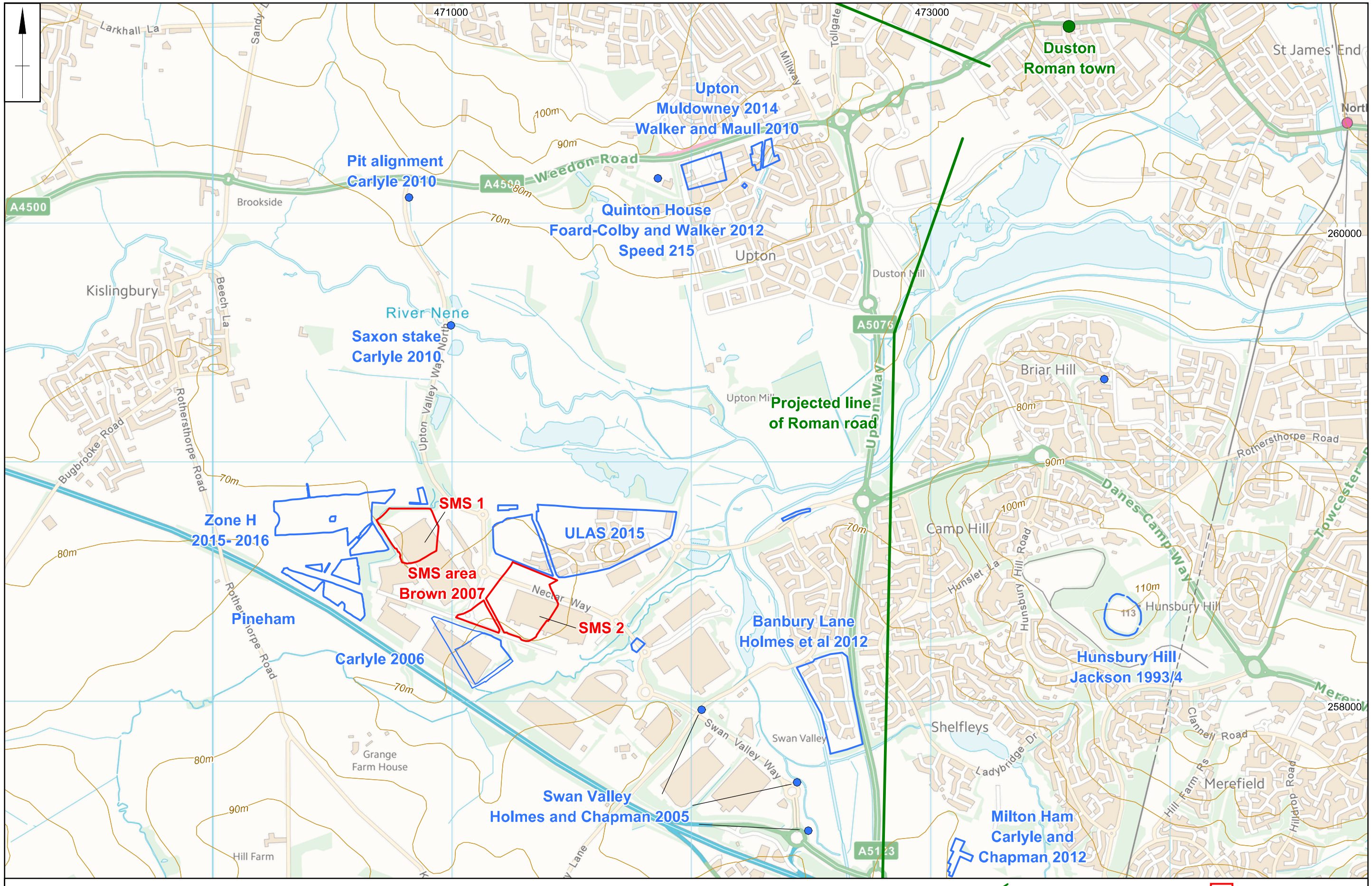
- Investigate the spatial extent, morphology and function of Iron Age and Roman activity at Pineham;
- Origin of and changes in settlement morphology and location and the form and function of Iron Age structures
- Refine understanding of the enclosure and field systems and their expansion and development in the Roman period;
- Define whether there is evidence for continuity or hiatus between the Iron Age and Roman settlements.

Further specific research objectives can be been drawn from national and regional research framework document (Knight *et al* 2012), in order to enhance our understanding of both the Iron Age and Roman activity identified within the area.

4 EXCAVATION METHODOLOGY

The mitigation strategy was set out in the Archaeological Management Plan issued by UCA (2005). The Project Design for Archaeological Works was prepared by NA in accordance with the management plan (NA 2006). The project was overseen by UCA on behalf of ProLogis Developments Ltd who were responsible for liaison with the Northamptonshire County Council Environmental Planning Officer who monitored the works. All works were carried out in accordance with the Chartered Institute for Archaeologists (then Institute for Archaeologists) *Code of Conduct* (2000; revised in 2010 and 2014) and *Standard and Guidance for Archaeological Excavation* (1999; revised in 2010 and 2014). All works conformed to English Heritage procedural documents *Management of Archaeological Projects 2nd edition* (1991) and *Management of Research projects in the Historic Environment* (2006) with their updated form under Historic England (HE 2006; revised as HE 2015).

The SMS excavations took place between July 2006 and January 2007. The overburden of topsoil and subsoil was machine excavated using 360 degree mechanical excavators under constant archaeological supervision. During the works a digital plan of all features and excavated sections was maintained by means of a Leica Viva Global Positioning System (GPS), although features were also hand planned to scale. All archaeological deposits encountered during the course of the excavation were fully recorded, following standard MOLA procedures (then standard Northamptonshire Archaeology procedures) (MOLA 2014). All deposits were given a separate context number. They were described on *pro-forma* context sheets to include details of the context, its relationships and interpretation.



Scale 1:15,000 (A3)

Major archaeological interventions Fig 4

5 EXCAVATION RESULTS

5.1 Site chronology

Archaeological remains were encountered in both the SMS 1 and SMS 2 areas. The archaeological remains in the SMS 1 area comprised enclosure ditches with associated pits (Fig 6). The known Settlement 1 within the SMS 2 area was the more extensive and included a ring ditch, roundhouses, enclosure and field ditches with associated pits and postholes (Fig 7).

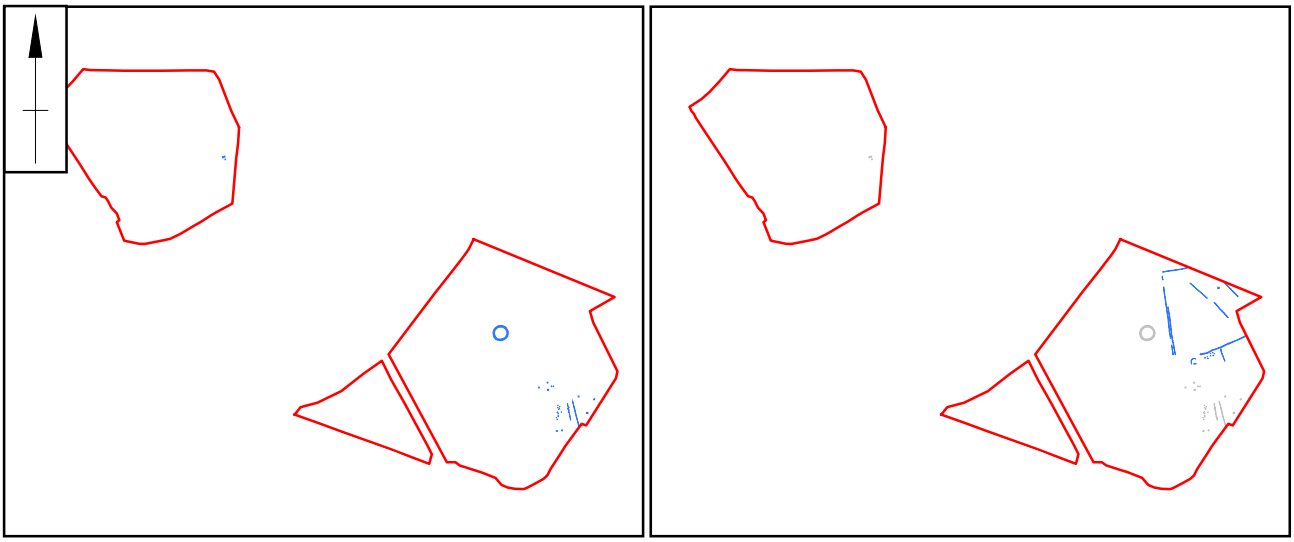
The general chronological development of the site is shown on Fig 5 and summarised in Table 1. The early prehistoric activity consisted of a Bronze Age round barrow, cremation cemetery and associated pits in the SMS 2 area while a cluster of pits in the SMS 1 area are dated to the Bronze Age. Early Iron Age activity comprised a large ditched enclosure in the SMS 2 area. The main phase of activity took place during the middle Iron Age with sequential roundhouses and ditched enclosures with associated pits and postholes. An outlying field system with remnants of enclosures, associated pits and an isolated cremation burial are assigned to the late Iron Age/Roman period. Further archaeological remains dated to this period in the SMS 1 area comprise enclosure ditches with associated pits and a cremation.

Table 1: Site chronology

Period	Description
Bronze Age (2000 BC to 700 BC)	Pits (SMS 1) Ring ditch (SMS 2) Cremations (SMS 2)
Early to middle Iron Age (700 BC to 200 BC)	Ditched enclosures (SMS 1 and 2) Postholes (SMS 1) Boundary ditches (SMS 1)
Late Iron Age (100 BC to 1st century AD)	Ditched enclosures (SMS 1) Settlement area (SMS 2) Ring ditches (SMS 2) Enclosures/ boundary ditches (SMS 2) Pits (SMS 2) Postholes (SMS 2)
Early Roman (1st century AD- 2nd century AD)	Enclosure/field ditches (SMS 2) Pits (SMS 2) Cremation (SMS 1 and SMS 2)
Medieval and post-medieval	Ridge and furrow (SMS 1 and 2)

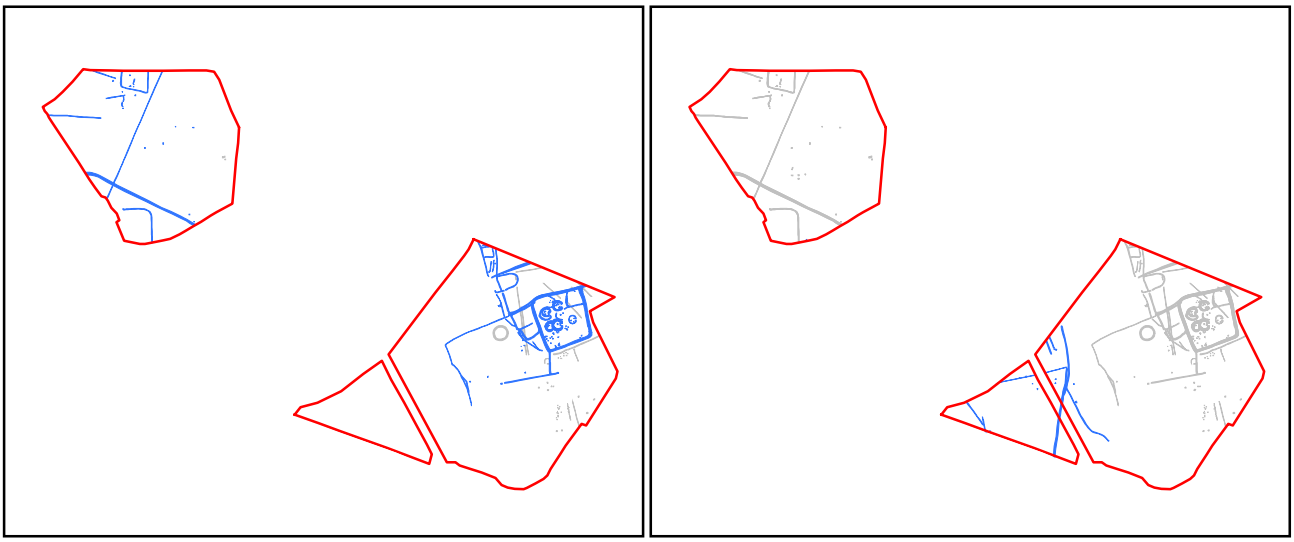
5.2 Phase 1: Neolithic

No archaeological features are assigned to this phase and it is represented by a small assemblage of worked flints dating to the Neolithic. A few of these flints were derived from the infilling of the Bronze Age ring ditch while the majority were residual in later features (see section 6.1).



Phase 1 - Bronze Age

Phase 2 - Early to middle Iron Age



Phase 3 - Late Iron Age

Phase 4 - Early Roman

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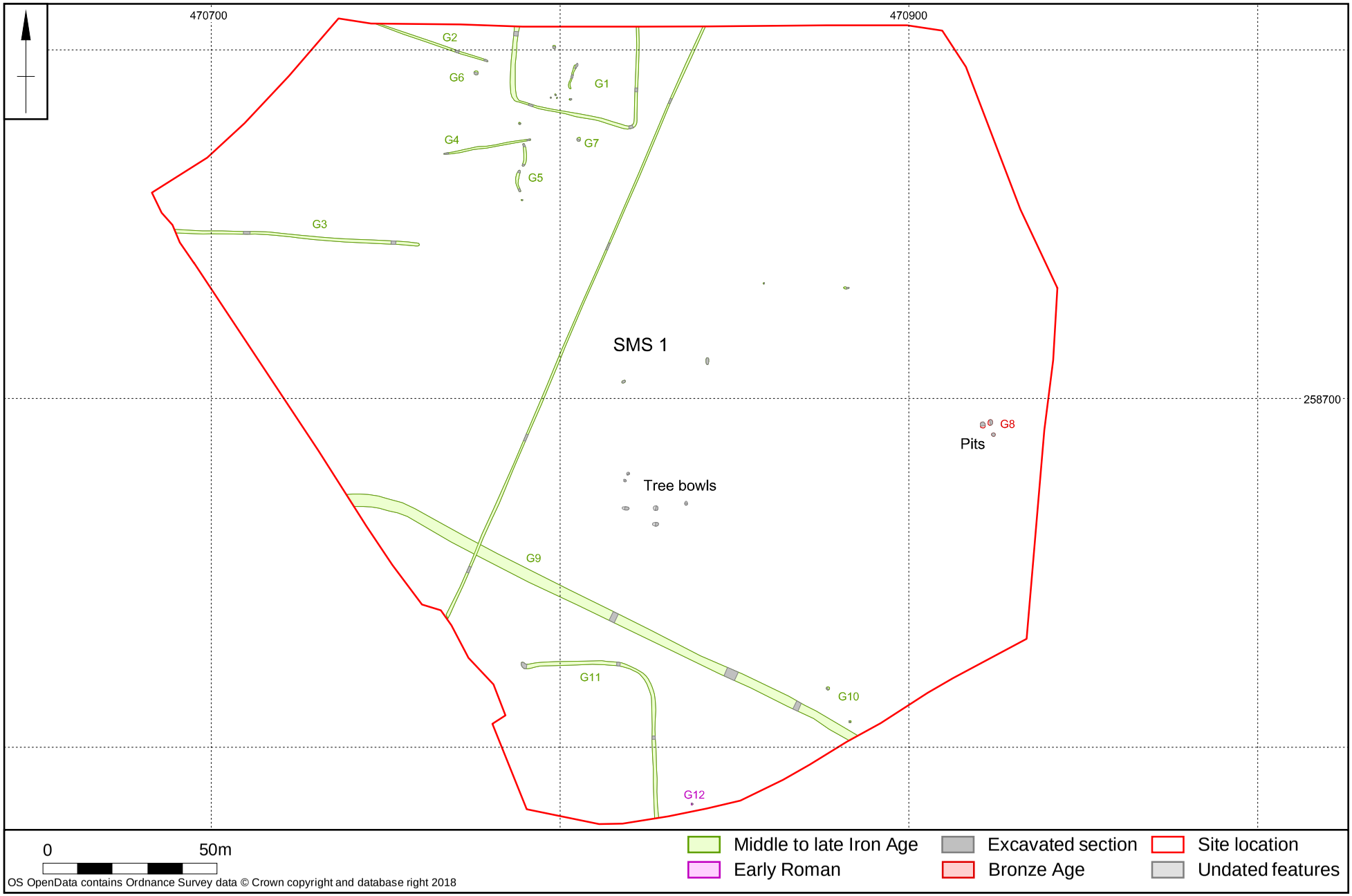
Phased development plan of the site Fig 5

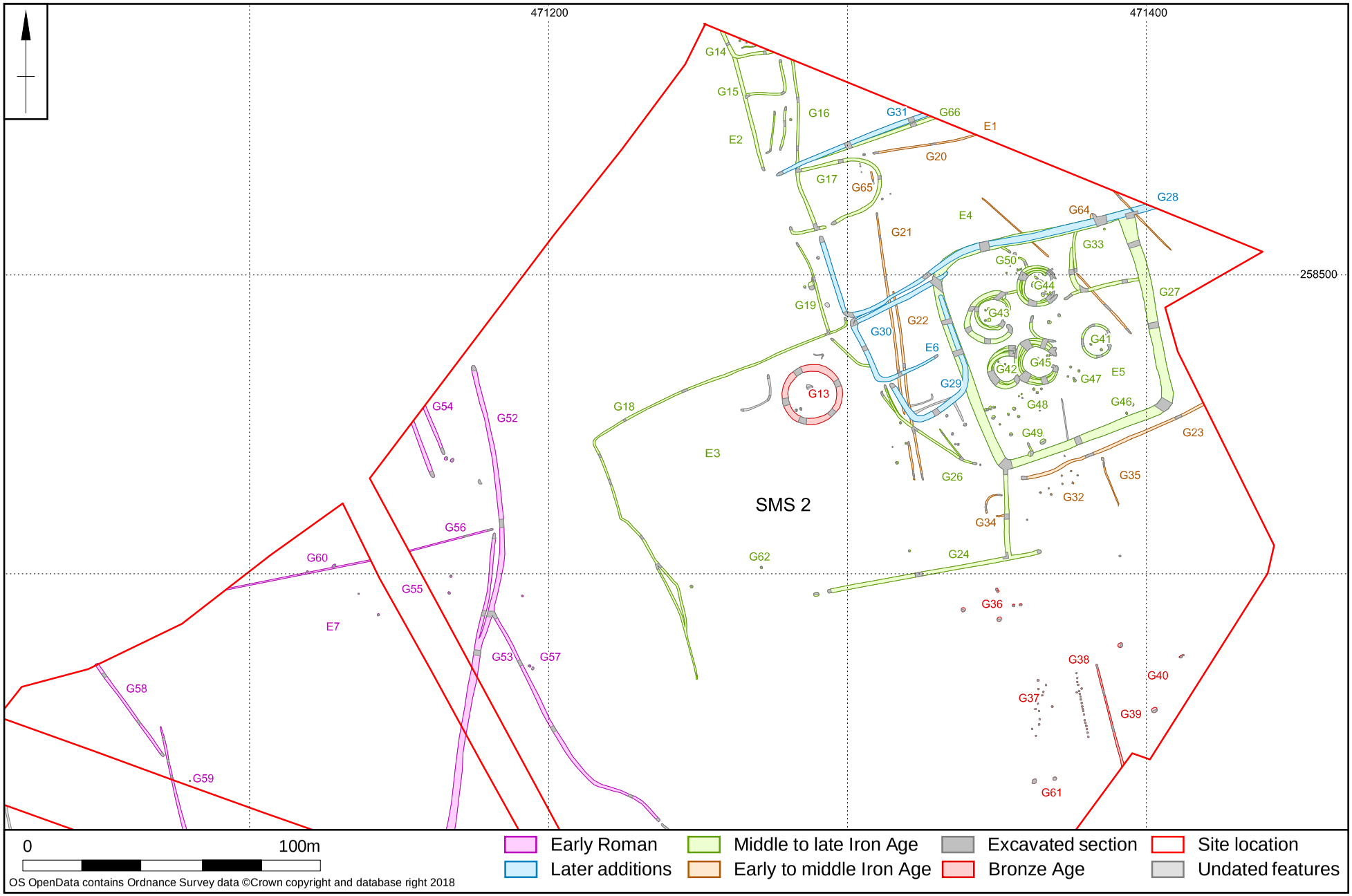
Scale 1:1500



Phased plan of SMS 1 area

Fig 6

Scale 1:1750



Phased plan of SMS 2 area

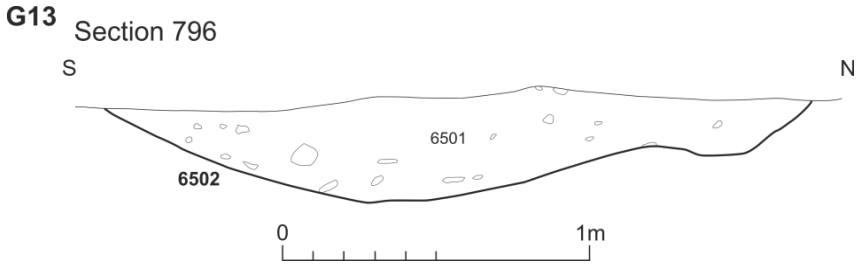
Fig 7

5.3 Phase 2: Bronze Age

In the SMS 2 area, the truncated remains of a ring ditch G13 was identified which appears to represent the remains of a ploughed out barrow (Fig 7). No pottery was recovered just a small assemblage of worked flints. Situated to the south of the barrow was a cremation cemetery G37 (Fig 7). It comprised 13 pits of which two contained evidence for middle Bronze Age urns. Several pits in the vicinity were also found to contain Bronze Age pottery. A cluster of three pits (G8) in the SMS 1 area (Fig 6) were identified and a radiocarbon date obtained from one of the pits

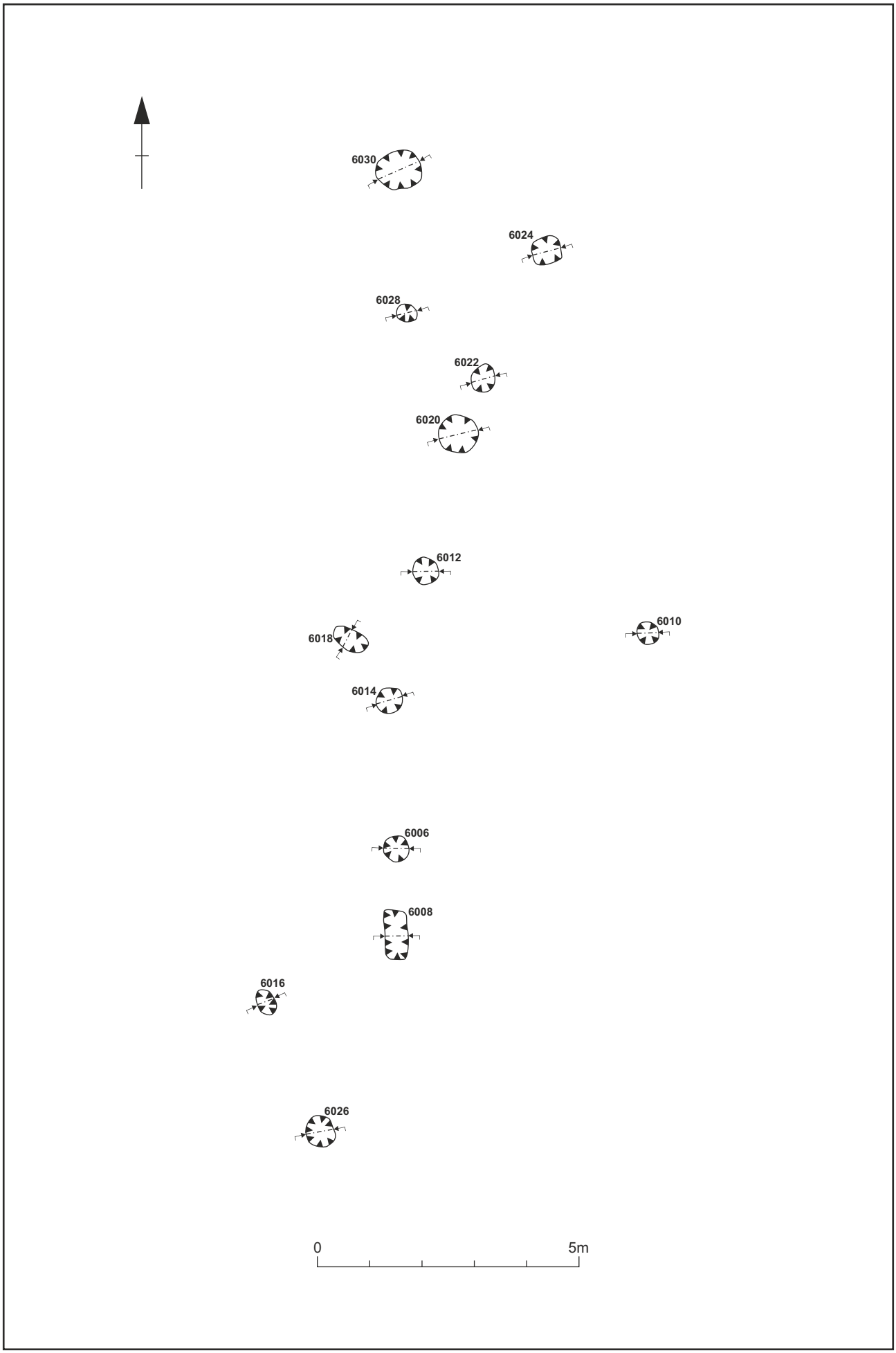
5.3.1 Ring ditch

A ring ditch G13 was located fairly centrally within the SMS 2 excavation area and comprised a continuous curvilinear ditch with no breaks for an entranceway (Fig 7). It probably represents the remains of a ploughed out round barrow, although there was no surviving evidence of burial or cremations. It is likely that any such material would have been deposited within a mound of earth or shallow feature, since destroyed. It was 20m in external diameter with an internal diameter of 15m. The ditch was between 2.0m and 2.50m wide with an asymmetrical concave profile and slightly concave base (Fig 8). It was more truncated on the south-west where it survived at a depth of 0.37m as opposed to the north-east side where the deeper sections occurred up to 0.65m deep. A mid orange grey sandy silt primary fill was identified in the deeper sections while the remainder was infilled with a mid grey brown sandy silt. There was no distinctive evidence for an internal or external bank observed in any of the excavated sections. No pottery was recovered from the ditch fills only two worked flint flakes.



Section of ring ditch G13, facing east Fig 8

Within the perimeter of the ring ditch were three internal pits, none of which produced any finds. One was located in the northern part while the other two were located 0.80m apart in the southern half. The northern pit was slightly offset from a central position and was sub-oval in plan, 1.30m wide and 0.20m deep with shallow concave sides and uneven base. The other two pits were circular in plan, *c*0.70m in diameter and up to 0.25m deep with steep sides and flattish bases. It is possible that perhaps the larger pit positioned just off centre may represent the remains of a ploughed out central grave cut but no human remains were found to support this. The pits were infilled with mid grey brown sandy silt that contained moderate charcoal flecks with no other finds recovered.



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Cremation cemetery G37 Fig 8

5.3.2 Cremation cemetery

Located 110m to the south of the barrow was cremation cemetery G37 comprising 13 pits (Fig 9). Six of these contained human bone and six contained burnt deposits with no human bone present (Table 2). One pit [6030] located at the very northern extent of the cremations contained Bronze Age pottery from two different vessels but no evidence for burnt deposits or bone. Only one other pit [6006] contained pottery sherds which comprised the remains of an upright vessel that would have contained the cremation deposit. The sherds consisted of the fragmented remains of the base of a middle Bronze Age urn. The cremation pits were aligned in a row approximately aligned north to south over a 20m distance. There appeared to be no obvious spatial layout between those that contained bone and those which did not. The majority comprised circular shallow concave pits ranging ranged between 0.21m to 0.70m in diameter and 0.04m to 0.24m deep. Two were rectangular or sub-oval in plan and tended to have steeper profiles and flatter bases while the others had shallow concave profiles and slightly concave bases (Fig 10).

They were infilled with dark black grey brown silty clay deposits. Soil samples were taken from the majority of the pits and contained small quantities of cereal grain, weeds and charcoal. Two radiocarbon dates were obtained from two of the pits both of which returned a result of between 1401-1226 BC, 3050 +/- 30 BP (Beta 505212/505214).

Cremation pit [6014] G37, looking north Fig 10

Table 2: Comparison of cemetery pits (G37)

Cut/fill	Shape in plan	Diameter	Depth	Profile	Finds
6030/6029	Circular	0.70m	0.15m	Shallow concave, slightly concave base	Pottery, small finds flint 611 and 612
6024/6023	Sub-circular	0.37m	0.09m	Shallow, slightly concave base	Charcoal and 32g burnt bone Sample 610
6028/6027	Circular	0.21m	0.03m	Shallow, slightly concave	Charcoal Sample 609
6022/6021	Circular	0.30m	0.06m	Shallow, slightly concave	Charcoal Sample 608
6020/6019	Circular	0.50m	0.24m	Steep sides Slightly concave base	Charcoal Sample 606
6012/6011	Circular	0.30m	0.08m	Shallow and slightly concave	Charcoal and 24g burnt bone Sample 603
6018/6017	Oval	0.40m	0.13m	Shallow concave, undulating	Charcoal and 25g burnt bone Sample 605
6014/6013	Circular	0.34m	0.08m	Shallow and slightly concave	Charcoal
6006/6005	Circular	0.25m	0.04m	Shallow and slightly concave	Charcoal and 67g burnt bone remains of pottery vessel base Sample 602
6008/6007	Rectangular	0.87m by 0.37m	0.11m	Steep sides, flat base	Charcoal and 609g burnt bone Sample 601
6016/6015	Circular	0.27m	0.04m	Shallow, slightly concave	Charcoal Sample 611
6026/6025	Circular	0.46m	0.07m	Shallow, slightly undulating	Charcoal Sample 607
6010/6009	Circular	0.35m	0.06m	Shallow, slightly concave	Charcoal and 10g burnt bone Sample 600

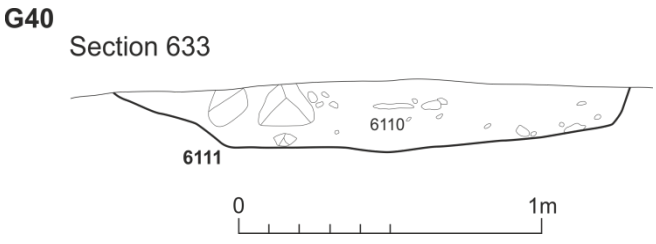
5.3.3 Post alignment

Immediately to the east of the cremation group was an alignment of 21 postholes G38 that formed a north to south aligned boundary 22m long (Fig 7). They were between 0.30m and 0.55m in diameter and 0.05m to 0.20m deep with steep sides and slightly concave bases. There was a gap of 1.50m just over halfway down presumably to allow access. A narrow ditch G39 was aligned parallel with the posthole alignment 8m on its eastern side and terminated to the north just beyond the northernmost posthole. It was at least 35m long as it continued beyond the southern excavation limit. The ditch was generally 0.50m wide and no more than 0.20m deep with steep sides and a flattish base and infilled with sterile grey-brown sandy silt.

5.3.4 Pits

A scatter of eleven pits lay in close proximity within 40m to the cremation cemetery. Six of the pits G36 were to the north, three G40, lay to the east and two G61 were to the south (Fig 7). Five of the pits contained Bronze Age pottery and all appeared to have been used for fires with the natural having been scorched *in situ* and burnt stones and charcoal were present in the infilling. The six sub-circular pits G36, to the north were located within an 18m area. They were between 0.70m and 1.30m in diameter and 0.16m to 0.30m deep all with similar concave profiles and flat bases (Fig 11). Pottery was found in two of them and they were all infilled with burnt deposits comprising charcoal mixed in with black grey clay silt. Pits G40 to the east of the cemetery were located over a 20m area and were sub-circular in plan, between 1.40m and 1.70m in diameter and 0.15m to 0.25m deep. All of the pits had similar concave profiles and flattish bases (Fig 12). They all contained burnt material comprising burnt clay, charcoal and burnt stones and one contained Bronze Age pottery. The southern pits G61 were located 5.6m apart. They were *c*1.20m in diameter and up to 0.20m deep with shallow concave sides and flat bases. They were infilled with dark black brown silty clay that contained charcoal and Bronze Age pottery from three different vessels.

Pit [6128] G36, looking south Fig 11



Section of pit [6111] G40, looking north Fig 12

5.3.5 Pits in SMS 1 area

Three pits G8 were situated close to the eastern excavation limit of the SMS 1 area within a 3m area. They were sub-oval or sub-circular in plan and between 1.10m and 1.6m long, 1.10m to 1.40m wide and 0.20m to 0.40m deep with shallow concave sides and flattish bases (Fig 13). They all contained quantities of large rounded burnt stones and charcoal packed heavily into dark black brown silty clay fill (Fig 14). One of the stones appeared to have a worn groove. A radiocarbon date obtained from cereal grains returned a result of between 1310-1157 BC, 3010 +/- 30 BP (Beta-505215).

Pits [5094] and [5096] G8 fully excavated Fig 13

Pit [5092] G8 half excavated Fig 14

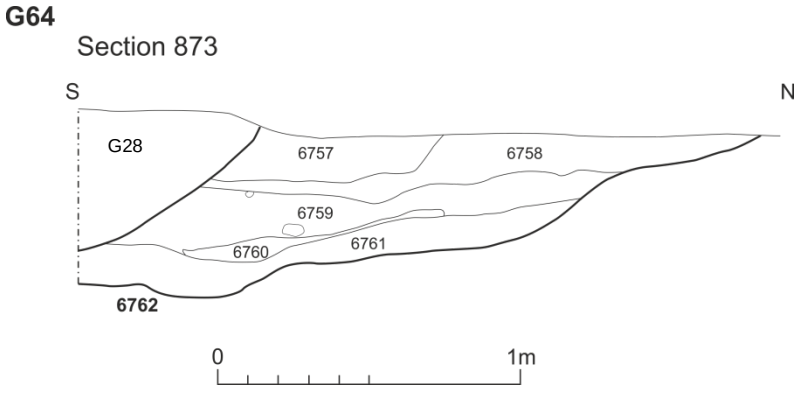
5.4 Phase 3: Early to middle Iron Age

This phase comprised a single large ditched enclosure identified in the SMS 2 Area that is assigned purely on stratigraphic evidence as it is truncated by subsequent ditched enclosures and is therefore earlier than the later Iron Age activity (Fig 7). Associated features include a ring gully possibly defining a roundhouse and a waterpit. A separate post structure maybe associated with the roundhouse.

5.4.1 Enclosure E1

Partly within the north-east area of SMS 2, ditches G20, G21, G22 and G23 defined a large enclosure E1 that was at least 120m long and 115m wide (Fig 7). Enclosure ditch G21 defined the western side and may have replaced an earlier ditch G22 on the same north to south alignment. It was not continuous as there were several breaks where it had been truncated by later ditches. To the north it would have joined perpendicular ditch G20 which defined the northern limit and continued beyond the eastern excavation limit. A southern limit was identified as ditch G23 which extended out from the eastern excavation limit. It appeared to terminate to the west perhaps creating part of a south-west corner entranceway along with the southern terminals of ditches G21 and G22. To the east was another section of ditch that may define the eastern limit. Parallel to this within the enclosure were two shallow gullies that may have had a drainage function. All of these ditches were relatively narrow and shallow measuring between 0.40m and 0.60m wide and up to 0.25m deep with concave profiles and bases. They were infilled with a sterile mid orange brown sandy silt that contained no artefacts. Sample 631 from ditch G21 produced less than 10 fragments of charcoal, one charred cereal grain and 29 seeds of wild plant species.

The only feature to be identified within the enclosure was a possible waterpit G64 located just *c*10m within the north-eastern site baulk. The waterpit G64 was located in the eastern part of the enclosure and was 2m in diameter and 0.65m deep. The pit had a sloping profile that was shallow on the north side and sloped downwards towards the centre suggesting that it may have originally functioned as a waterpit (Fig 15 - section 873). It was infilled with a sequence of fills comprising an initial mid grey-orange silty clay primary fill. This was overlain by a series of dumped material comprising dark black-grey silty clay with frequent charcoal inclusions seemingly tipped in from the north side suggesting it was later used for the disposal of waste material. Fragments of charcoal recovered from one of the upper fills have been radiocarbon dated to 768-476 cal BC, 2470 +/- 30 BP (Beta-505217).



Section of waterpit G64, looking west Fig 15

5.4.2 Ring gully

A curvilinear gully G34 was identified just outside the presumed south-west corner of enclosure E1. It was truncated by ditches assigned to the late Iron Age and may have defined a roundhouse with an internal diameter of 7m. The gully was between 0.20m and 0.30m wide and no more than 0.15m deep with a shallow concave profile. No internal features were identified and there appeared to be two openings within the gully, one to the north-east and another to the south-west though it is unknown if these were the result of truncation or genuine terminals defining entranceways.

5.4.3 Post structure

Two sets of postholes G32 were located 3.5m apart on the southern side of ditch G23 just 10m to the east of the ring ditch G34. They comprised three postholes arranged in a triangular position within a 3m area which were adjacent to a group of five postholes arranged in a circular pattern within a 5m area. The postholes were between 0.30m and 0.50m in diameter and survived between 0.05m and 0.20m deep. The deeper postholes had steep sides and flattish bases whilst the shallower ones had the flattish bases though survived with more concave sides. Together these posthole groups may have defined a small structure associated with the adjacent roundhouse G34. Located 10m to the east of the postholes was ditch G35 which may have defined an eastern boundary limit to this activity. It was aligned north-west to south-east for 15m with a terminal to the north and it petered out to the south. It was *c*0.35m wide and no more than 0.10m with shallow concave sides and base. A sub-circular pit 1.10m in diameter and 0.40m deep was adjacent to the north terminal of the ditch which may have functioned as a storage pit as it had steep, near vertical sides and a flat base. Although no datable artefacts were recovered its proximity to the ring ditch G34 and ditch G23 would suggest that it may have been contemporary.

5.5 Phase 4: Late Iron Age

Activity intensified during this phase with a more substantial enclosure system being established to replace the earlier enclosure E1 (Fig 7). Two large enclosures were located to the south while to the north were a series of smaller enclosures. Enclosure E5 was the main focus of domestic activity as it contained several ring ditches defining a sequence of roundhouses. The majority of the pottery was recovered from the ring ditches with smaller quantities from the main enclosure ditch. A date in the earlier part of the late Iron Age is given by the pottery assemblage for this activity. A small assemblage of animal bone was recovered from several of the ring ditches and surrounding enclosure ditch.

Adjacent to the enclosures western side was another large, open enclosure E3. To the north were a series of smaller enclosures E2 and E4. Several of the ditches defining these northern enclosures were identified in the ULAS excavations to the north-east being a direct continuation of Settlement 1 (Harvey and Speed 2016). They are likely to have functioned as paddocks or working areas and the layout of some of the internal features may have helped with the funnelling of livestock. Later developments occurred with the northern side of enclosure E5 being re-cut and extended along with additional ditches to the west which created new smaller enclosures E6. The northern side of enclosure E4 was also re-cut and alterations were made to its western limit which respected a D-shaped enclosure suggesting that this remained in use. Pottery recovered from these later developments implies this activity occurred during a late Iron Age (Belgic) transition phase. It is likely that there was a shift in settlement at this time with enclosure E5 and the ring ditches having been abandoned and the later enclosures part of another focus of activity.

In the SMS 1 Area located 430m to the west, several enclosure ditches and associated features were identified that are also thought to date to this period (Fig 5). A few sherds of late Iron Age pottery were recovered from one of the ditches and some of the ditches appear to be the continuation of those identified in Zone H which is thought to date to the late Iron Age period (Simmonds 2017).

5.5.1 Enclosure E5

A sub-square enclosure E5 at the eastern limits of SMS 2 was defined on all sides by a substantial continuous ditch G27. It enclosed an area of approximately 0.4ha, measuring *c*67m by 62m. There were no visible gaps forming an entranceway. The ditch had a substantial V-shaped profile (Fig 16) and was between 2.70m and 3.90m wide and 1.05m and 1.65m deep. There was evidence for a re-cut on its southern side that was *c*1.4m wide and up to 0.45m deep with a more rounded U-shaped profile. The ditch was re-cut as part of later modifications to the system on its western side and northern side. It was infilled with a sequence of primary, secondary and tertiary fills. Lower fills comprised mid blue grey silty clay; some deriving from initial slumping of the edges overlain by mid grey brown silty clay upper fills. A moderate predominately late Iron Age pottery assemblage comprising 54 sherds weighing 1.1kg was recovered.

A smaller sub-square enclosure *c*20m in size was located in the north-east corner of the enclosure. It was defined on its southern and western sides by ditch G33 which abutted the main enclosure ditch G27 utilising the northern and eastern sides. Ditch G33 was between 0.60m and 0.90m wide and generally 0.50m deep with steep sides and concave bases. Internal features within G33 comprised a pit close to the northern limit that was 0.50m in diameter and 0.23m deep with steep sides and a slightly concave base. It appeared to have been used for waste disposal as it was deliberately infilled with a moderate amount of pottery dated to the late Iron Age, charcoal and burnt stone within dark grey brown silty clay.

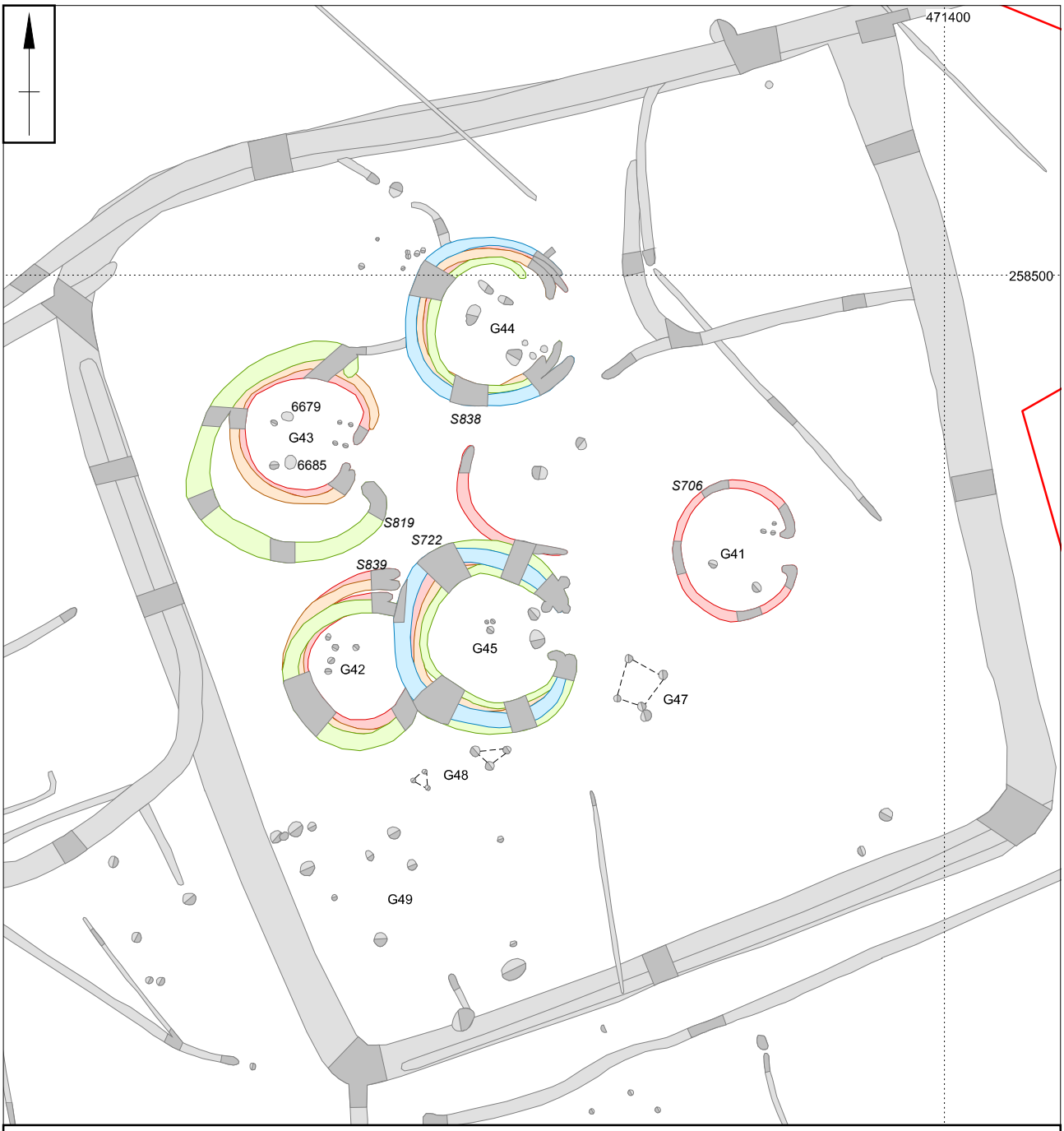
Enclosure ditch G27, looking north Fig 16

Roundhouses within enclosure E5

The main focus of settlement activity was located in enclosure E5 and comprised sequences of C-shaped ring ditches which defined at least five roundhouses. One of these was a single event structure while the others were repositioned and re-cut on several occasions (Fig 17) (Table 3). Being the only one of single construction it is possible that ring ditch G41 represents the earliest roundhouse to be built within the enclosure. It was *c*9m in internal diameter with a 2m wide eastern entrance with inturned terminals. The ditch was generally 0.60m wide though varied in depth being shallower at *c*0.15m deep on the northern side and becoming progressively deeper up to 0.35m on the southern side with the southern terminal being the deepest part. It had steep concave sides and a flattish base (Fig 18: section 706) and was infilled with mid brown grey silty clay that contained a small assemblage of late Iron Age pottery sherds. A moderate animal bone assemblage was recovered dominated by cattle which appeared to be a waste deposit occurring after the structure had gone out of use; further suggesting this may have been the earliest roundhouse to be abandoned prior to construction of the others. Internal features comprised two pits and three postholes. The two pits were located towards the south-western side of the roundhouse and were *c*0.70m in diameter and up to 0.25m deep with shallow concave profiles. They were infilled with naturally derived material with no evidence of burning or waste disposal. Three postholes were located within a 0.60m area close to the north-eastern entranceway terminal. They were 0.20m to 0.45m in diameter and very shallow being no more than 0.05m deep.

There then appears to be two distinct settlement layouts of which initially there were two roundhouses G42 and G43 adjacent to one another and set slightly to the west within the enclosure. A shift to the east saw the construction of ring ditch G45 moving it closer to the centre of the enclosure making it larger and replacing G42. It is likely that this coincided with the construction of ring ditch G44 on its northern side and the later re-cut of ring ditch G43 also occurring at this time making these three roundhouses having a contemporary use (Fig 17). Roundhouses G44 and G45 shared the same eastward facing entrance and appeared to flank the now larger open eastern entrance of roundhouse G43.

Roundhouse G42 comprised four sequences of construction (Fig 18: section 839). The original roundhouse G42 was defined on its north, west and south sides by a ditch 8.5m in diameter that was *c*0.70m wide and up to 0.44m deep with a U-shaped profile. There was presumably an eastern entrance into the roundhouse though this was obscured by a later ring ditch. The first re-cut only survived at the northern terminal which was 0.85m wide and 0.55m deep with a rounded V-shaped profile and flat base. The second re-cut was observed on the north, west and partially on the south side and defined an 11m diameter roundhouse. It survived best at the northern terminal where it was 0.85m wide and 0.40m deep. The final re-cut defined a 9.5m roundhouse that was visible on all sides with an eastern entranceway though this was obscured by a later ring ditch. The ditch was *c*1.40m wide and up to 0.70m deep with an asymmetrical concave profile. All of the ditches were infilled with single deposits of dark grey silty clay the majority of which appeared to be naturally derived rather than from deliberate backfill due to the lack of domestic debris. The only exception was a small pottery assemblage that was recovered from excavated segments on the southern side of the original roundhouse. Internal features comprised five postholes that were clustered in the north-west part of the roundhouse and may have defined an internal sub-division. They were between 0.40m and 0.60m in diameter and 0.10m to 0.30m deep with steep sides and flattish bases.



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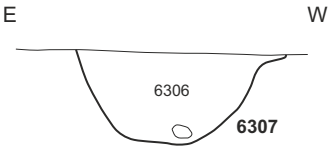
Detailed plan of roundhouses Fig 17

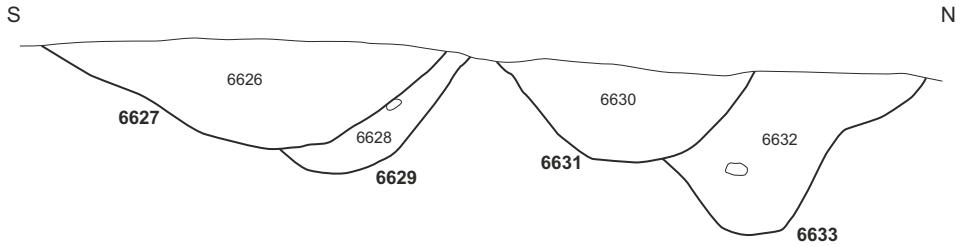
G41

Section 706



G42

Section 839

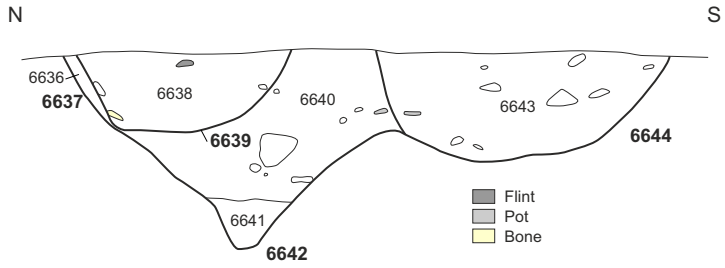


G43

Section 819

G44

Section 838



G45

Section 722

Scale 1:25

Roundhouse sections Fig 18

Table 3: Comparison of ring ditches

Construction sequence	G41	G42	G43	G44	G45
1	9m internal diameter 2m E entrance 0.60 x 0.34m	8.5m internal diameter ?m E entrance 0.70 x 0.45m	9m internal diameter 1.6m SE entrance 0.90 x 0.35m	10m internal diameter 4.5m E entrance 0.40 x 0.30m	Partial survival
2	-	Partial survival 0.86 x 0.54m	10m internal diameter 3.5m SE entrance 1.0 x 0.50m	10m internal diameter 4.5m E entrance 0.60 x 0.50m	10m internal diameter 3.5m E entrance 0.60 x 0.40m
3	-	11m internal diameter ?m E entrance 0.85m x 0.40m	14m internal diameter 8.5m E entrance 1.50 x 0.50m	9.4m internal diameter 5.6m E entrance 0.50 x 0.35m	10-12m internal diameter 3m-3.5 E entrance 0.50-0.80 x 0.40-0.50m
4	-	9.5m internal diameter ?m E entrance 1.40 x 0.70m	-	12m internal diameter 6.5m E entrance *c*0.65 x 0.40m	11m internal diameter 3.2m E entrance *c*1.30 x 0.50m

Ring ditch G43 comprised an original roundhouse with two sequences of construction before being replaced by a later more substantial ring ditch. The original roundhouse had a 9m internal diameter and was defined by a circular ditch visible on all sides with a 1.60m wide south-east entrance. The ditch survived best at the northern terminal where it was 0.90m wide and 0.35m deep with steep sides and a concave base. This ditch was later re-cut by another around the entire perimeter which defined a slightly larger roundhouse 10m in diameter with a 3.5m wide south-east facing entrance. The ditch was *c*1.0m wide and up to 0.50m deep with a similar profile to the original. A final re-cut replaced the earlier roundhouse completely with a larger roundhouse that was 14m in diameter with a much wider 8.5m eastern entrance. The ditch was *c*1.50m wide and generally 0.50m deep throughout with an uneven rounded V-shaped profile (Fig 18: section 819). The ditches were infilled with single deposits of mid to dark grey brown silty clay with inclusions of charcoal. Pottery was recovered from most of the segments though the majority came from the original roundhouse with the largest single assemblage weighing 1.1kg from the southern terminal.

The two sequences of roundhouse G43 contained internal hearths. In the earlier roundhouse it was slightly offset from central to the west [6679] whereas in the later roundhouse it was more centrally placed [6685]. The hearth within the earlier

roundhouse was 0.85m in diameter and 0.15m deep with an undulating concave profile and was infilled with dark black brown sandy clay that contained a high quantity of charcoal. A radiocarbon date was obtained from the charcoal that returned a date of 2201-2031 cal BC, 3720 +/- 30 BP (Beta-505216). The later roundhouse phase contained a stone lined hearth comprised of several flat stones lining the base and sides of a pit (Fig 19). The pit was 1.25m in diameter and 0.35m deep and was infilled with heat affected clay and contained two sherds (20g) of late Iron Age pottery. Four postholes were located inside the original roundhouse adjacent to the entranceway. They may be part of a porch structure though it is unclear with which construction phase of the roundhouse it is associated with. The postholes were *c*0.40m in diameter and no more than 0.17m deep with similar concave profiles.

Internal stone lined hearth [6685] of latest re-cut of roundhouse G43 Fig 19

Ring ditch G44 comprised four sequences of construction. The original roundhouse had a presumed internal diameter of *c*10m as only part of the northern side was identified as it was truncated by several re-cuts. It had a *c*4.5m wide eastern entrance though only the northern entrance terminal survived which was 0.40m wide and 0.30m deep with concave sides and base. The first re-cut followed the line of the original ditch and was of a similar size being 10m in internal diameter with a 4.5m wide eastern entrance. The ditch was *c*0.60m wide and up to 0.50m deep with a rounded V-shaped profile (Fig 18: section 838). The second re-cut was slightly smaller with an internal diameter of 9.4m though with a wider 5.6m east facing entrance. The ditch was visible on all sides and could be seen truncating the earlier ditches as well as being truncated by the final re-cut. The ditch was 0.35m to 0.55m wide and up to 0.35m deep with steep sides and a concave base. The final re-cut created a larger roundhouse with an internal diameter of 12m and a wider 6.5m east entranceway. It was defined by a continuous circular ditch that was *c*0.85m wide on the southern and western sides and narrowed to 0.50m on the northern side and was shallower than the previous ditches. The ditches were infilled with single fills of mid to dark grey brown silty clay with inclusions of charcoal and fired clay. Although contemporary pottery sherds were recovered from all of the ditches, the largest assemblage weighing 800g came from the terminals of the second re-cut of the roundhouse. Internal features comprised two elongated oval features in the northern part that were thought to be either two pits or the truncated remains of a gully due to their proximity and alignment. They survived between 0.10m and 0.35m deep with

concave sides and slightly concave bases. Another two pits were located in the central and southern part. They were sub-circular in plan, *c*1.20m in diameter and no more than 0.25m deep with steep sides and concave bases. The southernmost pit was infilled with dumped material containing pottery sherds, charcoal and fired clay.

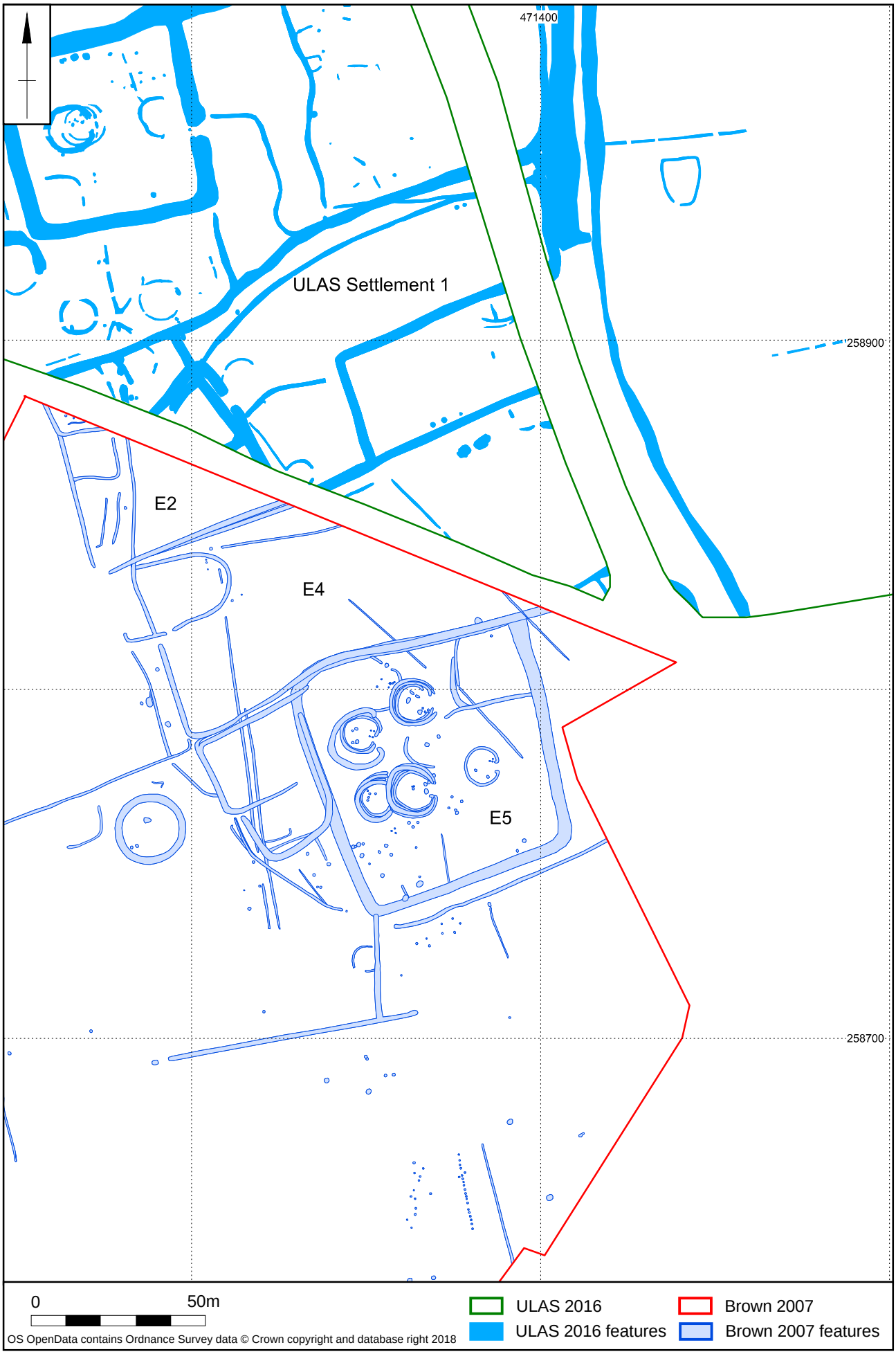
Ring ditch G45 was a replacement of roundhouse G42 which shifted the dwelling more towards the centre of enclosure E5 (Fig 7). It comprised four main construction sequences though it appeared that one of these had two elements to it (Fig 17). The original ditch only survived in one small section on the western side as it was completely truncated by the later ditches. The first re-cut survived on the western and southern parts presumably defining a roundhouse with an internal diameter of *c*10m with an east facing entranceway. The second re-cut followed the line of the first re-cut and was therefore similar in size defining a roundhouse with a 10m internal diameter. It had a 3m wide east facing entrance with both terminals surviving of which the southern terminal was inturned. The ditch was *c*0.50m wide and up to 0.40m deep with an elongated V-shaped profile (Fig 18: section 722). An outer ditch was then constructed, which created a slightly larger roundhouse that was 12m in diameter with a 3.5m wide eastern entrance. The ditch was *c*0.80m wide and up to 0.50m deep with steep sides and a flattish base. The final re-cut comprised a pennanular ditch defining an 11m internal diameter with a 3.20m wide eastern entrance. It was between 1.20m and 1.40m wide and *c*0.50m deep with a rounded V-shaped profile and base. As with the other roundhouses, the ditches were infilled with single deposits of mid to dark grey silty clay with inclusions of charcoal and burnt stones, particularly from the infilling of the final phase of the roundhouse. This final re-cut of the roundhouse produced the largest pottery assemblage weighing 7.3kg of which 2.3kg came from the infilling of its terminal segments and a further 3kg from an adjacent segment.

Internal features comprised two postholes located 0.20m apart; they were *c*0.40m in diameter and no more than 0.10m deep. Adjacent to them was a pit 0.55m in diameter and 0.10m deep that contained several burnt stones so it may have functioned as a hearth. All three features were located centrally within the roundhouse. Two sub-circular pits were located adjacent to the entrance. They were between 1.0m and 1.45m in diameter and *c*0.35m deep with near vertical sides and flattish bases. They both contained dark brown grey silty clay fills with charcoal and burnt stones. Three pits were located around the northern terminal which were all truncated by one of the later ring ditches so must have been associated with one of the earlier versions. They were *c*0.60m in diameter and 0.15m to 0.30m deep with steep concave sides and concave bases. Their infilling contained burnt stones and charcoal.

On the northern side of the roundhouse was a curvilinear gully that was 14m long and appeared to terminate at either end. It was *c*0.50m wide and up to 0.20m deep with shallow concave sides and a flattish base. This may be the remnants of an earlier roundhouse or possibly an ancillary building associated with one of the earlier construction phases of the roundhouse. Adjacent to this were two sub-circular pits 0.80m to 1.0m in diameter and *c*0.30m deep with steep sides and flattish bases. They were infilled with mid brown grey silty clay that contained charcoal and large quantities of burnt stones.

Posthole structures and pits within enclosure E5

Located in the southern part of enclosure E5 were a series of possible posthole structures G47 and G48 and pit cluster G49 (Fig 17). A four-post structure G47 was located between roundhouses G45 and G41. It was defined by four postholes arranged in a square spaced internally 3m apart of which the south-east corner posthole had been replaced at some point. The postholes were between 0.40m and



Scale 1:1500 Pineham and ULAS Settlement 1 features Fig 20

0.55m in diameter, though the replacement posthole was slightly larger at 0.80m. They varied in depth between 0.15m and 0.30m with the deeper postholes having steeper sides and flattish bases while the shallower ones survived with more concave profiles. Two of the postholes contained a small Iron Age pottery assemblage of six sherds (53g) and they were all infilled with mid grey blue silty clay.

Just to the west of the four-post structure, on the southern side of roundhouses G42 and G45 were two sets of postholes G48. Each set comprised three postholes laid out in a triangular pattern. The postholes defining the eastern set were slightly larger being 0.50m to 0.60m in diameter and up to 0.30m deep with near vertical sides and flattish bases. They were spaced 2m apart centre point to centre point and infilled with a dark brown grey silty clay. The western set comprised three postholes sited 1m apart which were *c*0.40m in diameter and no more than 0.10m deep.

In the south-west corner of the enclosure there was an area of pitting G46 comprising fourteen pits within a 20m area. The pits varied between 0.50m and 1.20m in diameter, the majority only survived at shallow depths of *c*0.10m with two being slightly deeper at 0.40m. One of the pits appeared to have a clay lining and they were all infilled with a similar mid grey brown silty clay. No pottery was recovered.

5.5.2 Enclosure E3

Enclosure E3 abutted the west side of enclosure E5 (Fig 7). It was 120m long east to west and 105m wide north to south and defined on its northern and western sides by continuous ditch G18. Ditch G24 was constructed from the south-west corner of enclosure E5. It was orientated north to south turning to the west and defined part of the southern limit creating an opening in the south-west corner. The ditches were generally 0.70m wide and between 0.15m and 0.40m deep with shallow concave sides and flattish bases. They were infilled with naturally derived mid orange brown silty clay.

The interior of the enclosure was relatively sparse with internal features comprising remnants of ditches G26 and a scattering of pits and postholes G62. Ditches G26 were located in the eastern part of the enclosure and appeared to define a funnelled access way into the enclosures to the north. Two postholes and two pits G62 within a 12m area close to the eastern limit and another three pits in the southern part. The postholes were 0.20m to 0.40m in diameter and 0.10m to 0.30m deep with steep sides and slightly concave bases. The pits were c0.65m in diameter and no more than 0.30m deep with concave profiles and bases. They were all infilled with dark brown grey silty clay. The southern pits were 0.50m to 0.70m in diameter and 0.15m to 0.35m deep with steep sides and flattish bases. They all contained burnt material and the deepest pit had high quantities of charcoal and burnt stones with the edges of the pit appearing to be in situ burnt natural. The lack of domestic debris in the ditch fills and internal features would suggest this enclosure had an agricultural function.

5.5.3 Enclosure E4

On the northern side of enclosure E5 was enclosure E4 that was at least 104m long east to west and 45m wide north to south (Fig 7). It utilised the northern limit of enclosure E5 as its southern boundary, the northern limit was defined by ditch G66 and it was defined on its western side by ditch G19. The northern side was later re-cut by ditch G31 as part of later developments. The continuation of both the northern and southern sides were identified in the ULAS excavations as well as a possible eastern limit (Fig 20) where the enclosure may have abutted a north to south aligned trackway.

A smaller D-shaped enclosure was located in the north-west corner defined by ditch G17 (Fig 7). A large grinding stone was recovered from the north-west of the enclosure. The enclosure was 25m long and 17m wide with a 2m wide southern

entranceway and the ditch was *c*1.1m wide and up to 0.40m deep with steep concave sides and a concave base. A mid grey brown sandy silt primary fill was overlain by dark grey brown silty clay. Within the eastern part of the D-shaped enclosure were three postholes aligned in a row north to south for 2.70m. They were between 0.30m and 0.40m in diameter and up to 0.20m deep. Just outside the eastern limit of the D-shaped enclosure were three pits G65 that were between 1.0m and 1.40m in diameter and no more than 0.25m deep with shallow concave profiles and flattish bases. They were infilled with mid grey brown silty clay.

5.5.4 Enclosures E2

A smaller enclosure E2 was identified at the north part of the site defined by ditches G14, G15 and G16 (Fig 7). They were part of a larger sub-rectangular enclosure identified in the ULAS excavations (Fig 20). The small quantities of domestic debris recovered from these ditches would suggest that these enclosures are likely to have been associated with livestock. There was a 4.5m wide southern opening allowing access to the north and two parallel ditches aligned north-east to south-west funnelled movement towards the gap leading to two smaller enclosures to the north. One had a 2.5m wide north-east entrance while the limits of the northernmost enclosure continued beyond the excavation limit.

The northernmost possible sub-enclosure was only seen as an L-shaped ditch with the reminder beyond the excavation baulk to the north and east. It was defined by ditch G14 that was aligned north-west to south-east for 8m before turning to the east for 11m and formed what remained of the south-west corner of an enclosure. Its full extent continued beyond the excavation limit in either direction where it was identified in the ULAS excavations to the north-east. The ditch was *c*1.2m wide and up to 0.70m deep with steep sides and a concave base. It was infilled with a mid orange brown sandy silt primary fill overlain by dark black grey sandy silt secondary fill that contained 6 sherds (102g) of late Iron Age pottery.

Internal features comprised two pits located 1.85m apart that were 0.65m to 0.85m in diameter and up to 0.22m deep with steep sides and flattish bases. One of the pits had mid yellow brown clay lining on its base that was overlain by mid brown grey silt with frequent large burnt stones and charcoal. Just to the south of the pits was a 5m long curvilinear gully that was *c*0.50m wide and no more than 0.15m deep with shallow concave sides and base. A small contemporary pottery assemblage of 2 sherds (9g) was found in its sole dark black grey silty clay fill.

Ditch G15 was aligned north-west to south-east and defined the western side of an enclosure with the eastern side defined by a parallel ditch G16. The enclosure was 60m long and 17m wide to the north, narrowing to between 7m and 11m to the south where there was an opening on the western side. The ditches were between 1.15m and 1.40m wide and up to 0.50m deep with steep concave sides and a flattish base. They were infilled with orange brown sandy silt that contained thirteen sherds of late Iron Age (Belgic) pottery. The enclosure contained an internal curvilinear ditch and two parallel gullies likely to be associated with livestock control. The internal curvilinear ditch was aligned east to west for 12m before turning to the north for a further 10m and terminating to create a 3m wide corner entranceway into the enclosure. It was *c*0.90m wide and up to 0.40m deep with a shallow concave profile and slightly concave base. In the southern part of the enclosure were two parallel gullies located 3m apart and orientated north-east to south-west. They were aligned with the south-west corner of the southern opening of the enclosure and likely positioned to control the movement of livestock. They were between 0.50m and 0.80m wide and 0.20m to 0.30m deep with steep sides and flattish bases with a sole fill of dark grey brown sandy silt. A small assemblage of late Iron Age pottery was recovered comprising 14 sherds weighing 553g.

5.5.5 Later developments

Ditches G28, G29, G30 and G31 are later developments to the enclosure system (Fig 7). The majority of this activity occurred after the main settlement enclosure ditch E5 had presumably silted up and was no longer in use. The northern limit of enclosure E5 was also re-cut G28 as was the northern limit of enclosure E4. The re-cut of the northern side of enclosure E5 followed the alignment of the northern edge of original enclosure ditch suggesting it may have still existed as an earthwork, though it extended beyond before turning to the north for a further 28m and terminating. The ditch was at its widest where it re-cut the earlier ditch and was *c*2.0m wide and up to 1.0m deep with a rounded V-shaped profile. It had narrowed to *c*1.0m and was only 0.25m deep at the north-west terminal. The deeper sections of the ditch contained naturally derived primary filling from slumpage of the edges overlain by darker grey brown silty clay which also infilled the shallower sections of the ditch.

Two small enclosures E6 were created to the west of enclosure E5 that probably functioned as livestock enclosures. Ditch G29 re-cut part of the western side of enclosure E5 and turned to create a new southern and western limit to an enclosure 22m long and 15m wide. There was a 1m gap between the north-west terminal on the western side and the southern limit of ditch G30 which defined the southern, western and northern sides of another enclosure 20m wide and 28m long. A 5m wide south-east entrance allowed access between the two enclosures. The ditches were between 1.30m and 1.80m wide and generally 0.70m deep with U-shaped profiles. Their sole fills comprised dark brown grey sandy clay. A small quantity of transitional late Iron Age (Belgic) pottery was recovered from some of the ditch fills.

5.5.6 Enclosure system SMS 1

In the SMS 1 area, several enclosure ditches and associated pits, gullies and postholes were identified (Fig 6). A small presumed sub-square enclosure 34m long and 24m wide was located partly within the northern edge of the area. It was defined by ditch G1 which formed the eastern, western and southern sides. Any northern side lay beyond the excavation limit (Fig 6). The western side of the ditch was 1.35m wide and 0.55m deep with steep asymmetrical concave sides and a concave base (Fig 21). As the ditch turned to the east to define the southern side it became narrower and shallower at 0.55m wide and 0.20m deep possibly the result of truncation. The eastern side of the ditch was *c*1m wide and 0.50m deep with a similar profile. The infilling of the ditch comprised a single fill of mid orange brown silty clay that became lighter in colour on the eastern side. A primary fill was identified in excavated segments on the western limit derived from natural weathering on the eastern edge of the ditch. No artefacts were found within the ditch.

Located fairly centrally within the enclosure were a pit, gully and postholes. The pit was located in the northern half of the enclosure and was 0.50m in diameter and 0.10m deep with a shallow profile and concave base. It was infilled with dark blue to black silty clay containing charcoal. Located 7m to the south-east of the pit was a curvilinear gully aligned roughly north to south for 7m with another pit at its northern end. The gully was 0.55m wide and 0.30m deep with steep sides and a flat base. The pit was circular in plan, 0.95m in diameter and 0.25m deep with steep concave sides and a flattish base. Both were infilled with dark grey silty clay. Three postholes were situated within a 1.20m area close to the southern side of the gully. They were all of a similar size being between 0.30m and 0.40m in diameter and up to 0.15m deep with near vertical sides and flattish bases. They were infilled with a sterile mid brown grey silty clay.

Section of ditch [5045] G1, looking south Fig 21

Several other short stretches of ditches were identified to the west and south of enclosure G1 (Fig 6). To the west were north-west to south-east aligned ditches G2 and G3. They were spaced 60m apart and extended out from the western bank of the excavation area before terminating at the same eastern latitude just before enclosure ditch G1. Ditch G2 was recorded for 32m within the excavation area. It was *c*0.45m wide and 0.15m to 0.25m deep with steep concave sides and a flattish base. Ditch G3 was seen for 70m and was *c*0.60m wide and widened to 1.0m towards the terminal being generally 0.35m deep throughout with a steep sided concave profile and flattish base. Lying between these two ditches was a north-east to south-west aligned ditch G4 that seemingly terminated at either end and was 25m long and *c*0.45m wide and up to 0.25m deep with a rounded V-shaped profile. Two curvilinear gullies G5 spaced 1.5m apart and *c*6m long were perpendicular to the eastern end of ditch G4. They were aligned north to south with terminals at either end and between 0.60m and 0.80m wide and 0.15m to 0.25m deep with concave sides and slightly concave bases. All of these features were infilled with a sterile mid orange-grey silty clay.

In the south of the area were two further ditches G9 and G11 (Fig 6). North-west to south-east aligned ditch G9 extended across the southern part of SMS 1 for 160m and its continuation was noted in Zone H to the north-west. It was *c*2.5m wide and between 0.80m and 1.20m deep with a U-shaped profile, steep sides and a flattish base. A primary fill was identified in the deeper south-east part of the ditch comprising a light orange-brown silty clay initial natural silting of the ditch this was overlain by mid grey-brown silty clay that contained 18g of late Iron Age pottery. On the southern side of this ditch was part of an enclosure defined by a curvilinear ditch G11. It extended from the southern excavation limit for 40m before curving to the west and terminating within the excavation area possibly defining part of a northern entrance. The ditch was between 0.75m and 1.50m wide and became narrower to the south though it was generally 0.25m deep throughout with a steep sided profile and flattish base.

5.5.7 Pits

Several pits were scattered across the SMS 1 area (Fig 6). Oval pit G6 was located 9m to the west of enclosure ditch G1 and was 1.40m long, 1.20m wide and 0.25m deep with shallow sides and a slightly concave base. The infilling comprised a dark orange-grey clay that contained large rounded burnt stones throughout. Two sub-

oval pits G7 were located 17m apart just beyond the southern limit of the enclosure. The western pit was 0.70m long, 0.50m wide and 0.15m deep, the eastern pit was 1.4m long, 0.85m wide and 0.25m deep. They both had steep concave sides and flattish bases and were infilled with mid grey silty clay. In the southern part of the area close to the south-eastern baulk were sub-circular pits G10. They were between 0.55m and 0.90m in diameter and up to 0.28m deep with steep sides and flattish bases. They were infilled with mid orange yellow silty clay that contained moderate charcoal and burnt stones but no pottery was recovered.

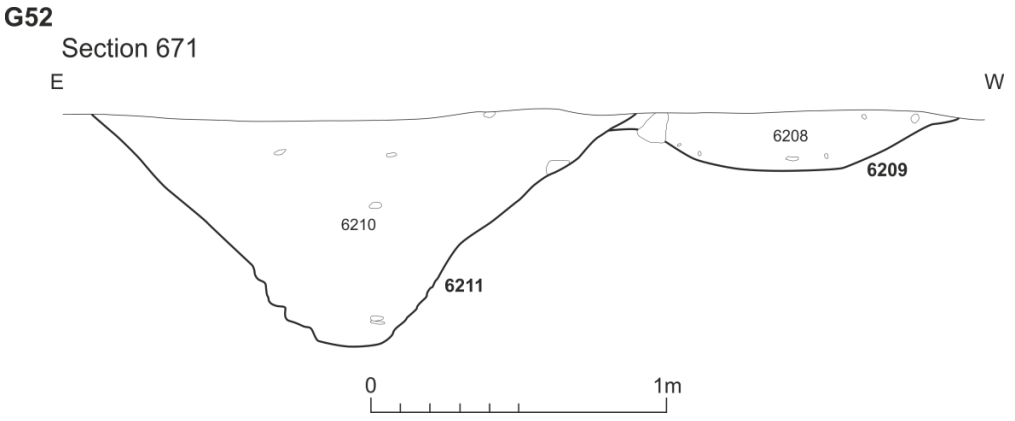
5.6 Phase 5: Roman

Limited Roman activity was located in the western part of the SMS 2 Area (Fig 7). It comprised several ditches that are the remnants of an outer field system. Two of the ditches were the continuation of those identified in the Pineham Settlement 2 excavation to the south (Carlyle 2006). The eastern limit of this activity was defined by ditches G52 and G53. To the west of these, ditches G56 and G58 formed parts of two large fields. Associated features included a scattering of pits and postholes and an isolated un-urned cremation burial. A small pottery assemblage was recovered dated to the early Roman 1st to 2nd centuries.

5.6.1 Field system

A slightly sinuous north to south aligned ditch G52 was visible for 100m within the excavation area. It defined the eastern limits to an outer field system of which the remnants of two large fields were identified to the west. This eastern limit comprised two ditches, an earlier one that was replaced on the same alignment by a later ditch. The earlier ditch was aligned north-east to south-west, terminating to the north-east and continuing beyond the south-west excavation limit where it was identified in the Pineham excavation (Carlyle 2006). It was *c*1.0m wide and generally 0.30m deep with concave sides and a slightly concave base. It was truncated by another ditch following the same alignment that extended the boundary further to the north. The later ditch was more substantial being *c*1.60m wide and up to 0.70m deep with a rounded V-shaped profile (Fig 22). No datable artefacts were found and it is dated to the Roman period as it is a direct continuation of ditches identified in the excavation to the south.

North-west to south-east aligned ditch G53 was visible for 170m. It abutted ditch G52 to the north-west and to the south-east it continued beyond the excavation limit. It was 0.50m to 1.0m wide and shallow being between 0.10m and 0.20m deep with a concave profile and slightly concave base. There appears to have been a gap of 1.2m towards the central part of the ditch suggested by two opposing terminals (Fig 7).



Section of ditch G52, facing south Fig 22

A western limit was identified defined by north-west to south-east aligned ditch G58 which was also identified in the Pineham Settlement 2 excavation. It comprised two ditches, one was aligned north-west to south-east for 37m before terminating leaving a small gap of 0.60m to the other ditch was which aligned north to south. It terminated to the north and continued to the south into Settlement 2. The ditches were between 0.50m and 0.70m wide and a similar depth of *c*0.30m with steep concave sides and slightly concave bases. Pottery dated to the early Roman and weighing 12g were recovered from the brown grey silty clay infilling.

North-east to south-west aligned ditch G56 divided this area into two large fields. It was visible for 90m as it terminated to the east and continued beyond the western excavation limit. It defined the northern and southern sides to two outer fields. The ditch was generally 0.40m wide and up to 0.15m deep with concave sides and a slightly concave base.

5.6.2 Associated features

The northernmost field contained two parallel ditches G54 aligned north-west to south-east located 5m apart (Fig 7). They both terminated to the south-east and continued beyond the northern excavation limit. The ditches were between 0.70m and 0.90m wide and up to 0.35m deep with steep sides and flattish bases. Adjacent to the terminal of the easternmost ditches were two sub-circular pits. They were of a similar diameter being *c*1m though they varied in depth and profile; one was 0.35m deep with a U-shaped profile while the other was 0.60m deep with a V-shaped profile. Both were infilled with sterile deposits of mid orange brown clay silt as were the ditches.

Two further pits G60 lay adjacent to the southern limit of the field. They were between 0.50m and 0.65m in diameter and 0.20m to 0.30m deep. Their steep sides and flattish bases may suggest they functioned as storage pits. They were infilled with naturally derived orange yellow brown clay silt.

The only features beyond the eastern limit of the field system comprised three pits G57 which were located close to the junction of ditches G52 and G53. They were between 0.35m and 0.50m in diameter and up to 0.30m deep with steep sides and flat bases.

In the north-east corner of the southern field were four pits G55. They were 0.45m to 0.65m in diameter and between 0.20m and 0.35m deep. All of these pits had steep near vertical sides and flattish bases and may have functioned as storage pits.

5.6.3 Cremations

In the southern part of the SMS 1 area adjacent to the southern baulk was a sub-circular pit G12 (Fig 6). It was 0.62m in diameter and 0.28m deep with steep sides and a flattish base. A cremation deposit had been placed in the pit comprising 138g of cremated human bone along with 37 nails of which seven were hobnails. The presence of iron nails may indicate that the cremation was originally placed in a wooden box that has since decayed or that the burnt material including the box was collected after and buried together or they were present in the wood used for the fire.

An isolated cremation burial G59 was located adjacent to the western enclosure ditch G58 in the SMS 2 area (Fig 7). It comprised a circular pit 0.40m in diameter and 0.15m deep with steep sides and a flat base. There was no evidence for an associated pottery vessel so the burnt remains appear to have been directly placed into the shallow pit. However, 23 short nails were found that would suggest the remains were originally placed in a small wooden box or casket. It was infilled with black grey clay silt with 350g burnt bone, charcoal and fired clay and a radiocarbon date was obtained dated to 4-130 cal AD, 1930 +/- 30 BP (Beta-505213).

5.7 Medieval and post-medieval

Medieval plough furrows were evident in both SMS 1 and SMS 2 areas. They were spaced *c*7-8m apart and demonstrated various alignments in different fields. In SMS 1 and the south-west part of SMS 2 they were aligned north-west to south-east and displayed the aratral curve (reversed S-shape) created by early medieval ox drawn ploughing (Rackham 1986). In the north-west of SMS 2, the furrows were aligned north-east to south-west. There was a noticeable change in the alignment immediately south of a post-medieval boundary that divided this area. The boundary formed a raised bank with a modern hedgerow planted along it. On the southern side of it the furrows were orientated north-west to south-east. The bank appears to have been a former headland, later re-used as a post-medieval enclosure boundary.

6 THE FINDS

*6.*1 Worked flint by Yvonne Wolframm-Murray

In total 50 pieces of flint were recovered (Table 4). The general makeup of the assemblage indicates a Neolithic to early Bronze Age date range. Four of the flints were recovered from the barrow and the cemetery. However, the majority came from late Iron Age features and are all residual.

The raw material is mostly a vitreous flint that is a light to dark honey-grey colour with a light to mid brown-white cortex. A few flints are of either vitreous dark grey coloured flint or an opaque granular flint, light to mid grey in colour. There are three cores, two with double platforms and one with a single platform. The assemblage is dominated by flakes and blades. The size of the flakes range around 23-47mm and the blades around 28-57mm. Two flakes appear to have been utilised. Two flakes and two blades show miscellaneous retouch around the edges, ranging from small to larger areas. One piece has a notch in the right margin. There is thermal alteration to two of the pieces. There is one scraper (end), manufactures on a single flake and a piercer.

Table 4: Quantification of worked flint

Description	Quantity
Core	3
Flakes	11
Utilised flakes	2
Blades	5
Shatter	3
Scraper (end)	1
Piercer	1
Notched	1
Miscellaneous retouch	4
Natural	18
Total	**50**

6.2 The Bronze Age pottery by Andy Chapman

Bronze Age pottery was recovered from five pits in the southern part of the area. The majority of the pottery came from two pits containing dark charcoal-rich soils in G37 and G61. One of the pits was located at the northern extent of the cremation cemetery while the other was located to the south. They both contained sherds from probable Collared Urns dating to the early Bronze Age. It would seem that what was deposited comprised a few sherds from two or three different vessels. Part of a poorly-preserved vessel containing one of the cremation deposits appears to be a middle Bronze Age urn of some form.

6.2.1 Pits G61

The sherds from pit [6053] in G61 appear to derive from parts of at least three different vessels. Vessel 1 comprises four rim sherds from a small Collared Urn, with a rim diameter of *c*300mm (Fig 23). These do not join and the edges are typically worn and abraded, suggesting that they were incorporated into the fill as a series of sherds, and not as a partially intact vessel. The collar is 40-45mm deep and the thickened bottom of the collar is 13mm thick, while the upper part of the collar and the neck are 9mm thick. The fabric is soft and poorly-fired, and contains voids from

leached inclusions, probably of crushed shell. It has a grey core, a red-brown to grey interior and a mottled brown to orange-brown external surface.

Early Bronze Age pottery from pit [6053], G61, vessel 1 (top), vessel 2, (bottom left), vessel 3 (bottom right) Fig 23

The collar is decorated with triangular zones each comprising some seven to nine lines of parallel cord impressions on alternating vertical and oblique alignments. The flat-topped rim is decorated with oblique lines of cord impressions. On one sherd there is a single fingertip impression in the neck, immediately beneath the collar. There is a single plain body sherd in a similar fabric that may have come from the lower part of the vessel.

In addition, a small rim sherd from the same vessel is recorded as coming from pit [6030]. It would suggest that both of the pits that contained decorated early Bronze Age pottery were near contemporary in origin.

Vessel 2 has a single sherd that includes the collar and part of the body of a very small Collared Urn, with a rim diameter of *c*150mm, and perhaps standing only some 150mm high (Fig 23). The collar is only 20mm deep. The bottom of the collar is 9mm thick and the slightly hollowed neck is 5mm thick, while the body of the vessel is 8mm thick. The fabric is soft, and poorly fired, generally similar to vessel 1, with a grey core and brown internal and external surfaces. The collar is decorated with a series of oblique ridges at intervals of 10-12mm.

Vessel 3 has four body sherds in a hard, well-fired fabric, which contain a few sparse voids, possibly from leached shell inclusions. The core and internal surface is grey-black and the external surface is orange-brown. The sherds are decorated with incised lines running roughly vertically but at diverse angles, and immediately below the lines there are irregularly scattered fingernail impressions (Fig 23).

6.2.2 Pit in G37

The sherds from pit [6030] in G37 which was located at the northern limit of the cremation cemetery fall into two distinct groups from small parts of two different vessels. Vessel 1 comprises a single decorated rim sherd that is evidently from the

rim of the Collared Urn from pit [6053]. As already noted, its allocation to deposit (6029) is an indication that these deposits were near contemporaneous. Vessel 4 comprised five small and abraded sherds that are probably from the collar of a small Collared Urn. The fabric is soft and poorly-fired, and contains fine quartz grains from the addition of sand. The core is grey, the inner surface brown and the external surface is orange-brown. The largest sherd, measuring 35mm by 30mm, has part of the bottom of the collar, which is 8mm thick, while the neck is 5mm thick. The collar and the angle of the collar and neck are decorated with vertical crescents of cord-impressed "maggots", each 9mm long (Fig 24). The horizontal alignment of the cord impressions suggests that whipped cord was used. Vessel 5 comprised three sherds from the body of a poorly-fired vessel. The core is grey and the surfaces are brown, and the body is 10mm thick. The external surface is uneven and pitted, possible as a result of the leaching of large inclusions, perhaps of shell.

Early Bronze Age pottery from pit [6030], G37, vessel 4 Fig 24

6.2.3 Cremation p*its G37*

Cremation deposit (6005) in pit [6006] comprised numerous small body sherds weighing 58g from a very soft and poorly-fired vessel, which has largely lost its original surfaces. The fabric has a corky appearance, containing numerous flat voids from leached inclusions, probably of crushed shell. The core and external surface is grey-black and the internal surface is brown to orange-brown. There are no surviving diagnostic features.

This is the remnant of an upright vessel that had contained a cremation deposit. A few of the larger sherds are slightly curved and have presumably come from the lower body, while the many small sherds and fragments are presumably from the base, which disintegrated on excavation. It is suggested that this was the base of a middle Bronze Age urn.

6.2.4 Pits G36

The fill (6108) of pit [6109] contained two abraded curved body sherds weighing 10g in a soft poorly-fired fabric containing a few sparse voids, possibly from leached shell inclusions. The core and internal surface is grey-black and the external surface is

orange-brown and pitted. The sherds are undecorated. The fill (6125) of pit [6128] contained five abraded curved body sherds in a hard well-fired fabric, which contain a few sparse voids. The core is grey, the inner surface brown and the external surface is orange-brown and sparsely pitted. None of the sherds are decorated.

6.2.5 Pits G40

The fill (6129) of pit [6130] contained two abraded sherds weighing 14g in a soft and poorly-fired fabric containing thin voids. The voids are poorly distributed within the fabric indicative of rough preparation of the material being tempered. The core and inner surface is greyish-black and the external surface is orange-brown. Both sherds are very badly abraded on the outer surface and are patterned to the touch indicating possible cord-impressed decoration.

6.3 The Iron Age pottery by Adam Sutton

These excavations produced 1,702 sherds of late Iron Age pottery weighing 22.6kg equating to 8.80EVEs. The majority of the pottery was recovered from the ring ditches and associated features of enclosure E5. The pottery all appears to derive from a single period limited to the first century BC into the 1st century AD. This assemblage has been fully quantified using defined fabric and form types. Quantification by sherd count, weight (g) and estimated vessel equivalents (EVEs) was undertaken, the latter being derived from measurements of rims alone (rim-EVEs). Additionally, minimum number of vessels (MNVs) is cited being based on rim counts. Decoration and use-wear were also fully recorded.

6.3.1 Character of the assemblage

Fifteen fabric types were recorded for the Iron Age pottery and are presented in Table 5. They were recorded by using the one or two most prominent inclusion types in the fabric such as GR for grog or SH for shell along with a single letter code for the degree of fineness or coarseness of the fabric. Nine form types were recorded and are listed in Table 6. Each diagnostic sherd was coded based on its form type, with this code being followed by a separate single digit code referring to the rim type (where the rim survived). In cases where only a small fragment of rim survived this was coded by rim type alone. Decoration was recorded in terms of decoration type (e.g. burnishing, scoring fingertipping), motif (e.g. curvilinear, complex, random or area where no motif is evident, but the technique was applied to at least a portion of a vessel surface) and position on the vessel. Similarly, use-wear was recorded in terms of the type of use-wear identified (e.g. sooting, limescale) and its location on the vessel (e.g. beneath the rim, or on an unidentified section of the body; also whether the wear was found on the interior or exterior surface).

Table 5: Iron Age fabric codes and description

Fabric	Description
Ca1	Typically hard fabric with sparse-to-common angular buff inclusions (interpreted as calcite) and rare small (<0.05mm) quartz.
Fe	Lumpy, soft-to-hard fabric characterised by common-to-abundant ferruginous pellets, often large (up to 3mm). Quartz and/or calcareous inclusions (incl. shell) may also be present.
FlSa1	Hard fabric characterised by abundant angular flint inclusions in a silty/sandy clay matrix.
?GD	Hard fabric with few inclusions aside from angular-subangular fragments of ?granodiorite up to 2mm.
Gr1	Slightly soapy or sandy fabric characterised by moderate-to-common grog up to 1mm.

Gr4	As Gr1 but coarser, with moderate-to-common grog up to 4mm.
Gr6	As Gr4 but with sparse-moderate shell inclusions up to 4mm.
Or1	Slightly soapy or sandy fabric characterised by moderate elongated voids with blackening, representing burnt out organic matter.
Sa2	Sandy or slightly soapy fabric, either with few visible inclusions other than fine silt-sized quartz, or a scatter of sparse-to-common rounded quartz sand up to 1mm.
SaCa1	As Sa2, but with additional large inclusions of calcareous matter up to 3mm.
SaGr1	Sa Sa2, but with additional sparse-to-moderate inclusions of grog up to 2mm.
SaRo2	Coarse, harsh, sandy fabric with moderate-to-common inclusions of rounded quartz up to 1mm and occasional unidentified, hard rock fragments up to 3mm.
Sh1	Soapy fabric with few inclusions other than common-to-abundant shell - or plate-like voids representing shell - up to 3mm.
Sh2	As Sh1, but with silty/sandy clay matrix and a resultingly harsh or sandy feel.

Table 6: Iron Age form codes and description

Type	Description
Ja1A	Constricted jar with a rounded or slack shoulder high on the body. Rims are typically short and upright, or slightly everted, but may also be simple terminations of the wall (rounded or flattened).
Ja1B	As Ja1A, but the form is less constricted (i.e. the rim diameter is the same as, or only slightly smaller than, that of the vessel's maximum diameter).
Ja1D	Ovoid jar, with shoulder/girth low on body (typically near the middle of the maximum height). Rims are typically short and upright, or beaded.
Ja1Dh	As Ja1D, but typically taller and with lugs on the upper body/shoulder.
Ja1E	Straight-sided, or near straight-sided, tub-like form with no distinct shoulder or pronounced girth. Rims are typically simple (rounded, flattened or bevelled), but may be thickened or - rarely - hammerheaded.
Ja1F	Constricted jar with a distinct rounded shoulder, internally hollowed and topped with an upright rim to create a characteristic 'dog-legged' profile.
Ja2B	Jar with a distinct rounded shoulder flowing smoothly into an upright or slightly everted rim. The smooth flow of the wall creates an 'S' shape when viewed in profile.
Bo8	Bowl version of Ja1B.
Z3	A hemispherical bowl or 'cauldron'. The form is simple and rounded, usually with a simple flattened rim. The distinguishing feature is a post-firing perforation either immediately below the rim or on a lug-like continuation of the rim, which presumably - when arranged in opposing pairs, provided a means for suspension.

6.3.2 Fabrics

Essentially, most fabrics comprised variably silty or sandy clay with additional and often mixed inclusions of grog, calcite, shell, and/or numerous other inclusion types, the latter typically in lower frequencies. Of these, grog is the only inclusion of certain anthropogenic origins; all others could conceivably have been natural inclusions relating to the geology of the clay sources used, though they need not necessarily have been so. Four fabrics were particularly common within the assemblage: Gr1, Sa2, SaCa1, and Sh2. Sa2 and SaCa1 are highly related to one-another and in fact merge into one-another in many cases (Table 7). The distinguishing factor is that SaCa1 includes common-or-greater quantities of calcareous matter, while Sa2 does not. Together, these fabrics account for over 50% of the assemblage in all methods of quantification.

Table 7: Late Iron Age fabric quantification

Fabric	Count	%	Wt.(g)	%	EVE	%	MNV	%
?GD	3	0.18%	21	0.09%				
Ca1	7	0.41%	91	0.40%				
Fe	4	0.24%	37	0.16%				
FlSa1	1	0.06%	17	0.07%				
Gr1	282	16.57%	5084	22.30%	1.44	16.35%	11	10.58%
Gr4	74	4.35%	733	3.22%	0.17	1.93%	4	3.85%
Gr6	4	0.24%	280	1.23%			1	0.96%
Or1	4	0.24%	22	0.10%	0.05	0.57%	1	0.96%
Sa2	481	28.26%	5775	25.33%	2.93	33.26%	45	43.27%
SaCa1	362	21.27%	6317	27.71%	2.16	24.52%	25	24.04%
SaGr1	11	0.65%	120	0.53%	0.18	2.04%	3	2.88%
SaRo2	1	0.06%	9	0.04%	0.07	0.79%	1	0.96%
Sh1	110	6.46%	1024	4.49%	0.39	4.43%	6	5.77%
Sh2	358	21.03%	3268	14.33%	1.42	16.12%	7	6.73%
Total	**1702**		**22798**		**8.81**		**104**	

Gr1 is noteworthy in that grog-tempered fabrics are of localised chronological significance. In concert with the coarser Gr4 and Gr6 fabrics, the presence of grog as a temper is indicative of a date in the late Iron Age, normally dated to the first centuries BC and AD.

It is also significant that shelly fabrics are of relatively minor significance in the assemblage. Shelly fabrics are generally characteristic of the Iron Age in Northamptonshire, and while the two variants Sh1 and Sh2 were defined on the basis of shell inclusions probably deriving from local geology (or of the presence of plate-like voids almost certainly resulting from the post-depositional degradation of shell), the fact that these are a minority at Pineham is significant. Sandy fabrics with calcareous inclusions are more characteristic of assemblages to the south in the vicinity of Buckinghamshire, Bedfordshire, Warwickshire and Oxfordshire (A. Chapman pers. comm.). This brings into question the significance of localised regimes for raw material procurement, as well as the possible social implications raised by the apparent sharing of technical knowledge between people occupying these regions with those occupying Pineham. The presence of three sherds of possible Leicestershire granodiorite-gritted ware (fabric ?GD) may be evidence for the movement of pottery from this area to Pineham and is the only potential evidence for the movement of pottery yielded by this assemblage.

6.3.3 Forms

As is expected for an Iron Age assemblage in this region, jar forms predominate, with rounded-shouldered vessels in both constricted (Ja1A) and open (Ja1B) varieties, along with straight-sided 'tubs' (Ja1E) represent the majority of the vessels encountered (Table 8). It appears likely that these three broad form classes represented the common utilitarian wares of this period in this region and it is conceivable that there may have been some functional significance to the different morphologies.

Table 8: Late Iron Age form quantification

Type	EVE	%	MNV	%
Ja1A	1.08	13.57%	13	20.63%
Ja1B	0.54	6.78%	13	20.63%
Ja1D	2.31	29.02%	8	12.70%
Ja1Dh	0.34	4.27%	6	9.52%
Ja1E	2.45	30.78%	15	23.81%
Ja1F	0.08	1.01%	2	3.17%
Ja2B	0.45	5.65%	3	4.76%
Bo8	0.59	7.41%	1	1.59%
Di6	0.05	0.63%	1	1.59%
Z3	0.07	0.88%	1	1.59%
Total	**7.25**		**60**	

Potentially more specialised vessel types are represented by the several lugs found, which typically relate to tall ovoid jars. A few examples of which are typically present in most middle to late Iron Age assemblages in Northamptonshire are nearby at Hunsbury (Fell 1936 nos.L1-L4; L7) and Great Houghton (Jackson 2001, fig.13 no.9). A slightly rarer form is classified as type Z3 here: this refers to vessels with a pre-firing perforation that may have been used to hold a handle or to otherwise suspend the vessel. Such types have a wide, thin distribution during the later Iron Age, being known as far afield as Silchester (Timby 2000 no.850) and Baldock (Stead and Rigby 1986 no.107), as well as elsewhere (*ibid*, 287). Closer to Pineham, such vessels are known from Hunsbury (Fell 1936 nos.L5 & L6), although interestingly the Hunsbury examples are lid-seated and ovoid in form and are therefore very much unlike the Pineham example, which is simple-rimmed, hemispherical, and does not have the 'arch' above the rim to accommodate the perforation. The functional (and potentially, social) significance of these vessels would be a topic for fruitful further investigation, including assessing whether it is in fact accurate to term them ceramic 'cauldrons'.

6.3.4 Decoration

Decoration was noted 39 separate times but in only nine cases was decoration able to be associated with a specific vessel form. Scoring/combing and burnishing were the most commonly encountered forms of surface modification, being noted 21 and 13 times, respectively. In the case of the former, roughening of a vessel surface either with a single-pronged ('scoring') or multi-pronged ('combing') tool were noted separately, although the effect of both tools/techniques is similar in the end-product. At Haddenham V, Cambs. (Hill and Braddock 2006, 168), an association between scoring and coarser fabrics and certain vessel types may be used to suggest a functional or typological distinction between different vessel categories. In particular, tubs/barrels (type K; equivalent to Pineham type Ja1E) and high-shouldered vessels with upright rims (type E; equivalent to Pineham type Ja1B) were more commonly scored than other vessel types; ovoid and constricted types were scored only relatively rarely. It is therefore notable that at Pineham the five vessels with scoring that were able to be allocated to a type were found to be of types Ja1B and Ja1E. Although clearly a tentative observation pertaining to only a few vessels (the Haddenham assemblage was nearly nine times the size of that from Pineham), this may suggest a similar association here.

6.3.5 Chronology

The chronological implication of a significant proportion of grog-tempered fabrics in the Pineham assemblage is discussed above. Alongside this, there are other reasons to suggest a date in the earlier part of the late Iron Age for this assemblage and indeed to argue that the whole assemblage dates to this one archaeologically-discernible period. As effectively a single-period assemblage, the Pineham pottery is not as useful for discussing chronological sequencing in Northamptonshire as assemblages from, for example, Weekley (Jackson and Dix 1987, 73-79) and Gretton (Jackson and Knight 1985, 75-82) have been. However the assemblage is of interest owing to its size, the quality of its preservation, and some atypical features which shall be discussed here and in subsequent sections.

Alongside grog, the presence of 'combed scoring' is of chronological significance, and similarly fits with a late Iron Age date for the assemblage. The examples of this form of decoration include at least one example of a lattice/cross-hatched motif. Additionally, the general typological character of the vessels may be used to suggest a late Iron Age date. Vessel rims are typically upright and short, often beaded and this fits with the general trend for the shortening of vessel necks that commenced at the end of the early Iron Age with the decline in popularity of carinated and deep-necked jars. Some vessels with heavy, expanded rims are also indicative of a later Iron Age date. The Z3 'cauldron' rim is paralleled in late Iron Age contexts elsewhere in the county, as well as in the well-known *oppidum* assemblages from Silchester and Baldock.

Vessels of ovoid shape are again hallmarks of a late date. The single example of a Bo8 bowl is effectively the same form as was commonly used for the La Tène decorated wares of Hunsbury/Desborough type. Interestingly, for an assemblage of this size no such La Tène decorated wares were found. Their absence is unlikely to be of chronological significance, as the other features of the assemblage point strongly to a date that is contemporary with their production and use. Of greater potential significance is the absence of wheel-made/finished 'Belgic' types and channel-rim jars, which are hallmarks of the early-to-mid first century AD in this area (Chapman forthcoming).

Overall, there is little evidence to suggest that portions of the assemblage may have been deposited at dates earlier than the first century BC. While single-pronged scoring (as opposed to the later combing), and vessel types that are sufficiently long-lived to potentially be middle Iron Age in date, are amongst numerous individual context groups, grog-tempered fabrics were found in 35 of the 129 contexts, and the other diagnostically late Iron Age features distributed sufficiently broadly between contexts so as to suggest that any subdivision of the assemblage would be of dubious validity. Essentially, the Pineham pottery fits well into Chapman's (forthcoming) 'late Iron Age' phase, dating *c*100-0 BC.

6.3.6 Spatial analysis

Most of the pottery came from contexts that can be directly associated with the roundhouses within the main enclosure E5 (Table 9). No less than 66% of the pottery (by MNV), and potentially as much as 75% (by EVE), derived from these features. In addition, the pottery was generally well preserved. Amongst the assemblage are several substantially complete vessels and the fragmentation rate is fairly high for pottery of this period (mean sherd weight 13.4g). These fortunate circumstances of preservation and taphonomy were noted in the original assessment report for the site (Chapman & Jackson 2007, 16-17), with the suggestion being made that much of the pottery including that from the roundhouses derived from instances of primary deposition. Based on the evidence of fragmentation rates this may also be true of the

ditch and gully assemblages. These features produced a mean sherd weight of 13.5g, very similar to that of the assemblage as a whole and not too distant from the roundhouse statistic of 14.22g. As such, the assemblage provides a good opportunity to examine pottery that is likely to be more reflective of a "life assemblage" than may usually be encountered on sites of this date.

Table 9: Roundhouse pottery assemblage totals

	Ct.	%	Wt.(g)	%	EVE	%	MNV	%
Roundhouse G41	81	4.8%	1094	4.8%	0.22	2.5%	7	6.7%
Roundhouse G42	91	5.3%	1893	8.3%	0.65	7.4%	10	9.6%
Roundhouse G43	437	25.7%	4852	21.3%	2.15	24.4%	21	20.2%
Roundhouse G44	85	5.0%	1176	5.2%	0.76	8.6%	9	8.7%
Roundhouse G45	460	27.0%	7310	32.1%	2.45	27.8%	18	17.3%
Roundhouse total	**1167**	**68.6%**	**16560**	**72.6%**	**6.4**	**72.7%**	**67**	**64.4%**
Grand total	**1690**		**22597**		**8.80**		**103**	

Before discussing the evidence for spatial patterning it is important to establish a 'baseline' in terms of what the significance of different types of vessels may have been in terms of their potential functions. Numerous studies have now taken as their subject of analysis the roles of different kinds of pot in the Iron Age household (Woodward 1995, 1997; Woodward and Blinkhorn 1997; Copley *et al* 2005a, 2005b). These studies generally conclude that Iron Age pottery forms consisted of a range of vessel types within which only limited evidence for functional specialisation can be found. Vessel type is only occasionally interpreted as being of overarching functional significance, while vessel size is seen as being of significance in affording different types of role in the cooking/processing, serving, and/or storage of food, drink and produce. By the later Iron Age there is evidence that some specialised vessel types had emerged. In those areas using saucepan pots, Woodward (1997) found that the volumes of these vessels as indicated by their rim diameters, suggested a relatively specialised role in food service and possibly preparation, but not in storage. The other forms they are found alongside were probably used for all three of these purposes depending predominantly on their size. In Northamptonshire specifically, Chapman (forthcoming) points out that several vessel types appear in the later Iron Age which probably occupied specialised roles: for example, the wide shallow bowls with squared rims which may be interpreted as being used in dairying, or jars with perforated bases which may have been used in cheese making. The perforated 'cauldrons', of which an example is known from Pineham may also have had a specialised role as yet unknown.

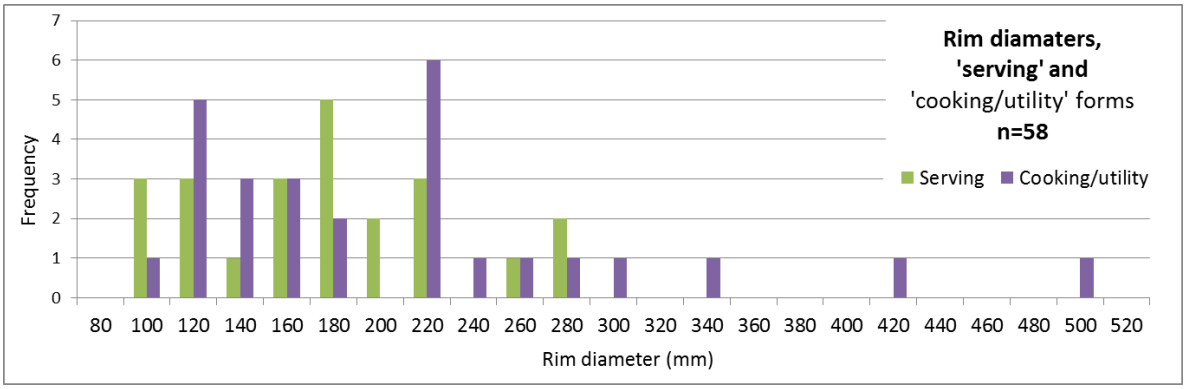
There are therefore two major sources of evidence that can be used to consider vessel function in the Pineham assemblage: rim diameter (as a proxy for vessel size/volume) and use-wear. Table 10 presents the occurrence of use-wear evidence on the different vessel types noted in the assemblage. Two types of use-wear were noted: 'carbonised residues' and 'sooting', both evidence of post-firing heat exposure in the context of cooking food.

Table 10: Occurrence of use-wear by vessel type

Type	Description	No.w/ use-wear	Total	Use-wear %	Interpretation
Ja1A	Jar, constricted	3	13	23.08%	Cooking/utility
Ja1B	Jar, open	1	18	5.56%	Service
Ja1D	Jar, ovoid	0	8	0.00%	Service
Ja1Dh	Jar with lugs	2	5	40.00%	Cooking/utility
Ja1E	Tub/barrel	3	12	25.00%	Cooking/utility
Ja1F	Jar, dog-legged shoulder	1	3	33.33%	Cooking/utility
Ja2B	Jar, S-sided profile	1	3	33.33%	Cooking/utility
Bo8	Bowl, ovoid	0	1	0.00%	Service
Di6	Conical dish	0	1	0.00%	Other
Z3	"Cauldron"	0	1	0.00%	Other

Although sample sizes vary (and as such some statistics need to be treated with caution), some patterning is evident here. In particular, the distinction between Ja1A and Ja1B which are essentially the same type aside from the former being constricted and the latter being open is revealing. The constricted Ja1A was far more commonly found with evidence of use-wear indicative of a cooking role than was the open Ja1B. This may suggest that while Ja1A was often used in food preparation, Ja1B, allowing easier access to the vessel's contents was less often used in cooking and may instead have more often been tasked with the service of food and/or drink. Similarly, Ja1D and Bo8 both ovoid forms very similar in morphology to one-another produced no use-wear in a total of eight examples. While slightly more tenuous as an association, this may also suggest that these vessels were not often used in cooking. It is worth noting that these forms are essentially plainware versions of the decorated La Tène bowls of Hunsbury/Desborough type and this may be used as a circumstantial argument to say that these, too, may have been perceived primarily as tablewares. Forms Ja1E, Ja1F, and Ja2B were found to have use-wear indicative of use in cooking in approximately 1/4 to 1/3 of examples; this is a similar statistic to that found on Ja1A, and may similarly suggest that such vessels were often used in cooking.

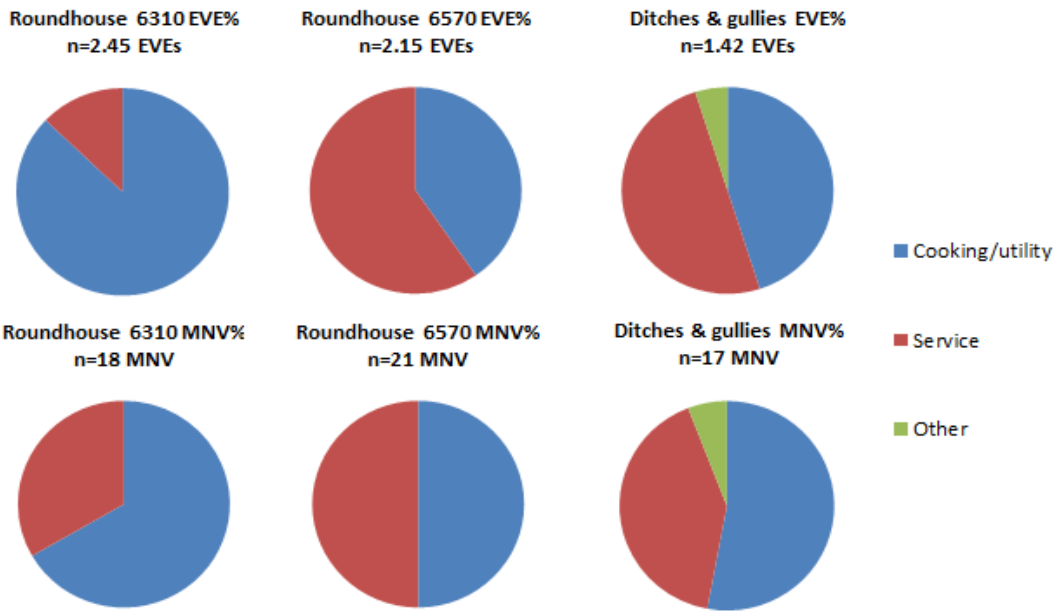
Some typological distinctions pertaining to vessel use may therefore be in evidence, and these suggest that there may have been a broad distinction between those types of vessels used in cooking/food processing and those not (these notionally being used primarily in serving). Woodward's original studies of vessel function (1995, 1997; Woodward and Blinkhorn 1997) ascertained that vessels primarily intended for use in serving should be expected to have generally smaller rim diameters (and thus, volumes), while more utilitarian vessels will have rim diameters/volumes occurring over a far wider range and potentially exhibiting bimodal distributions owing to the different intended functional categories represented. This is the exact pattern shown where vessels without use-wear evidence and/or with morphological characteristics suggesting an association with food/drink service have generally smaller rims, while those with evidence for a utilitarian character are spread far more widely across the range and may exhibit two distinct 'peaks' in the distribution, one in the lower part, and another in the middle part of the size-range (Fig 25). This seems to confirm the hypothesis that typological distinctions map onto certain functional divisions in the Pineham assemblage.



Rim diameter distribution according to proposed functional class Fig 25

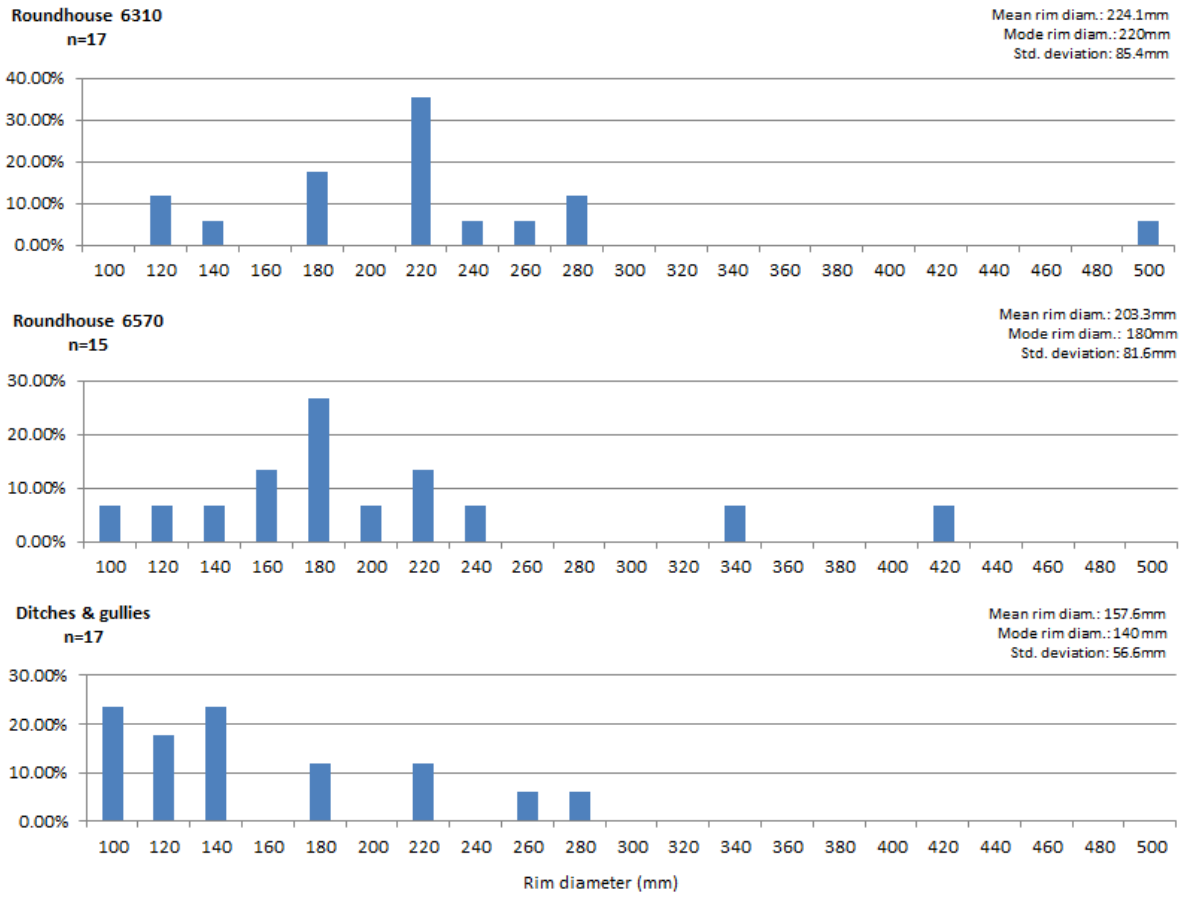
These functional correlations established, we can now look at the characters of the different spatial assemblages. When considering vessel type it is important not only that the raw quantities of pottery from a given assemblage be large enough to be statistically robust, but also that the numbers of vessels able to be allocated to a type be so significant. Of the roundhouse assemblages, only two were judged to be so large: those from roundhouses G45 (6310) and G43 (6570). Additionally, the collective assemblage produced by the ditches and gullies, though slightly more likely to derive from purposefully-deposited refuse than from a specific 'activity area, produced a similarly large assemblage.

The functional divisions within the three assemblages as proportions of EVEs and MNVs are shown in Fig 26. It can be seen that there are significant differences between the functional characters of the three groups. The assemblage from roundhouse G45 (6310) is dominated by cooking/utility vessels with only a small proportion of serving vessels, while that from roundhouse G43 (6570) had a far higher proportion of serving vessels, outweighing those of utilitarian character when quantified by EVE. This latter group is therefore similar to the group associated with the ditches and gullies, which also had a high representation of serving vessels. The representation of vessels not assigned to either functional category (the 'other' category) is in fact only one vessel being the Z3 'cauldron' from context (6039), and so its importance should not be overstated.



Functional categories represented in pottery assemblages from roundhouses 6310 and 6570 and in ditch/gully contexts Figure 26

The rim-diameter distributions of the three assemblages appear to be unimodal (Fig 27). Roundhouse G45 (6310) has the highest average rim diameter at 224.1mm and this maps favourably onto the observation that this group contained a higher proportion of cooking/utility vessels than the others, these vessels often being larger. The lower averages for roundhouse G43 (6570) and the ditches/gullies therefore seem to reflect the preference for serving vessels here. However, the statistics for the ditch/gully assemblages show that these vessels were generally smaller than those from roundhouse G43, hinting that these two assemblages are not totally comparable. The size differential may result from the characters of those vessels that may most often have left the immediate vicinity of the roundhouses. These may have been the smaller components of the assemblage, whilst larger vessels tasked primarily with storage and food processing may have been more likely to remain within the houses, in their immediate contexts of use in household storage and around the hearth.



Rim diameter distributions in assemblages from roundhouses 6310 and 6570, and from ditch/gully contexts Fig 27

Why two roundhouses of apparently similar date should have different ceramic 'use' assemblages is not a question that can be easily resolved. It may be worth noting that in the assemblage as a whole, cooking/utility vessels outweigh serving vessels and thus the assemblage from roundhouse G43 (6570) is perhaps more reflective of broader pottery consumption trends within the Pineham settlement. Specifically, the proportion of serving vessels in the Pineham assemblage is low enough to be suggestive of the use of a single serving vessel for communal consumption at mealtimes, rather than being high enough to suggest individual servings presented to each person. Roundhouse G45 (6310) maybe lacking in serving vessels as this building and/or its occupants were more involved in a particular activity (such as brewing, dairying or storage of a surplus, etc.) than was typical for the inhabitants of the settlement. This activity presumably required the use of a higher proportion of larger vessels within the household assemblage. If this is the case, this is evidence for the structuring of activity within the kind of enclosure-based community that the Pineham settlement represents.

6.3.7 Conclusion

The Iron Age pottery from Pineham appears to all date to a limited time period from the first century BC into the 1st century AD. Vessel forms are typical of this period, as are certain of the fabrics. However other fabrics (specifically the sandy and calcareous fabrics) are less easily paralleled amongst the most local of assemblages, but find better relations with pottery traditions slightly further afield. The assemblage is well preserved, including numerous substantially complete vessels, and a significant part of the assemblage is likely to have derived from primary deposition

rather than through secondary redeposition or more elaborate taphonomic processes.

Due to this, localised patterning within the larger components of the assemblage, most prominently, the pottery groups from two roundhouses was able to be observed. Interpretations have been offered that pertain to our understanding of how activity was structured within the settlement. Specifically, it is proposed that one of the roundhouses produced an assemblage that is closer to what may be expected of typical domestic occupation, while another produced an assemblage of slightly different character that may represent specialised activities occurring alongside everyday household pottery use. A third assemblage from the main enclosure ditch and numerous ditches and gullies primarily associated with the settlement's agricultural role again differed slightly in character, seeming to reflect preferential deposition of those smaller vessels that may have been easier and/or more functionally appropriate to move outside the immediate vicinity of the household.

6.4 Querns and grinding stones

by Andy Chapman

Two querns or grinding stones were recovered. One is dated to the late Iron Age and came from the terminal of ditch G17. The other was recovered from the subsoil and could be either Iron Age or Roman in date. Both area worked on large roughly rounded rectangular blocks of fine-grained sandstone and have deeply concave surfaces longitudinally and are slightly concave transversely. They may have been used as saddle querns for grinding grain, although usage as general grinding stones or mortars is also possible.

6.5 Fired clay

by Pat Chapman

Fired clay was recovered from both the SMS 1 and SMS 2 areas. In the SMS 1 area, the fired clay assemblage comprised 29 fragments, weighing 400g which were all retrieved from a single pit G10. The pieces were generally 15-50mm long by 15-20mm thick, angular with rounded corners, in a fine friable sandy fabric with occasional angular gravel up to 3mm long and pale red brown to buff in colour. One large piece with two more joining, weighing 219g was 100mm long, 65mm wide and 45mm thick. It was nearly complete with roughly smoothed surfaces, very hard but with cracks and was pale red to white in colour with a slightly gritty vesicular surface, indicative of exposure to high temperatures and darker red internally. These fragments have been associated with heat but it is not possible to know if it was accidental or intentional.

In the SMS 2 area, the assemblage comprised 14 very small fragments all from roundhouse ditches. The small fragments weighed no more than 16g, with two joining pieces weighing 98g and one very dominant lump of 503g. All of these fragments had been subjected to high temperatures as indicated by their hardness and generally pale red colour. The medium sized piece from roundhouse ditch G45 had a rounded right-angled edge that had been heated from red to white, but blackened and cracked 'inside'. The largest piece came from roundhouse ditch G44 and was 150mm long, 80mm to 60mm wide and 600mm thick at one end between the two surviving reddish surfaces. The surface was smooth and slightly irregular changing from reddish to grey and then brown where it was in the first stages of vitrification. The interior is a mixed dark red and black showing how the clay has been mixed. It could have been part of a curved lining 600mm thick.

6.6 Metalworking debris

by Andy Chapman

A total of 1947g of metalworking debris was recovered from one of the Bronze Age pits G40. There were numerous fragments from around 10mm long to 120mm long. They were all broadly similar in comprising fragments of broken-up furnace lining.

The backs of pieces comprised the fired clay furnace lining, varying from orange through pale pink to grey or white in colour, with a sandy consistency. The upper surfaces comprised iron slag, dark grey in colour. Most of the material is highly vesicular and frothy in appearance, but a few pieces were dense and more fluid tap slag. It is likely therefore that this assemblage comprises the debris from the bottom of a small smelting furnace, which has been broken up and dumped, perhaps to permit reuse of the original furnace. The small portion of tap slag may have come from around an opening into a slag tapping pit adjacent to the furnace.

6.7 Other finds

by Tora Hylton

A small collection of other finds were recovered spanning the Bronze Age to post-medieval periods, including a total of 71 finds form stratified deposits (Table 11). Of these, two were recovered from Iron Age features and the remaining 69 were retrieved from deposits of Roman date. The latter is dominated by two groups of nails comprising 60 objects from two cremations. The remaining 38 finds were recovered from topsoil and subsoil deposit which included a Bronze Age blade and an awl.

Table 11: Finds by material type

Material	Total
Silver	1
Copper alloy	42
Iron objects	60
Lead	3
Stone	2
Bone	1
Total	**109**

Bronze Age

A Bronze Age blade and awl were recovered by metal detector from topsoil deposits in SMS area 2. The blade is incomplete, with only a small fragment surviving comprising a tapered piece measuring 103mm in length and 34mm at its widest point. Much of the blade was covered in corrosion deposits and in places this has lifted the patine and obscuring features. The cross-section of the blade appears flat at one end and lozenge-shaped at the other, suggesting that at least part of the blade was furnished with a centrally placed longitudinal rib. As the upper section of the blade is missing, it is difficult to determine the type of blade.

The awl in also incomplete and survives to a length of 79mm. It has a square-section which is expanded at the centre and tapers towards the terminals which are missing. Like the blade, corrosion deposits have ensured that parts of the patina have flaked away.

Iron Age

Two small finds were recovered from Iron Age deposits and comprised a large saddle quern (see section 6.4) and a fragment from a human skull (see section 7.1).

Roman

The majority of the artefacts date to the Roman period and form an assemblage dominated by nails. The remainder of the assemblage is represented by items associated with trade and personal adornment.

Copper alloy

A total of 21 coins were recovered which were in an appalling condition and not closely identifiable. However, some were recognised as third and fourth century issue which are not uncommon on rural Roman sites. The identifiable objects are represented by items for personal use and they include a brooch and nail-cleaner strap-end (Fig 28). The brooch was recovered from topsoil deposits, it is heavily corroded and none of the original patina survives. Although incomplete, the pin and part of the spring mechanism is missing, it is possible to determine that it is a Colchester Type, which dates from the mid-late 1st to 2nd century.

Of particular interest is the presence of a nail-cleaner/strap-end, as both terminals are missing, it is difficult to be sure about how it may have been used. The piece is ornamented with an incised motif depicting the tree of life flanked by two opposing peacocks (Fig 28). Such motifs have been recorded on other examples and they are likely to be of Christian significance (Mawer 1996). Such ornately decorated items are not uncommon, they seem to be concentrated in the southern half of England (Eckardt and Crummy 2006) in late Roman deposits (Further research to be undertaken).

Copper alloy nail cleaner or strap-end with incised motif depicting the tree of life flanked by peacocks (object is *c*38mm long) Fig 28

Iron

In total 60 individual or group recorded iron objects were recovered from Roman deposits. With the exception of one undiagnostic fragment the entire assemblage is made up of nails. Thirty-seven were located in a cremation pit G12 in SMS area 1 OF which seven were hobnails, presumably for use with shoes. Pit G59 on the periphery of the Roman field system contained 23 nails from within the burnt deposit that appear to be represented by short nails with flat sub-circular heads that may all be the remains of a small box or casket which had been laid on the pyre.

Lead

There are two small unstratified conical weights which may be Roman in date.

Medieval and post-medieval

There are a small number of artefacts which date to the medieval or post-medieval which were recovered from topsoil and subsoil deposits. They include a gilded mount, a shield-shaped harness, a hilt band from a knife and a small possibly silver fitting. Post-medieval objects include six buckles five abraded coins, a musket ball, fragments from two crotal bells and a rowle.

7 THE FAUNAL AND ENVIRONMENTAL EVIDENCE

7.1 The human bone by Karen Deighton

Eight samples were found to contain cremated human bone (Table 12). Six of these were from the Bronze Age cremation cemetery G37; one was from a pit G59 located on the periphery of the Roman field system in SMS area 2 and another from a pit in SMS 1 area. Although they produced quantities of bone, only three produced suitably diagnostic material mainly composed of teeth and only one of the Roman cremation deposits was were able to be further analysed which is discussed below. Other bone recovered comprised a fragment of human skull that was found in the infilling of the main settlement enclosure ditch G27 (E5). It was perforated, probably for suspension and there were signs of excessive wear on the interior surface and outer edges. Part of a right radius was also found in enclosure ditch G27 (E5). The epiphyses were not present, although the neck and proximal 2/3rds of the shaft were. The bone was in two pieces and in good condition with no signs of trauma or disease.

Table 12: Quantity of cremated human bone

Sample	Context	Weight of bones (g)	Comments
500	5076	138	
600	6009	10	
601	6007	609	19 possible human tooth fragments
602	6005	67	
603	6011	24	
604	6003	350	
605	6017	25	Possible human long bone fragment
610	6023	32	One possible human tooth fragment

7.1.1 Roman cremation deposit by Chris Chinnock

A Roman cremation deposit G12 (5076) was located close to the southern baulk of the SMS 1 area (Fig 6). The cremation deposit comprised 138g of cremated human bone with an estimated mean fragment size of 20mm. The largest surviving fragment was 32.78mm long. From the deposit of bone, 14.5% was identifiable to body area (skull, axial, upper limb, lower limb). The remainder of the bone was too fragmented and could not be identified to body area. Although fragmentary, the burnt bone was relatively well preserved. The vast majority of the bone comprised fragments of the outer cortical bone. Very little of the more delicate, internal, trabecular bone had survived. The small amount of cremated bone and high degree of fragmentation precluded any estimation of biological sex and/or age. Fully developed tooth roots from mandibular molars were identified so it can be said that the individual was no younger than ten years old at the time of death but beyond that age could not be determined.

Minimum number of individuals

The bone comprised the cremated remains of at least one individual and no evidence of repeated elements was identified to indicate the presence of multiple individuals. The total amount of cremated bone was also considered when determining the minimum number of individuals. The average weight of modern adult cremations has been shown to range from 1001.25g to 2422.5g with an average of 1625.9g (McKinley 1993, 285). The total amount (138g) of cremated bone falls far below these figures and does not, on the basis of total weight alone, appear to reflect the remains of multiple individuals.

Oxidation

The colour of burnt bone represents the degree of oxidation which occurs on the pyre and is a result of both the temperature and availability of oxygen during the cremation process. Most of the cremated bone was a uniformly white/off-white colour indicating almost complete oxidation, and cremation at temperatures in excess of 600°C (Holden et al 1995 a and b). However, a small number of fragments exhibited slight to moderate variability in colouration, from dark blue-grey to dark brown-black. The presence of occasional charring of the bone suggested that the temperature may not have been consistent throughout the pyre environment.

Fragmentation and dehydration

A maximum fragment size of 32.78mm was recorded from the cremation deposit. The estimated mean fragment size was 20mm. Longitudinal, transverse and U-shaped fractures were present throughout the assemblage and occasional warping of the bone was observed in some of the larger fragments of burnt bone. The implications of fracture patterns and bone warping can be difficult to interpret though research has suggested that the burning of dry bone produces longitudinal splitting that follows the stress lines of the bone and burning of fleshed bone tend to exhibit more warping, irregular longitudinal splitting and transverse fractures (Uberlaker 2015: 219).

All areas of the skeleton were represented. Throughout the assemblage fragments of the skull were the most readily identifiable. The distinctive lamination of the cranial vault and meningeal impressions enable even small fragments to be easily identified and explains the bias towards this area. There were a small number of tooth fragments present, though none were identifiable to the exact tooth position.

Conclusion

As no duplicated skeletal elements were identified within the assemblage, the minimum number of individuals has been calculated as 1. However, the possibility remains that the cremated human bone contains elements from more than one individual, a fact which may be disguised by the degree of fragmentation and partial recovery/deposition of bone from the pyre site. Due to the level of fragmentation an assessment of age was not possible. No juvenile morphological traits were observed on any of the fragments and it is likely that the cremated remains reflect adult human bone, however, 'absence of evidence is not evidence of absence' and thus no confident conclusion on age can be given. Similarly, no pathological lesions were observed on any of the elements, though again this may be a result of the partial deposition and highly fragmentary nature of the remains.

7.2 The animal bone by Matilda Holmes and Sander Aerts

A small assemblage of animal bone comprising 374 fragments of which 96 were identified to species (Table 13) were recovered mainly from enclosure and ring ditches in SMS area 2. Cattle and ovicaprid remains are respectively the most abundant domesticates. Horse remains are overrepresented by a large amount of tooth fragments from ring ditch G41 (6306). Dog remains were identified from enclosure ditch G27 (6269) and (6288). Fusion of the cattle epiphyses suggests that all animals were adults at the time of death. No sufficient ageing data was found for the other taxa.

Two deposits from Roman features contained animal bone fragments. A large number of red deer remains were observed from (6226), fill of pit G57, which includes fragments from a scapula, humeri, metapodia, radius, ulna and some teeth. Approximately 44 rib fragments and 10 vertebra fragments are likely to be part of

deer skeleton. The teeth are highly worn, suggesting the individual was an old adult. No butchering marks have been found on the red deer remains, but this could be a result of abrasion of the bone surfaces. Knife marks, probably associated with skinning, were observed on the proximal end of a cattle metatarsus from ditch G54 (6620). Other butchering marks were found on an unidentified medium sized mammal rib fragment from ring ditch G43 (6684). One example of pathology was found in the form a healed bone fracture on an unidentifiable medium mammal long bone from enclosure ditch G27 (6360). Possible carnivore gnawing was present on a cattle femur fragment from ring ditch G45 (6564).

Table 13: Condition and taphonomic factors affecting the assemblage identified to taxa and/ or element. Teeth only included where stated

Context	Cattle	Equid	Ovicaprid	Pig	Dog	Red deer	LM	MM	Indet	wt (g)
6269	1		1		16			6		64
6225			2			15	142	2	4	332
6564	2			2			14		2	278
6620	2						9			231
6360			1					1	1	34
6361	5		2				10	3		448
6645	7						4		6	275
6306		21								364
6446		2					11			50
6289							2			20
6643									1	5
6598	3		2				6		1	136
6404	1						1			43
6206							1			26
6272			1							5
6684				2				5	1	61
6440			1						2	3
6566								5		7
6447		1					1		4	26
6709	1								7	28
6385							1			14
6349							1			11
6398							2			11
6295									11	16
6370		1								18
6638			1							4
6210								1		33
6628									1	2
6562									1	3
6287							2			11
6384			2							7
6372									2	4
6288					1					3
6660							1		3	5

A moderate quantity of animal bone was also recovered from ring ditch G41 (6332) weighing 1.6kg. The assemblage was originally catalogued in 2006 using the author's reference collection and further guidelines from Schmid (1972). Bones were generally in a fair condition (Table 14). A few were friable, exhibiting fresh breaks and refitted fragments. However, the low number of loose teeth and gnawed bones suggests that the bones were buried fairly rapidly and were not subject to too much post-depositional disturbance. A few butchery marks were observed. Such a low incidence is not unusual on sites of this date where butchery was done with fine knives (Grant 1987), making fewer and finer marks than later techniques utilising heavy chopping implements. No burnt bones were recorded.

Cattle were the most abundant taxa recovered from the ring ditch; with a large number coming from the head and vertebral column, although upper limb bones were also present (Table 15). It is unusual for the bones of large animal to be found close to domestic areas in this period (Wilson 1996), as such bones are usually cleared away and dumped in peripheral areas of the settlement. It is therefore likely that this was a depositional event that occurred after, or at the same time as the building went out of use.

Table 14: Condition and taphonomic factors affecting the assemblage identified to taxa and/ or element. Teeth only included where stated

Condition	
Very good	2
Good	5
Fair	10
Poor	1
Very poor	
Total	18
Refit	3=8
Fresh break	2
Gnawed	2
Butchery	1
Loose mandibular teeth*	1
Teeth in mandibles*	4

Table 15: Species represented by anatomical element (NISP)

Element	Cattle	Pig	Equid
Skull			
Mandible with teeth	2	1	
Loose tooth	1		
2nd cervical vertebra	1		
Cervical vertebra	2		
Thoracic vertebra	3		
Lumber vertebra	1		
Scapula	1		
Ulna	1		
Pelvis	1		

Femur	1		
Tibia		1	
Calcaneus	3		
Lateral metapodial			1
Total Identified	17	2	1
Total Unidentified	7		

7.3 Charred plant macrofossils by Val Fryer

A total of 38 samples were collected, of which 32 produced environmental materials. Two were examined from features within the SMS 1 area (Table 16) and thirty were from features within the SMS 2 area (Table 17). Cereal grains were only identified as wheat and barley (Triticum and Horedeum) due to poor preservation. Chaff included culm nodes, awn fragments and glume base fragments. The glume fragments confirmed the presence of wheat, but the condition was too poor to allow identification to species. Weeds and wild taxa present included fat hen (*Chenopodium album*), sheep sorrel (*Rumex acetosella*), cleavers (*Galium aparine*) and possibly bistort (*Rumex bistorta*). These are all weeds of cultivation or disturbed ground. The relatively low numbers of ecofacts present indicated no specific crop related use for any of the features. The apparent predominance of wild or weed taxa could suggest the burning of refuse or clearing of weeds.

Table 16: Environmental samples SMS 1 area

Sample No.	501	502
Context No.	5091	5093
Feature No.	5092	5094
Feature type	G8 Pit	G8 Pit
Phase	3	3
Charcoal	6	10
Cereal	-	2
Weeds	1	3
Chaff	-	-

Table 17: Environmental samples SMS 2 area by phase

Sample	Context	Feature type	Phase	Charcoal	Cereal	Weeds	Chaff
600	6009	G37 Cremation	2	1	2	2	-
601	6007	G37 Cremation	2	8	4	10	2
602	6005	G37 Cremation	2	5	2	-	-
603	6011	G37 Cremation	2	+	-	3	-
605	6017	G37 Cremation	2	2	1	1	-
606	6019	G37 Cremation	2	10	-	12	-
607	6025	G37 Cremation	2	1	-	6	-
608	6021	G37 Cremation	2	1	-	9	-

Sample	Context	Feature type	Phase	Charcoal	Cereal	Weeds	Chaff
600	6009	G37 Cremation	2	1	2	2	-
609	6027	G37 Cremation	2	1	-	6	-
610	6023	G37 Cremation	2	1	-	60	-
611	6015	G37 Cremation	2	+	-	1	-
612	6013	G37 Cremation	2	1	-	-	-
620	6529	G13 Barrow	2	2	-	68	-
628	6758	G64 Waterpit	3	4	-	1	-
631	6820	G21 Ditch	3	1	1	29	-
613	6513	G44 Roundhouse	4	1	4	26	-
614	6562	G45 Roundhouse	4	1	8	4	1
616	6454	G42 Roundhouse	4	1	1	7	-
617	6405	G45 Roundhouse	4	1	39	33	3
623	6657	G43 Roundhouse	4	2	-	-	1
624	6658	G43 Roundhouse	4	3	-	2	-
625	6678	G43 Roundhouse	4	8	-	5	-
626	6684	G43 Roundhouse	4	+	-	4	-
627	6620	G43 Roundhouse	4	2	6	17	-
629	6832	G63 Ditch	4	1	-	1	-
632	6715	G28 Ditch	4	+	2	8	-
633	6855	G29 Ditch	4	1	-	6	-
634	6746	G31 Ditch	4	1	2	11	-
635	6777	G17 Ditch	4	1	-	4	-
604	6003	G59 Cremation	5	3	1	3	-

Key: charcoal; +=present. 1=2-10, 2=10-20, 3=20-30, 4=30-50, 5=50-100, 6=100-200, 7=200-300, 8=300-500, 9=500-1000, 10=1,000+

8 DISCUSSION

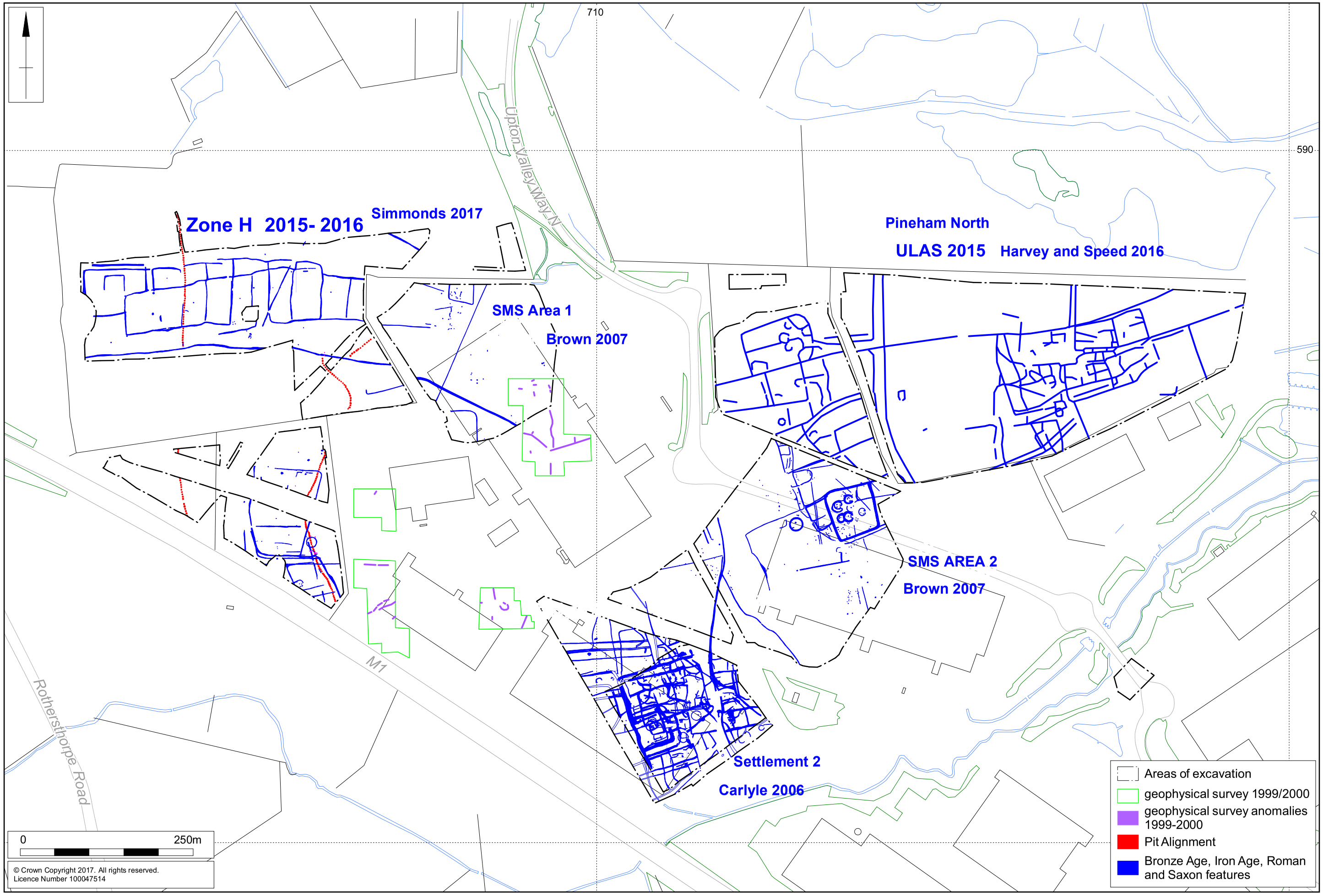
8.1 Overview

The excavations at the Pineham Barn SMS 1 and 2 areas have provided additional understanding of the archaeologically rich landscape in this area. Although the investigations in the SMS 1 area have only provided limited evidence, the features within the known Settlement 1 in the SMS 2 area have provided a greater insight into the settlement of this area. They have identified activity dating from the Bronze Age, Iron Age and into the Roman period.

The earliest evidence comprised a ring ditch, presumably the remains of a ploughed out barrow within the vicinity of a probable middle Bronze Age cremation cemetery and associated pits. During the early to middle Iron Age there is the first evidence for land division comprising a large enclosure. Although its ditches produced no datable artefacts they were stratigraphically earlier than the later Iron Age enclosures. During the late middle to late Iron Age there is a change to a more widespread rectilinear enclosure system with a domestic focus containing a sequence of roundhouses and associated agricultural and livestock enclosures. The majority of the pottery assemblage was derived from the ring ditches defining the roundhouses within the main domestic enclosure. The assemblage comprised a range of Iron Age forms that appears to date to a period limited to the first century BC. The only evidence for any form of craft or industry occurring within the settlement is a grinding stone suggesting that some form of crop processing was taking place. The lack of regionally-traded and continental imported wares indicates a fairly modest low-level rural settlement in terms of status and type practising subsistence farming.

The main settlement activity at Pineham Barn occurred during the first century BC with hints at earlier activity. The presence of the earlier Bronze Age funerary landscape may have influenced the siting of the Iron Age activity. An increasing number of sites are being identified that originated in the early to middle Iron Age with limited evidence of earlier activity in the vicinity. There appears to have been an expansion of settlements that were presumably populated by small family communities. However, several of these sites including Pineham, appear to be short-lived perhaps by two/three generations then seemingly abandoned for other local settlements that were being established in the late Iron Age. A similar pattern was seen at Apex Park, Daventry (Markus 2016) where an early to middle Iron Age settlement was abandoned presumably for one of the nearby larger late Iron Age settlements established at Monksmoor (Preece 2017) or Middlemore Farm (Wilson 2004).

The majority of the evidence shows that there was continuous occupation on the site from the Bronze Age through the early to middle Iron Age periods and into the first century BC. There is no evidence for activity occurring after the late Iron Age and it is likely that there was a shift in settlement focus either to the north-east or to the south-west where there is evidence for late Iron Age settlements being established that continued to be intensively occupied during the Roman period. Limited Roman activity was only identified in the SMS 2 area and comprised outlying fields associated with the much more extensive Settlement 2 located to the south-west. Several of the features investigated in the SMS 2 area are part of a larger settlement the majority of which is located to the north which was excavated by University of Leicester Archaeological Services (ULAS) (Harvey and Speed 2016) (Fig 29). In particular, the direct continuation of ditched enclosures within the south-east corner of the settlement was identified in the north-east of these investigations.



Scale 1:5000

Principal excavations and features across the Pineham landscape

Fig 29

8.2 Bronze Age

The ring ditch that was identified is presumably a ploughed out Bronze Age barrow. They are recognised as the most abundant form of later Neolithic/early Bronze Age monument. Although no human remains were found within it, the presence of early to middle Bronze Age pottery from several nearby pits and the cremation cemetery are all indicators that the central part of the valley was utilised as a funerary landscape. During the early Bronze Age barrows begin to appear along with cremation burial which was practised as a funerary rite throughout the Bronze Age. The cremated remains were often interred in pits within urns and these burials are found within or below the barrow mound. However, the resulting truncation from centuries of ploughing has caused such remains to have been lost leaving only the barrow ditches. Three pits were identified within the interior of the barrow at Pineham and it is possible that the larger pit located just off centre may be the remains of a ploughed out central burial cut.

Other investigations have noted the location of barrows with associated pits in the vicinity containing cremations. At Wootton, Northampton two barrows were located that were around 20m in diameter and another slightly smaller one being 12m in diameter. An isolated pit containing cremated bone was located on the lower ground a short distance from one of the barrows (Chapman and Carlyle 2012). At Hanwell Fields, Oxfordshire a ring ditch *c*18.5m in diameter was identified that was thought to be a ploughed out Bronze Age barrow monument (Finn *et al* 2018). This also appeared to be a solitary monument, however, two further barrows were located to the east and associated with these were two small circular pits containing cremated human bone, one of which had evidence of a funerary urn. Another Bronze Age ring ditch, 10m in diameter was investigated at Earls Barton which had a cremation pit located 100m to its south-east (Jones and Chapman 2005). This barrow was thought be on the periphery of an area containing several Bronze Age monuments identified at Grendon (Gibson and McCormick 1985). Although the ring ditch at Pineham appears to be an isolated monument a further two possible Bronze Age barrows were discovered in the ULAS excavations, one of which was located *c*250m to the north while the other was 500m to the east. They occupied a similar topographical position on small promontories and were perhaps part of a wider funerary landscape that would have been open pasture land at the time. They were all similar being between 10m and 15m in diameter. The barrows in the ULAS investigations were also respected by Iron Age ditches suggesting that these features were still visible in the landscape at that time.

There is a gradual change in burial practice during the middle Bronze Age which moved away from the use of barrows towards flat cemeteries. The Pineham cremation cemetery to the south of the barrow is only one of a handful of Bronze Age flat cemeteries so far discovered in Northamptonshire. A total of 13 cremation pits were identified of which, six contained cremated bone, six contained burnt material with no bone present and a single pit with only the remnants of pottery vessels with no evidence of burnt material. Cremation cemeteries usually comprise on average between 10 and 30 burials. Larger cemeteries such as Papworth Everard, Cambridgeshire (Gilmour *et al*) and King's Hill, Broom (Cooper and Edmonds 2007) contained over 40. Other examples from Northamptonshire include three other middle Bronze Age cremation cemeteries which have been recorded at Briar Hill, Chapel Brampton and Kelmarsh (Bamford 1985, Moore 1973, Soden and Dix 1995) which had between 21 and 28 cremations. However, other sites have been found to contain less than 20 cremations such as East Carleton, Norfolk which had nine (Wymer 1990) and Fordham Bypass, Cambridgeshire which had 14 (Mortimer 2005). It is thought that the smaller cemeteries of which the Pineham cemetery would be one, represent a family plot used by one or two generations (Bruck 1999) while the

larger cemeteries demonstrate either longer lived settlements or a higher population. More recently, five cremations were identified at Midland Road, Raunds of which three were urned and presumed to have been part of a flat cemetery (Elston 2018).

The Pineham cemetery appeared to have an associated post alignment with a parallel boundary ditch. The cremation pits themselves are arranged in a linear alignment. Similar linear arrangements have been noted at other cemeteries such as Papworth Everard, Cambridgeshire (Gilmour *et al* 2010), and King's Hill, Broom, Bedfordshire (Cooper and Edmonds 2007) where the cemetery appeared to follow the alignment of ditches defining earlier boundaries. Ditch G39 to the east of the Pineham cemetery may represent this type of feature. An early Bronze Age cremation cemetery with an associated post-built structure was identified at Banbury Lane, Northampton with a small cluster of pits located in close proximity (Cuthbert and Zeepvat, 2017).

The clusters of pits within the area surrounding the cemetery may be interpreted as denoting short-term episodes of settlement or limited occupation. Bronze Age pits characteristically produce pottery assemblages comprising small numbers of sherds from multiple vessels along with other material (Garrow 2006). Patterns of pit clusters are emerging that typically contain hearth debris along with small assemblages of pottery and flint. A scatter of pits identified at Harlestone Quarry were found to contain charcoal rich fills which were radiocarbon dated to the early Bronze Age and one contained a flake from a polished stone axe (Chapman *et al* 2017). The pits at Pineham contained parts of at least two or three different vessels along with burnt stones and charcoal which could be seen as the burial of domestic debris from a temporary living site. However, the presence of in situ burning maybe a deliberate act associated with the nearby cremations. The metalworking debris recovered from one of the Bronze Age pits G40 comprised broken-up furnace lining indicating that iron smelting was carried out, but the absence of a larger quantity of material would suggest that it was a small temporary furnace and not a major aspect of the settlements economy.

8.3 Early to middle Iron Age

In the SMS 2 area a single large ditched enclosure E1 was identified that is assigned on the basis of stratigraphic relationships as it was truncated by later Iron Age ditches. The enclosure was *c*1 hectare in size within the Pineham excavation area as no eastern limit was identified. However, a north-west to south-east aligned ditch was identified within the ULAS excavation that may represent an eastern limit (Fig 20). A section of this ditch was also identified within the Pineham excavation though it was poorly defined being under 0.10m deep and on a slightly different alignment to the western limit of this early enclosure. However, it is possible that these two ditches may represent an eastern limit to this earlier enclosure. A similar enclosure which also predated later activity was identified at Pineham Zone H (Simmonds 2017) and the remnants of an early Iron Age field system were identified at the Pineham North excavations (Harvey and Speed 2016) (Fig 29). At Marsh Leys Farm, Bedfordshire a large ditched enclosure *c*0.5ha in size stratigraphically pre-dated the later enclosures (Luke and Preece 2011). It was thought to have functioned as an agricultural feature associated with livestock management. A series of ditches identified at Crick (Mudd et al 2017) were found to pre-date the middle Iron Age enclosure and were also thought to be boundaries or drainage gullies. All of these ditches had similar characteristics being narrow and shallower and on a slightly different alignment to the later activity. The infilling of the ditches appeared to have formed gradually suggesting that they were not maintained and were left to infill naturally. No artefacts were recovered from the ditches at Pineham, reinforcing their function as boundaries. The only internal feature to be identified was a large pit whose profile suggests that it

was a waterpit which may be a further indication that the enclosure had an agricultural function. At Crick, three large pits were located within the area defined by the ditches that were interpreted as storage pits with a secondary reuse as refuse pits (Mudd et al 2017). The location of the curvilinear gully G34 which may have defined a roundhouse just beyond the presumed south-west enclosure entrance and the nearby post structure would suggest that this was a small focus of domestic activity positioned just outside the large ditched enclosure.

8.4 Late Iron Age

A series of enclosures were established on the relatively level plateau of the hilltop. There is increasing evidence for the continuity of sites originating in the early to middle Iron Age and greatly expanding during the late Iron Age with seemingly more intensive settlement and land use than for the preceding centuries (Willis 2006). It would appear that the later Iron Age saw a major population growth as it is evident that larger numbers of sites are producing higher quantities of late Iron Age ceramics and that land was becoming intensively utilised by a mixed agricultural economy (Kidd 2000). The Iron Age site at Pineham Barn was part of Settlement 1 excavated by ULAS (Harvey and Speed 2016). The smaller enclosures E2 in the north of the site were a direct continuation of those in the southern part of Settlement 1, the majority of which extended to the north (Fig 20). The northern part of the settlement also comprised ditched enclosures containing ring ditches. Given the proximity of the sites and the very similar dating, it is likely that the Iron Age elements of these settlements may have been contemporaneous and formed a polyfocal farmstead comprising a group of contemporary farmsteads defined by rectilinear enclosures. Evidence for a domestic focus was found exclusively within the sub-square ditched enclosure E5 that was 67m by 62m in size enclosing an area *c*0.4ha. Small quantities of pottery were recovered from the enclosure ditch fills with the majority deriving from the ring ditches defining the roundhouses. The pottery assemblage from the roundhouses dates to the 1st century BC after which the site was presumably abandoned with a possible settlement shift to one of the nearby sites.

Outside the main domestic enclosure were several agricultural ditches and related ditches with those to the north presumably associated with the funnelling of livestock reflecting the character of a mixed economy farmstead with associated fields. Settlements of this type comprising several roundhouses and ancillary features within sub-square or sub-rectangular ditched enclosures are among the most commonly excavated in the region (Kidd 2004). These would have probably been occupied by single or extended family groups occupying one or two roundhouses with other structures utilised for other spatially discreet functions such as craft/stock purposes. A comparable enclosure was investigated at Crick which was of a similar size being *c*0.3ha and contained the remains of five roundhouses (Mudd *et al* 2017). A similar layout was noted at Swan Valley located 1km to the south-east of the Pineham site which comprised a large rectangular enclosure at least 0.4ha in size. It contained at least four roundhouses which were maintained and re-cut with either south-east or east facing entrances (Holmes and Chapman 2005). The principal roundhouse was identified by its size being 13m in diameter with at least two subsidiary roundhouses between 9m and 10m in diameter used for agricultural or craft functions or as further accommodation. At Quinton House, Upton a middle Iron Age ditched enclosure was investigated which contained a ring ditch and internal sub-divisions (Foard-Colby and Walker 2010). The similarity of date and form between these sites suggests a pattern of farmstead settlement along the floodplain. These would have perhaps been occupied by family groups occupying one or two roundhouses with other ancillary structures utilised for various other functions depending on their requirements. The majority of the activity occurred during the 2nd century BC at the settlements

identified at Swan Valley, Quinton House School and Pineham with no evidence for occupation after the early 1st century BC

The development of the ring ditches defining the roundhouses from an initial single construction to the extensive re-cutting and redefining of the subsequent roundhouses may reflect a change in the need and function of these dwellings by the occupants. There is a clear sequence of construction with roundhouse G42 being replaced by G45 which likely coincided with the construction of G44 and the larger remodelling of G43 with three contemporary roundhouses in use together. While G44 and G45 were of a similar size they shared the same eastward facing entranceway. The later re-cut of G43 also made the entranceway east facing. G44 and G45 flanked G43 almost defining a funnelled entrance leading to G43. The wider entranceway of G43 and the large stone lined hearth would suggest that perhaps this structure had more of a communal function. However, it is also possible that the slightly more irregular shape of the final sequence of G43 and its wider opening may imply that it was an enclosure around a roundhouse rather than the structural ditch of one. Roundhouses G45 and G43 produced the largest pottery assemblages from the site, 28% and 25% whereas roundhouses G42 and G44 produced around 5% suggesting that perhaps they were ancillary buildings. Although G45 replaced G42 it is likely that G43 functioned as an ancillary building to contemporary roundhouses G44 and G45. At Grange Park, Northampton of the eight Iron Age ring ditches, two produced large quantities of pottery and were thought to have functioned as houses, while those that produced less were seen as ancillary buildings (Jones *et al* 2006). The contrast in vessel types and sizes noted from what appear to be the two main dwellings G43 and G45 would suggest that particular activities unique to each dwelling were taking place such as storage or food processing. The majority of the pottery from the roundhouses derived from the terminal segments or ones close to them. Whether this increase in pottery deposits in or near to the terminals is the result of deliberate or accidental deposition is unclear. There have been incidences on other sites where material was seemingly deliberately deposited after the buildings had gone out of use though this usually coincided with evidence for the partial or total destruction of the building out (Webley 2007).

The surrounding enclosures to the main domestic enclosure E5 seemed to have functioned as fields and/or areas for livestock. The layout of the smaller northern enclosures E2 may have been to funnel livestock to the west and north of the main settlement enclosure. The internal D-shaped enclosure was defined by one curving ditch as opposed to two at a similar enclosure at Swan Valley. Both enclosures were 20m in size with 2m wide either east or west facing entrances. The enclosure at Swan valley was thought to have served as a stock pen. However, the presence of a large grinding stone from the Pineham enclosure may indicate a different function involving some form of crop processing activity.

The presence of a small assemblage of transitional late Iron Age (Belgic) pottery suggests that the later developments to the enclosure system occur during this time. However, some sites occupied during the late Iron Age did not continue into the Roman period and it would appear that the settlement at Pineham falls into this group. There is no evidence for activity within the settlement after the 1st century AD and presumably there was a shift in settlement to one of the nearby sites. Located *c*400m to the north-east, the late Iron Age to Roman settlement at Pineham North comprised ditched enclosures, paddocks, trackways, stone and timber structures with associated pits and postholes, which also continued in use until the 4th century AD (Harvey and Speed 2016). Around 250m to the south-west of the Pineham Barn Iron Age enclosures was Settlement 2 which was established during the late Iron Age period and saw continuous occupation through to the 4th century AD (Carlyle 2006).

The settlement included a substantial rectilinear enclosure system, a number of roundhouse structures and a T-shaped drying oven.

The majority of the features encountered in the SMS 1 area are tentatively dated to the late Iron Age. There was very limited dating evidence comprising a sherd of late Iron Age pottery from one of the ditches. The continuation of several of the ditches was identified in the Pineham Zone H excavation located to the west, which are believed to be of middle to late Iron Age date (Simmonds 2017).

8.5 Roman

Activity during the Roman period occurred predominantly in the western part of the SMS 2 area and comprised the remnants of an outlying field system. The components of two large fields were identified along with a scatter of pits and it is part of the system identified in the Pineham Settlement 2 excavations located to the south which extended northwards. Two parallel ditches at the northern edge of the area may represent the extent of a trackway originating from the settlement investigated at Pineham Zone H. The lack of pottery and any other domestic artefacts would further indicate that these features were located away from any settlement focus. Although no datable artefacts were recovered it presumably dates to the mid to late 2nd century purely on its identification in excavations to the south.

The two un-urned cremations both contained quantities of iron nails. The presence of 23 nails in pit G59 would indicate that the cremated remains had originally been placed in a wooden box or casket before being placed in a pit. The cremation identified in the SMS 1 area contained 37 nails including seven hobnails. These types of box or casket burial are rare in small rural settlements (Poole 2007a, 125). This appears to be the case particularly in Northamptonshire. One of the three Roman cremations identified at Pineham Settlement 2 contained several nails also indicative of having been placed in a wooden casket. Another site at Upton, Northampton identified the remnants of a mid-1st-century box represented by *c*42 nails which probably came from the container placed on the pyre when the body was cremated (Walker and Maull 2010). At Bozeat Quarry one cremation burial was identified as a casket burial (Atkins 2018). These five examples contrast with at least twelve boxes recorded from Buckinghamshire (Atkins et al 2014, 245).

Further afield, a similar deposit, dated to the Roman period, was excavated at a site near Eaton Leys, Milton Keynes, where 87 nails were recovered from a single isolated cremation (Chinnock 2016). The purpose of the inclusion of iron nails into, or in close association with, the cremated material is unclear. Given that several sizes of nails are present within these assemblages, a variety of explanations are possible. The larger structural nails may relate to re-used timber used as part of the pyre, elaborate coffins, couches and or other pyre furniture (J McKinley *pers comm*). The smaller nails/tacks may have been used in the crafting of decorative boxes/caskets or even upholstered items that may have been placed as offerings on the pyre. Furthermore, it is unclear whether the inclusion of such large quantities of iron nails in cinerary contexts was a product of accidental inclusion as the cremated material was collected or of a more conscious effort to select these objects for some other perceived quality linked to the funerary rite. The relative lack of early Roman burials from Northamptonshire (as well as other counties which comprise the East Midlands) has been noted in the various county and regional frameworks. The updated research agenda for the East Midlands has queried why so few early Roman burials have been found (Knight et al 2012, 70). The county overview states ‘Rural burials are sparse in number on any one site (Taylor and Flitcroft 2004, 77).

8.6 Conclusion

The settlement at Pineham forms part of a wider landscape of multi-period occupation. Various excavations in the vicinity have revealed evidence for continuous settlement in the surrounding area from the Palaeolithic through to the Saxon period (Fig 29). To the north-east, at Pineham North, there is evidence for continuity of settlement from the Bronze Age, into the middle and late Iron Age periods and continuing throughout the Roman period until the 4th century AD (Harvey and Speed 2016). Located to the north-west, the Pineham Zone H excavations revealed evidence for pit alignments as well as further evidence of Bronze Age, Iron Age and Roman activity (Simmonds 2017). The Zone H site and also that at Pineham North contained significant Saxon activity including burials, buildings and field systems with associated objects and pottery.

It is likely that the origins of several of the sites investigated in this area were influenced by Hunsbury Iron Age hillfort which would have been a dominant feature situated on the summit of a prominent hill overlooking the Nene Valley located *c*2km to the east of the Pineham site. It includes the earthwork and buried remains of a multivallate Iron Age hillfort that was built in the early to middle Iron Age and utilised until the late 1st century BC when a new settlement emerged in Duston. Undoubtedly this would have had an impact on the emerging sites being established in the area around it. The majority of the sites are concentrated on the valley slopes and the Hunsbury Ridge and several lie adjacent to tributary streams that flow north to join the River Nene.

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