Late Iron Age and Roman Features, a Roman and Early Saxon Cemetery, and Middle Saxon Features, Hatherdene Close Cherry Hinton Cambridge

Post-Excavation Assessment

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Post-Excavation Assessment

Late Iron Age and Roman Features, a Roman and Early Saxon Cemetery, and Middle Saxon Features, Hatherdene Close, Cherry Hinton, Cambridge

Post-Excavation Assessment and Updated Project Design

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Summary

Between July 1st and October 22nd 2016, Oxford Archaeology East (OAE) excavated the field west of Hatherdene Close, Cherry Hinton, Cambridge (TL 4842 5758). Previous evaluation had revealed a prehistoric crouched burial, Late Iron Age and Roman ditches, an Early Roman funerary enclosure and cremation burials, and at least 125 Early Anglo-Saxon inhumation burials.

Excavation revealed a single 3rd-2nd century BC pit in the west of the site. Ditches across the northern edge of site surrounded a possible spring and appeared to be of Late Iron Age to Early Roman date. A number of small Early Roman kilns and a well lay nearby.

An Early/Middle Roman funerary enclosure formed the southern focus of the site. Associated with this was an Early/Middle Roman burial, aligned with five Middle Roman cremations, one within a small square, ditched enclosure, and a rich probable double inhumation (heavily disturbed or robbed) within a larger square enclosure. Two Late Roman cremations augmented this cemetery complex. The cremations were contained in vessels and, in one case, a box and were accompanied by ancillary vessels including flagons, samian dishes and a box with a lock. Both inhumations appeared to have involved a casket/coffin or similar wooden construction.

Throughout the later 5th to 6th centuries, the Roman cemetery became the focus of an organised Early Anglo-Saxon inhumation cemetery, with 126 in situ *skeletons being excavated. Many contained grave goods, including brooches, wrist clasps, a chatelaine, bead necklaces, dress items including buckles, knives, partial or complete pottery vessels, spearheads and ferrules, shield bosses, and a glass claw beaker. One unusual find was a possible Bronze Age cup placed in an Early Anglo-Saxon grave. There is little indication of items post-dating c. AD 560 with a minority having a potential 7th century date. Although generally typical of Cambridgeshire, some items are more commonly found in Kent or the continent and point to links further afield, possibly suggestive of a mixed population with possible recent migrants.*

The most striking aspect of the cemetery is the high number of burials with plots being re-used for multiple and 'stacked' burials. In addition to this, there was a degree of disturbance or possible robbing not attributed to re-use and consistent with other cemeteries of the period. Although most burials conformed to a south-west to north-east alignment, notable variations point to possible changing practices or differential burial customs. Two burials were contained within small, round barrow ditches and were slightly later in the sequence but appear to be relatively early examples of Anglo-Saxon barrow burials.

A rare feature (perhaps unique, for the period) was the presence of a timber structure that may have been integral with the cemetery and with a possible path leading from it through the cemetery.

Middle Saxon features in the form of a ditch and pits appeared to represent the western limits of the previously published Church End settlement. Ipswich ware sherds and worked bone objects represented typical finds from the period. A single Late Saxon pit was present. A large two-phase post-Roman but undated ditch crossed the north of the site.

1. Introduction

1.1 Project Background

1.1.1 The site at Hatherdene Close / Coldham's Lane, Cherry Hinton (Fig.1; TL 4842 5758) had been the subject of a trench-based archaeological investigation in 2007 (ECB2574; Mortimer 2007). It has since received planning approval for development of 59 residential houses, along with access roads and services. A condition attached to the planning permission required a programme of geophysical survey and archaeological excavation in accordance with an approved Written Scheme of Investigation (WSI). The site is 1.2ha in area.

1.1.2 This assessment has been conducted in accordance with the principles identified in English Heritage's guidance documents *Management of Research Projects in the Historic Environment,* specifically *The MoRPHE Project Manager's Guide* (2006) and *PPN3 Archaeological Excavation* (2008).

1.1.3 The human remains have been rapidly scanned for this assessment. The Small Finds have been fully catalogued to aid the analytical process.

1.1.4 The illustrations include examples of some of the Anglo-Saxon burials in order to provide information for specialists at the analytical stage.

1.2 Geology and Topography

1.2.1 The entire site lies on chalk, which the British Geological Survey indicates comprises West Melbury Marly Chalk Formation. The soil types encountered were grey rendzinas of the Wantage 2 Association (342d), averaging 30-40cm thick across the site.

1.2.2 The site lies at the west end of a slight ridge, along which Coldham's Lane runs. It slopes down from the south at 18m OD to to 14m OD in the north, the land draining towards Teversham Fen in the north-east via Quy Water to the northern Cam Valley. Large parts of the flat land to the north are occupied by Cambridge Airport. The slopes to the south separate Coldham's Lane and Church End from the southern core of Cherry Hinton with ground that was formerly marshy and prone to flooding in winter until the mid 19th century (Wareham and Wright 2002).

1.2.3 A possible dry spring lay at the northern end of the site.

1.3 Archaeological and Historical Background

1.3.1 Key Cambridgeshire Historic Environment Record (CHER) entries mentioned in the text are shown on Fig. 2.

Prehistoric

1.3.2 Evaluation on the site in 2007 (ECB 2574; Mortimer 2007) uncovered a crouched burial to the west. The coincidence of this and later burial activity lead to the suggestion there may have been a small barrow at the site, although with no ditch this could have only been formed by a relatively small turf mound.

1.3.3 A prehistoric bronze object was found west of the site in 1903 (CHER 04635).

1.3.4 Bronze Age Barrows, the Iron Age hillfort known as War Ditches, and the main Late Iron Age to Roman route now called Worsted Street lay in excess of 2km south of the site around Limekiln Hill.

Late Iron Age to Roman

1.3.5 Ditches of Romano-British date across the north of the site identified in evaluation were thought to represent field systems, possibly on the edge of a settlement.

1.3.6 Complete Roman pottery vessels uncovered within a slight buried soil during evaluation were thought to represent cremation burials of earlier Roman date in the southeast of the site. These lay within a probable sub-rectangular enclosure ditch, thought to have had a mortuary purpose.

1.3.7 Roman features have been found in the vicinity, including a well at the Norman Cement Works 400m southwest of the site (CHER 05168), pottery 290m to the south (and an undated skeleton; CHER 04629/04629A) and pottery within a ditch (CHER 04852A).

1.3.8 Roman tracks are known to run north of the site (Cessford and Slater 2014).

1.3.9 Further afield, a 2nd-3rd century Roman villa was excavated in the 1980s, revealing a 4th century ditch-and-pallisade enclosure and signs of 5th century occupation, within Teversham parish around 1km to the east of the site (CHER 05099).

Early Saxon

1.3.10 Ten inhumation burials were identified on the site during the evaluation, the majority thought to be of Early Saxon date. In at least one case, more than one skeleton occupied a single grave. The burials were associated with the Roman cremations, surrounding and cutting the silted final fills of the earlier mortuary enclosure ditch.

1.3.11 Possible Anglo-Saxon inhumations, buried with knives at the waist were found to the southwest of the site in 1939 at the Norman Cement Works (CHER 04628) potentially within 60m of the site.

1.3.12 Early Saxon settlement is indicated only by the presence of residual sherds at the Neath Road site (Cessford and Slater 2014, fig. 3; ECB 3569).

Middle to Late Saxon

1.3.13 The site lies just west of Church End, the focus of Middle and Late Saxon settlement in this part of Cherry Hinton. This settlement originated in the Middle Saxon period, but by the Late Saxon/Saxo-Norman period it sat within a D-shaped enclosure covering around 6ha, containing timber structures, including a chapel with associated burials (CHER 13013), along with droveways, quarry pits and wells (Cessford with Dickens 2005). The settlement probably formed the centre of the early medieval manor of *Hintona* (*ibid.*). Tracks along the northern side of the settlement probably continued along the line of Fulbourn Old Drift westwards towards the ferry crossings on the Cam at Chesterton.

1.3.14 Although no definite Middle Saxon features were found, a number of postholes and small ditches in the northeast of the evaluation may indicate the western reaches of the Middle to Late Saxon settlement.

Medieval

1.3.15 By the medieval period, this part of Cherry Hinton had been turned over to agriculture with little evidence of settlement activity. Quarry pits and yards were found along Church End. By the late 14th Century, Coldham's Lane (*Coldhamlane*) on the south-western side of site had come into use (Reaney 1943, 44).

1.3.16 Nearby finds include two wells 290m south of the site (CHER 04852) containing 13th-14th century pottery. Further afield, closer to the surviving church, increased later medieval settlement was found at Neath Road (Cessford and Slater 2014; ECB3569).

Post-Medieval

1.3.17 Arable agriculture continued to be the main use for the area surrounding the site. Enclosure in 1810 saw the truncation of Fulbourn Old Drift at Church End in favour of Coldham's Lane (Wareham and Wright 2002). Post-medieval furrows running perpendicular to Coldham's Lane were found throughout the evaluation in 2007.

Geophysics and Forthcoming Work

1.3.18 A geophysical survey was conducted in advance of excavation but this only detected the later furrows and modern ferrous signals. Geophysics have also been conducted on the land immediately west, north and northeast of the site but the results (CHER 4920) have not been incorporated. Evaluation on the same area has produced little evidence surrounding the Hatherdene Close site, although a Roman well with pottery and daub was recorded, as well as medieval features further north (Marcus Brittain pers. comm.).

1.4 Acknowledgements

1.4.1 Thanks are extended to Duncan Hawkins of CgMs who commissioned the work on behalf of Weston Homes PLC and to Kasia Gdaniec for monitoring the site. The project was managed by Richard Mortimer. Machine operation was performed by Chris Brown and Keith Davies of Anthill Plant Hire Ltd.

1.4.2 The site was directed by Stuart Ladd. Pat Moan took over leading the final weeks of excavation. The authors would like to thank the following staff who worked on the site, often beyond the call of duty: Emily Abrehart, Simon Birnie, Louise Bush, Xosé Luís Hermoso Buxán, Dan Firth, Nick Gilmour, Steve Graham, Andy Greef, Paddy Lambert, Adele Lord, Ted Levermore, Neus Esparza Nogues, Amy Revans, Kelly Sinclair and Rob Wiseman. Thanks are also extended to the volunteers: Sophie Smith, Vicki Harley and Kayleigh Bulloch.

1.4.3 Skeletons and finds were cleaned under supervision of Natasha Dodwell. As well as the many staff involved, volunteers deserve thanks for the help in washing the assemblage: Pam Janse Van Rensburg, Annie Brown, Gill Wills, Rachel Thomas, Sharon Trueman, John & Alexandra Edwards and Sharon Ware. The claw beaker and other delicate finds were cleaned by the late, great Terry Mortlock.

2. Project Scope

2.1.1 This report provides an assessment of the archaeological potential of the finds and records from the excavation at Hatherdene Close, including the finds from the evaluation in 2007 undertaken by CAM ARC, now OA East.

2.1.2 The results from recent excavations in the vicinity (detailed in Section 1.3), if available, will be considered in the analytical stage, both in terms of site comparisons and the broader context of the immediate environs of the site (including Church End).

3. Interfaces, Communications and Project Review

3.1.1 Connections already established with various research organisations will form part of the forthcoming analysis. For example, samples of DNA from the Early Saxon cemetery will be used by the Cambridge University Department of Archaeology 'After the Plague' project and by the University of Central Lancashire and Max Planck Institute for the Science of Human History to expand on the recent work examining variations between populations using Anglo-Saxon cemeteries in Cambridgeshire (Schiffels *et al* 2016). These projects and their linkage to the Hatherdene Close project are detailed in Appendices C.4 and C.5.

3.1.2 The project team (including specialists) will liaise during team meetings and by the usual forms of communication (such as email and Skype).

3.1.3 Appropriate review points will be included in the project programme, including (for example) completion of specialist analysis.

4. Original Research Aims and Objectives

4.1 Regional Research Objectives

4.1.1 This excavation was undertaken with reference to the goals of the Regional Research Frameworks relevant to this area (as expressed in the Written Scheme of Investigations) and will contribute to further research questions devised at the assessment stage (see Section 7). The relevant published frameworks are:

- *Research and Archaeology: A Framework for the Eastern counties: 1. Resource Assessment* (Glazebrook 1997)
- *Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy* (Brown & Glazebrook 2000)
- *Research and Archaeology Revisited: A Revised Framework for the East of England* (Medlycott 2011).

4.1.2 Specifically, these include investigating the themes of:

- Continuity and transition from the Roman to Saxon periods
- Influence of Roman sites and communications on Saxon settlement
- Regional difference in the Saxon period
- Ritual and religion, e.g:
  - Re-use of early (Iron Age and Roman) enclosures
  - The effect of the introduction of Christianity in burial contexts
- Migration, e.g:
  - *"Evidence for migration into and within the region...The application of scientific techniques such as oxygen isotope analysis could be one avenue for further exploration. Issues such as the spatial distribution of ethnic affiliation through time; combination of morphometrics, biomolecular markers and isotope provenancing could be addressed by these means."* (Medlycott 2011, 84, c.f. 2011, 58)

4.2 Local and Site Specific Research Objectives

4.2.1 The primary site-level research objectives were to define the extents and density of what was evidently a cemetery of at least moderate density and with a long duration of usage.

4.2.2 Other objectives were to:

- Characterise the Early Roman activity, thought to represent the edge of a settlement across the north of the site
- Investigate the possibility that there may have been a barrow at the site and that this may have informed the later development of the Roman and Saxon cemeteries

- Understand any relationships between the Early Saxon cemetery and the known Middle to Late Saxon settlement and manorial centre around Church End

5. Summary of Results

5.1 Introduction

5.1.1 All excavated slots for all features are shown on Fig. 3, while the phased plan is shown on Fig. 4. The following phasing has been developed for the site:

5.1.2 **Period 1: Prehistoric**
1.1 Undated Prehistoric
1.2 Mid-Late Iron Age (2nd-1st century BC)
Period 2: Roman
2.1 Late Iron Age/Early Romano-British (1st century AD)
2.2 Early Roman (1st-2nd century AD)
2.3 Middle Roman (Later 2nd-3rd century AD)
2.4 Late Roman (Later 3rd-4th Century AD)
Period 3: Anglo-Saxon
3.1 Early Saxon (5th-6th century AD)
3.2 Middle Saxon (8th-9th century AD)
Period 4: Late Saxon/Early Medieval (9th-12th century AD)
Period 5: 18th/19th Century and Modern

5.1.3 Where a feature or cut number is given, it is generally the master number for that feature, given in bold. Where specific excavated slots or fill contexts within a feature are mentioned (primarily in the appendices), they are given in bold and prefixed with 'Slot'. For example: Fill 1191 at Slot **1190** of Ditch **866**. Skeleton numbers are prefixed with 'Sk'.

5.1.4 Results are summarised by period and then thematically within each period.

5.2 Period 1.1: Undated Prehistoric

5.2.1 A single crouched burial (Sk 249, Grave **248**), first identified in evaluation, was excavated in the west of the site, some 18m west of the later burials. There is no evidence that it informed the later development of the Roman and Anglo-Saxon cemetery and it was probably Bronze Age or Iron Age in date. If there was a mound marking it, that may still have been present in the Roman period. It is also possible that the geographical setting influenced the choice of prehistoric and Roman/Saxon cemetery locations independently.

5.2.2 Radiocarbon dating of this single skeleton will refine this uncertain date. There is the possibility it is an out-lying Roman or Anglo-Saxon burial, although the condition of the bone was poorer than most.

5.3 Period 1.2: Mid-Late Iron Age (2nd-1st Century BC)

5.3.1 This period was represented by a single small pit (**564**) in the west of the site containing sherds of 2nd-1st century BC pottery (2 pieces, 72g). Sherds of the same date were also recovered as residual material in later features.

5.4 Period 2.1: Late Iron Age/Early Romano-British (1st Century AD)

Enclosures

5.4.1 Two or three phases of activity surrounded a broad natural feature, probably a spring, in the northern part of the site. At least six irregular pits surrounded the area of the

spring in a rectilinear layout: one interpretation (suggested by their amorphous nature and the character of their fills) is that these were tree throws, although their regularity would seem to argue against this. These features may have been backfilled and replaced by two phases of ditches forming a rectilinear enclosure.

5.5 Period 2.2: Early Roman (1st-2nd Century)

Well

5.5.1 A well (**1279**) at least 5m deep was cut into the area of the spring at the northern end of the site. At the extreme northern limit of site, the base of the feature could not be reached safely, nor could the feature be adequately dated. It has been assigned an Early Roman date on the basis of pottery retrieved from the maximum depth reached.

Kilns

5.5.2 The remains of up to four kilns were excavated, representing small scale local industry. All were cut into the silted up Late Iron Age/Early Roman enclosure ditches surrounding the spring. Two of the recorded kilns (**1008**, **1161**) were fragmentary and heavily truncated and may simply represent the raking out of lost kiln structures. The substructure of one kiln and its internal layout survived (**581**; detailed in Appendix B11), adjacent to and cutting the remains of an earlier kiln (**721**). Associated kiln furniture was retrieved but spelt wheat present in samples raises the possibility that the feature was re-used for crop-processing, although its use as fuel is more likely. Radiocarbon dating may refine the date of these features.

Rectilinear Ditches

5.5.3 An array of linear, generally narrow ditches across the western half of the site broadly perpetuated the ordinal alignments of the earlier enclosure to the north. Phasing of these is currently largely based on pottery that may be residual and their layout is perhaps integral with longer linear ditches of Period 2.3 (below).

5.5.4 A set of parallel ditches at the south-western end of the site appeared to influence the position of the subsequent Middle Roman (Period 2.3) features, and yet may also have respected the line of the contemporary cremation cemetery. They have therefore been assigned to Period 2.3 in this preliminary phasing, but the evidence will be reconsidered during analysis.

Inhumation Burial

5.5.5 An inhumation burial (Grave **1263**, Sk 1264) may have been one of the earliest burials in the cemetery that developed through Periods 2.3, 2.4 and 3.1 (see Fig. 5). This was an infant, buried in a casket or coffin. The individual had been decapitated, with the skull placed between its legs. It has been radiocarbon dated to the 2nd to 3rd century AD (135-224 cal AD at 68.2% probability), or slightly earlier (85-254 cal AD at 93.6% probability) (SUERC-71019). However, based on its location and alignments, it appears possible that this burial occurred during the earlier Roman period. It could also be contemporary with the Middle Roman cremation burials (Period 2.3 below).

5.6 Period 2.3: Middle Roman (Late 2nd-3rd Century)

Cremation burials and trapezoidal enclosure

5.6.1 Five cremation burials and one inhumation of this date in the south of the site followed a south-east to north-west line (Figs. 4 and 5). Most cremations were well furnished, with grave goods, as well as cinerary vessels or boxes (see Appendix B.8). Grave goods included boxes, one with a lock, samian platters, flagons, and the cremation

vessels themselves (e.g. Cremation **231**, Plate 1). The grave goods are summarized in Table 1 with the pottery discussed in detail in Appendix B.8.

5.6.2 The cremation at the north-western end of the line (**945**), 2m west of Grave **1263**, lay within a small, square, ditched enclosure (**866**) some 4m across internally. Two cremation burials (**229**, **231**) at the southeast lay within the first phase of a ditched trapezoidal enclosure (**942**) around 14.6m long and 14m wide at its widest. At some point during the period, the western side of this enclosure was in-filled while the rest was recut and extended north-westwards (**214**), stopping 1.7m short of Grave **1234**. One cremation (**534**) was cut into the top of the in-filled segment with another lying within the extension (**500**), providing a *terminus ante-quem* for the earlier enclosure's backfilling and conceivably the extension.

5.6.3 An additional grave-like feature (**937**) lay within the bounds of the enclosure's first phase, aligned northwest-southeast. No human remains were present within the feature.

5.6.4 The precise chronological sequence for the enclosure ditch, the five cremation burials, the infant inhumation and the possible additional grave has not been established. Datable material from the enclosure ditch is earlier, and the stratigraphy allows for the enclosure's two phases to pre-date all the burials. However, the alignments of these features suggests their close association.

Cremation Burial	Goods
229	Cinerary vessel (SF 103)
231	Cinerary vessel (SF 77); 3x samian platters (SF 42, 43, 44); 3x flagons (SF 39, 40 41); iron nails and objects (SF 45-48)
500	Cinerary vessel (SF 218); auxiliary vessel (SF 219)
534	Cinerary vessel (SF 229) only
945	Cinerary box with Fittings (SF 342, 347, 248); auxiliary box with lock (SF 337), hinges (338), containing a samian sherd (SF 345); auxiliary vessels (SF 349, 350, 351)

Table 1: Middle Roman cremation burials

Inhumation Burial and Square Barrow

5.6.5 A probable grave (**478**) which contained the partial, disarticulated remains of two individuals, was surrounded by a sub-square ditch (**305**) 12m by 10m in size, potentially forming a square barrow or small enclosure (Figs 4 and 5). The grave itself was large with evidence, in the form of nails and small iron fitting, of a structure or casket. The surrounding ditch truncated part of the trapezoidal enclosure's extended ditch (**942**), cremation enclosure ditch **866** and the top of the infant inhumation (grave **1234**). The extremely heavy disturbance of the human remains in grave **478** is thought to result from robbing.

5.6.6 A jet pin (SF 217) was among the finds from the grave's disturbed fills. Pottery from the lower, less disturbed fills, is of 2nd-3rd century date, while that from higher fills – potentially contaminated during robbing – is generally of 3rd-4th century date. The pottery recovered could all have been deposited during the inhumation process, or could come from a cremation burial truncated when the grave was cut (however, no cremated bone was recovered). The latter possibility requires a later date for this burial and its surrounding ditch. Radiocarbon dating of the skeletal remains will help clarify the phasing. The robbing event itself can not be dated, potentially happening in the

Early-Saxon period (as was the case with Early Saxon graves). Absent any Anglo-Saxon material in the grave's fills, there is no way to prove this.

Linear Ditches and Pit

5.6.7 A long ditch (**268**) bisected the site, terminating near the south-western baulk, at the same point as the square barrow and trapezoidal enclosure ditches' south-western sides. Its northern extremes cut across the Late Iron Age enclosure, extending beyond the northern baulk. Along with a near-parallel narrower ditch (**370**) to the west, this may have marked a track way, leading from south of the cemetery towards the spring and well. These ditches may also have been associated with the retained ditches assigned to Period 2.2.

5.6.8 A large pit (**607**), interpreted as a quarry, lay against the eastern side of ditch **370** (within the possible track).

5.7 Period 2.4: Late Roman (3rd-4th Century)

Cremation burials

5.7.1 Two later cremation burials (**261** and **772**) augmented the approximate line shared by the five earlier examples north-westwards slightly southwards. They contained only 4th century pottery: cremation **261** with ancillary vessels (Plate 2) and cremation **772** including the remains of a pair of hobnail shoes (see Table 2).

5.7.2 These later cremations bring the duration of use of the Roman cemetery closer to the start of the Anglo-Saxon cemetery, raising questions about continuity and change in burial practices both between the Roman and Anglo Saxon periods and within the Roman period.

Cremation Burial	Goods
261	Cinerary vessel (SF 97); 4x auxiliary vessels (SF 99-12)
772	Cinerary vessel (SF320); 2x shoes (as hobnails: SF 318, 319); 5x nails (SF 317)

Table 2: Late Roman cremation burials

5.8 Period 3.1: Early Saxon (5th-6th Century)

Cemetery Introduction

5.8.1 Early Saxon features were exclusively funerary in nature, comprising an inhumation cemetery that lay in the south-eastern corner of the site. The north-western and north-eastern extents of the cemetery were identified within the excavation area, as was its probable south-western limit (although possible Anglo-Saxon inhumations have previously been recorded south of Coldham's Lane). To the south-east, the cemetery extends beneath Hatherdene Close.

5.8.2 In total, 126 distinct Early Saxon skeletons of 5th-6th century date were identified on site or during the assessment process, including fragmentary infant/neonate skeletons and one *in utero* foetus (Table 3). Examples of the burials are illustrated in Figs. 6-11, both to highlight the character of the remains and to provide details for specialists at the analytical stage. The human skeletal remains were recovered from 123 detectable grave cuts, which have been assigned to grave 'plots'. The latter comprise single burials in one location and sequential burials in the same plot. A total of 100 such separate grave plots have been identified at assessment stage (see Appendix A.2).

5.8.3 Furthermore, five probable graves were apparently empty, with two containing only grave goods. A degree of interference with graves meant that disarticulated human skeletal remains were also present. Since these may have belonged to individuals in other graves, unless they were evidently still *in situ,* they have not contributed to the total number of burials.

5.8.4 Assessment of the grave goods suggests a narrow date range for the cemetery, from the late 5th to earlier 6th century, probably not persisting later than approximately AD 560. This is also supported by two trial radiocarbon dates (Appendix C.3), one of which is from a barrow burial, potentially (lying on the edge of the cemetery and truncating others) later in the cemetery's sequence.

Burials and Graves	Count
Inhumation burial	125
In utero	1
Grave goods only	2
Empty possible graves	3

Table 3: Early Saxon burials and possible graves

Location

5.8.5 The majority of the Early Saxon burials lay to the northeast of the Roman funerary enclosure and square barrow, and most were aligned perpendicular to the enclosure's northeast side. Five grave plots (containing eight skeletons) partially cut the silted Roman enclosure ditch, while eleven grave plots (containing 19 skeletons) lay within the enclosure itself. One plot (containing one skeleton) was entirely within the fill of the enclosure's north-western ditch. The long 2nd-3rd century track's eastern ditch (**268**) appeared to mark the general north-western edge of the cemetery, with four infant burials (and one empty possible grave) and an early Saxon barrow cutting into its silted fill. Four graves (four skeletons) lay beyond, within the track, including one with a probable 5th century pot, suggesting that the track's eastern ditch boundary was crossed early in the Anglo-Saxon cemetery's period of use.

5.8.6 Re-use (or even potential continuity of use) of cemeteries from the Late Roman into the Early Saxon period has been suggested for a number of sites, perhaps most notably at Girton College, 6km to the north-west (Lucy 2000, 146)

Alignments

5.8.7 The majority of the Early Saxon burials followed a generally parallel SW-NE alignment. However, several deviated from or reversed this alignment (Table 4). In two cases, an earlier grave aligned NW-SE was superimposed by a later burial(s) aligned SW-NE (an example is shown in Fig. 6). The majority of burials were supine (Table 5), with a small number turned entirely onto their sides. Two were prone. They have not yet been formally categorised according to position (crouched, flexed, extended etc.).

5.8.8 Analysis of significant deviations from the main grave alignment may help to bracket the cemetery's dates of use. Two burials (Sk 361 and Sk 1432), which were both early in the sequence of burials in their plots, followed the NW-SE alignment of the Roman cremations and were truncated in a similar fashion by later graves. These may represent an earlier phase, with the graves perhaps remaining visible when the dominant SW-NE alignment was adopted. Three unusual examples of crouched or flexed burials represent the final burials in of three or four individuals in the same plot (examples are illustrated in Figs. 7 and 8). Two of these individuals had their heads to

the north and together may indicate a later stage of burial practice, or a specific form of burial for a specific kind of person, purpose or reason.

Burial Alignments	Count
SW-NE	115
NE-SW	4
N-S	2
NW-SE	2
S-N	1
W-E	1
Total	**125***
*excluding empty graves/*in utero*	

Table 4: Early Saxon burial alignments

Burial Position	Count
Supine	89
Right side	3
Left side	2
Prone	3
Uncertain	28
Total	**125***
*excluding empty graves/*in utero*	

Table 5: Early Saxon burial positions

Multiple Burials

5.8.9 A total of 125 Early Saxon skeletons was found, relating to 123 grave cuts (and one in utero). In several cases, double burials were probably present in the same cut, but the relationship was often truncated by a later burial (see Fig. 10). The situation is summarised in Table 6, although this does not fully represent every example (e.g. where a triple burial was cut by a fourth burial in the same 'plot' it is recorded as four skeletons in two cuts).

Cuts in Plot	Skeletons in Plot						Total
	0 (Empty)	1	2	3	4	5	
1	5	76	1				**82**
2			10	2	1		**13**
3				3	1	1*	**5**
Total	**5**	**76**	**11**	**5**	**2**	**1**	**100**
*includes *in utero*							

Table 6: Early Saxon grave cuts and skeletons per burial 'plot'

5.8.10 A full breakdown of burial plot stratigraphy is given in Appendix A.2.

Grave goods

5.8.11 Some graves held no goods (e.g. Plate 3). However, grave goods were not uncommon and included weapons (iron spear heads and ferrules, shield bosses, and a set of arrowheads, normally found with men), dress accessories (normally with women: copper alloy brooches, wrist clasps, rings, pins, mounts, pendants, toilet items, and a chatelaine; men: copper alloy and iron belt equipment). Shield fittings were found

associated with men's shield bosses and were also re-used in women's clothing – the latter examples are currently assumed to be dress accessories with a protective significance. Several atypical iron artefacts and a claw beaker suggest links with communities located in the south-east of England. One burial (SK 294) was accompanied by a piece of birch bark tar (SF131 C.9), probably in a bag adjacent to a chatelaine. This may have been used for its medicinal/antiseptic properties and is currently thought to be unique in an Anglo-Saxon grave. Table 7 summarizes the presence of different grave good materials

Grave good material	Burials	
	Count	%*
None	40*	32
Copper Alloy	36	28.8
Beads (All types)	38	30.4
Iron	58	46.4
Pottery	23*	18.4
Birch bark tar	1	0.8%
*excluding empty graves/ *in utero*		

Table 7: Early Saxon burials with and without grave goods

5.8.12 A few individuals were buried with whole or part ceramic vessels of 5th-6th century date (Blinkhorn in Appendix B.9), with no obvious chronological progression across the cemetery. One hand-made example buried with an infant resembles a Bronze Age cup and – if it proves during analysis to be prehistoric, rather than an unusual Early Saxon form – would be an extremely rare example of an Anglo-Saxon burial with a prehistoric object placed as a grave good. Vessels were found with both adults and juveniles (see Fig. 11) of both sexes (Tables 8 and 9), but less commonly with sub-adults and younger adults.

Sex	With pottery	Without pottery
F	2	23
?F		7
?M	1	7
M	3	19
?	1	8
N/A*	16	40
Total Result	**24**	**104**
* including empty grave **236**		

Table 8: Early Saxon burials with ceramic vessels or sherds, by assessed sex

Age	With pottery	Without pottery
(Empty grave)	1	
foetus		1
neonate	2	2
infant	5	15
infant/juvenile	3	3
immature	1	2
juvenile	3	8
juvenile/sub-adult	1	5
?sub-adult		1
sub-adult		4
older sub-adult/young adult		1
older sub-adult/adult		2
young adult		7
young/middle		3
adult	1	6
middle adult	2	21
middle/mature	1	5
mature adult	3	18
Total Result	**23**	**104**

Table 9: Early Saxon burials with ceramic vessels or sherds, by age.

Age Category	With knife	Without knife
neonate	1	3
foetus		1
infant	5	15
infant/juvenile	2	4
immature	2	1
juvenile	5	6
juvenile/subadult		6
subadult	1	3
older subadult/young adult		2
older subadult/adult	1	1
young adult	3	4
young/middle	3	
adult	2	5
middle adult	7	16
middle/mature	1	5
mature adult	9	12
Total	**42**	**84**

Table 10: Early Saxon burials with knives by age category

Age Category	Amber	Mono. Glass	Poly. Glass	Faience	Stone	Bone	Crystal	Chalk	Total
neonate	1	5	0	0	0	1	0	0	**7**
infant	2	27	6	0	0	0	0	0	**35**
infant/juvenile	0	4	0	0	0	0	0	0	**4**
immature	4	2	1	0	0	0	0	0	**7**
juvenile	19	14	3	0	0	0	0	0	**36**
juvenile/subadult	12	13	3	0	0	0	0	1	**29**
subadult	9	37	1	0	0	0	0	0	**47**
young adult	57	24	5	0	0	0	0	0	**86**
young/middle	28	5	3	0	0	0	0	0	**36**
middle adult	233	81	8	0	0	1	1	0	**324**
middle/mature	41	6	0	0	0	0	0	0	**47**
mature adult	79	326	23	*110	1	0	1	0	**540**
Total	**485**	**544**	**53**	**110**	**1**	**2**	**2**	**1**	**1198**
									* 109 with one individual

Table 11: Beads as grave goods by age

Sex	Amber	Mono. Glass	Poly. Glass	Faience	Stone	Bone	Crystal	Chalk	Total
F	224	389	19	109	1	0	2	0	**744**
?/??F	3	25	17	1	0	1	0	0	**47**
?	167	22	0	0	0	0	0	0	**189**
?M	42	0	3	0	0	0	0	0	**51**
M	2	0	0	0	0	0	0	0	**2**
N/A	47	102	14	0	0	1	0	1	**165**
Total	**485**	**284**	**52**	**110**	**1**	**2**	**2**	**1**	**1198**

Table 12: Beads as grave goods in relation to assessed sex

Barrows

5.8.13 Two Early Saxon burials (Sk 259, Grave **258** and Sk 856, Grave **855**, Fig. 9) lay within circular barrow ditches (**358** and **858** respectively) and may have been late in the burial sequence. Any associated mounds did not survive but one had been capped with pieces of stone, clunch, tufa and *opus signinum* (Plate 5), much of which may have come from a nearby (off-site) Roman building. The capping material was mostly whiteish and had slumped into the top of the ditch. These would appear to be later in the sequence, but relatively early for Anglo-Saxon burials, pointing to links with the south east of the country. Skeleton 259, has been radiocarbon dated to 417-569 cal AD (95.4% probability; SUERC-71018).

5.8.14 These barrows may be relatively early than typical 7th century examples (Lucy 2000, 146). Similarly early (pre-560/570AD) barrow burials are recorded at Spong Hill (Penn and Brugmann 2007,fig. 5.15). Two speculatively dated, more local examples at Highfields, Littleport comprised penannular ditches surrounded a disturbed burial and possible un-urned cremations (Holt 2008, fig.10 & Appendix 15).

Grave Markers

5.8.15 No grave markers or post holes were recorded, although several large (20-30cm), rounded stones, unusual for the chalk geology, were present in the plough soil. One

example with pock marks was retained (SF 160). The regularity of the cemetery and the accurate re-use of graves may point to the use of markers, although the mound above each burial would have remained visible for some years.

Robbing/Interference

5.8.16 Interference *not* apparently resulting from the re-use of grave plots was evidenced in seven graves, with a possibility of four more, pending further analysis. Such disturbance (which may have included grave robbing) is consistent with other cemeteries of the period throughout Anglo-Saxon England and the Merovingian Kingdoms (e.g. Klevnäs 2013).

Possible Mortuary Building

5.8.17 A post-built hall-like structure, 15m long by 7m wide, was built along the north-eastern edge of the cemetery. A row of five burials respected its southern edge, although no graves were cut into it. While undated (with no finds or environmental material deriving from any of the postholes), the style of the building is that of an Early or Middle Saxon hall and it is currently assigned an Early Saxon date on the basis if its close association with the cemetery. The general dearth of finds and features associated with Middle Saxon domestic occupation in this part of the site also suggests an early date.

5.8.18 The building may have had two rooms or wings, the north-western portion containing a number of internal post-holes. A line around 2m wide extending southwest from between these wings could represent a path within the adjacent cemetery; adult burials border this line with only infant burials being cut within it.

5.9 Period 3.2: Middle Saxon (8th Century)

Settlement Boundary

5.9.1 A shallow enclosure ditch (**631**) in the northeast of the site appeared to mark the limits of Middle Saxon activity to the east. It enclosed the postholes of several structures or fences as well as (possibly later) inter-cutting pits. A second cluster of inter-cutting pits cut the silted ditch (see Plate 6). Pottery, including Ipswich Ware, and bone pin beaters were recovered from these pits.

5.9.2 This activity is clearly related to the earliest phase of the Church End settlement detailed elsewhere in this report.

Pit

5.9.3 In the southeast corner of the site, a large pit (**723**) lay immediately south of the possible hall. Environmental samples from its lower fills suggest use as a cess pit, although this may not have been its original purpose. A few abraded fragments of datable Early Saxon material were excavated from this pit, which may represent an outlying feature of the settlement area to the east.

5.10 Period 4: Late Saxon/Early Medieval (9th-12th Century)

5.10.1 A single pit (**1121**) containing sherds of St Neots type ware cut through the earlier cemetery. This probably also represents a westerly outlier of the medieval activity focused around Church End.

5.11 Period 5: 18th/19th Century and Modern

5.11.1 No medieval activity was recorded. The area is known to have been utilised for agriculture, potentially arable or pasture, probably from the 12th, if not the 14th, century, following shifts in the settlement at Church End (Cessford with Dickens 2005).

Furrows

5.11.2 The area was enclosed in 1810. Large post-medieval furrows that ran perpendicular to Coldham's Lane crossed the site. Two slightly different alignments were observed, divided by a trackway marked by wheel ruts bisecting the site. Significantly, this divide coincided with the bisecting Roman ditch (**268**), suggesting that it survived as an earthwork that influenced later land division.

5.11.3 Frequently, disarticulated human skeletal remains were found within these furrows, two of which truncated the cemetery.

Modern

5.11.4 An array of postholes aligned with Hatherdene Close followed the site's south-eastern boundary (not illustrated). A line extending from Coldhams Lane parallel to what is now Hatherdene Close, leading to a structure within the field, is shown here on the earliest, pre-World War 1 Ordnance Survey maps.

5.12 Undated Features

Major Boundary Ditch

5.12.1 A large ditch (**743**) perhaps 3m wide cut west to east through the north of the site, terminating in the wet hollow that contained the Early Roman well. This was recut (**742**), 3m wide and 1.1m deep. It clearly cut the Period 2.1 enclosures surrounding the possible spring but lacked any finds to provide a firm date. Its alignment conflicted with the Roman ditches and kilns in the area (Periods 2.2 and 2.3), which contained ample datable material. Clearly not modern and not reflecting the post-medieval landscape, this feature would appear to have been potentially Middle Saxon to medieval in origin. Aerial photographs and available LIDAR data do not provide any further information.

Pits and post holes

5.12.2 Three postholes immediately north-west of the cemetery remained undated. A small pit (**846**) 15-20m northeast of the cemetery, isolated from any associating features, was also undated.

5.12.3 A shallow pit (**265**), containing disarticulated dog and medium and large mammal bone, lay north-west of the cemetery, between the long linear ditches. It may have been of Late Iron Age or Roman date but should be radiocarbon dated.

6. Factual Data and Assessment of Archaeological Potential

6.1 Stratigraphic and Structural Data

The Excavation Record

6.1.1 Hand-written records have been collated and entered into an MS Access database. The quantities of records are shown in Table 13.

Type	Count
Contexts	1241
Plans	206
Sections	263
Samples	327
Skeletal parasite samples	293
Small Finds	578
Context registers	31
Plan registers	6
Section registers	7
Sample registers (environmental/HSR)	33
Skeletal parasite registers	7
Small Finds registers	15
A3 permatrace sheets (plans and sections)	87

Table 13: The excavation record

Finds and Environmental Quantification

6.1.2 The variety of artefacts retained are shown in Table 14. The majority (excluding beads) were hand collected. Of 327 samples taken, the entirety of the grave and cremations samples were processed (201 and 13 respectively) and 10 litres each from a selection of 59 of the remainder were processed, of which 39 have been assessed for environmental potential.

Type	Weight in kg or Count
Coins	10 items
Non-ferrous Metal Artefacts	147 items
Lead Artefacts	6 items
Iron Artefacts	206 items
Slag	0.18kg
Jet	1 item
Flint	0.22kg (17)
Glass beaker	1 item (68 fragments)
Beads (glass, faience and amber)	1217 items
Pottery	30.7kg
CBM and Fired Clay	3.94kg
Stone	3.41kg
Mortar/Opus Signinum	1.91kg
Worked Bone Artefacts	5 items
Human Skeletal Remains	350kg (137)
Animal bone	457 specimens

Table 14: Finds and environmental quantification

Range and Variety

6.1.3 The types of features are broken down by period in Table 15. Graves of the Early Saxon period were the most common feature.

Feature Type	Period											Total
	0	1.1	1.2	2.1	2.2	2.3	2.4	3.1	3.2	4	5	
Grave		1			1	1		123*				**126**
Pit	7		1	8	7	3		1	11	1		**39**
Ditch	5			5	16	7		2	1		1	**37**
Posthole	3				1			68	21			**93**
Cremation Pit						5	2					**7**
Gully	1				3						1	**5**
Furrow											4	**4**
Natural	4											**4**
Kiln					3							**3**
Plough scar	3											**3**
Well	1				1							**2**
Total	**24**	**1**	**1**	**13**	**32**	**16**	**2**	**171**	**33**	**1**	**6**	**300**
*identifiable cuts, including empty graves												

Table 15: Summary of feature groups by provisional period

Condition

6.1.4 Preservation of most features was good, with the exception of the intrusion of Period 5 furrows. However, burials survived even below these.

6.2 Artefact Summaries

Coins (Appendix B.1)

Summary

6.2.1 A total of 10 copper alloy coins was collected. Five are from the later Roman period, one is late medieval and the remainder are post-medieval. Two were found in Early Saxon grave contexts, one as a grave good (modified for re-use as a pendant), another more likely as a residual find. The other examples were found in topsoil or furrow (unstratified) contexts.

Statement of Potential

6.2.2 In general terms, the coins have little potential to add further information to the analysis of the site. However, the re-used Roman coin will be included in the relevant grave catalogue in relation to similar examples elsewhere.

Non-Ferrous Metals (Appendices B.2-B.3)

Summary

6.2.3 A substantial assemblage of 147 non-ferrous small finds was recovered from the site, of which all but one are of copper alloy. A single silver wire ring (SF 409) was found. The group almost exclusively consists of dress accessories associated with Early Saxon burials, and datable objects suggest a late 5th to mid 6th century date, perhaps no later than AD 560. Particularly notable are the re-used shield mounts (SF 416, in the form of a 'hippogriff', Plate 7; and SF 475).

Statement of Potential

6.2.4 Given its richness, the assemblage from Hatherdene Close is of regional and national significance and, as such, has excellent potential to contribute to research into the cemetery itself, as well as to wider analyses of early medieval Cambridgeshire and England. The assemblage has limited chronological potential as a result of the narrow date range for the grave goods. It perhaps offers its best potential in terms of social analysis, taking into account aspects such as gender, age categories, hierarchy, and inter-generational spatial relationships in the burial sequence.

6.2.5 A total of 19 repairs and use-adaptations have been observed in this assemblage (detailed in Appendix B2), which includes a quarter of all the brooches, and such information – although rarely explored elsewhere – is of direct relevance to understanding the cemetery's setting in relation to contemporary settlement, as well as providing a complementary context for discussing the remarkable and probably re-used shield mounts (SF 416 and SF 475).

6.2.6 An examination of textile remains and textile impressions associated with the metalwork will be of value, providing an empirical basis for the reconstruction of mortuary dress ensembles and enabling further social analysis of the cemetery.

Iron Artefacts (Appendix B.4)

Summary

6.2.7 A total of 206 iron artefacts came from the site. The assemblage is dominated by Anglo-Saxon artefacts (mainly from grave contexts), alongside a smaller number from the Roman period. These are broadly categorised as dress accessories (including knives, loops and keys), weapons (including spearheads, ferrules, shield bosses and a set of arrowheads) and structural objects or furniture fittings.

6.2.8 Assessment of the knives and weaponry has highlighted some unusual occurrences within the cemetery (detailed in Appendix B.4).

Statement of Potential

6.2.9 As one of the largest early Anglo-Saxon cemeteries yet excavated in Cambridgeshire, the assemblage from Hatherdene Close presents a good opportunity to develop understanding of the contemporary communities that lived in this region. Comparators

6.2.10 The distribution of the less common or unusual iron artefacts from burials may be valuable in suggesting provenance of individuals from the cemetery and/or drawing links with populations from further afield. This could be integrated with any available DNA or morphological analysis of the human remains (see Environmental Summaries, below).

Jet Pin (Appendix B.5)

6.2.11 A single jet pin from a Middle Roman grave (478) strongly indicates that this was a female burial. It has the potential to inform on burial customs.

Beads (Appendix B.6)

Summary

6.2.12 A total of 1,217 beads came from from 41 inhumations. Materials include amber (485 examples), glass (617examples) and other materials (116 examples), including faience, bone, stone and crystal.

Statement of Potential

6.2.13 This is a relatively large assemblage of beads from a well-preserved cemetery: such assemblages provide one of the most reliable and useful methods of dating (but not necessarily phasing) Anglo-Saxon graves of the 5th and 6th centuries (Brugmann 2004a; 2004b see also Hines and Bayliss 2013, 203-9). They also have the potential to inform on issues such as jewellery/dress, social status, sex and age within the population. The raw materials used have the potential to indicate trading patterns and contact with other contemporary groups.

Glass Claw Beaker (Appendix B.7)

6.2.14 The near-complete claw beaker recovered from grave **1228** in the Anglo-Saxon cemetery has the potential to inform on aspects such as status, trade and exchange. This expensive item may indicate connections with a local elite and, as such, its analysis in relation to other items from the grave and its occupant is likely to be highly informative in relation to the cemetery and the local community.

Late Iron Age and Roman Pottery (Periods 1 & 2) (Appendix B.8)

Summary

6.2.15 The well-stratified group of Late Iron Age and Romano-British pottery recovered from the site amounts to a total of 2014 sherds (weighing 21681g) which was largely collected from contemporary deposits, including kilns, cremations and inhumation burials. A minimum of 351 individual vessels were recorded.

Statement of Potential

6.2.16 The material from the Roman cremation cemetery (which includes both cinerary urns and cremation vessels) has the potential to add to current understanding of related burial practices.

6.2.17 When fully analysed and researched, the assemblage will make a valuable contribution to the growing corpus of data with the potential to significantly contribute to the regional research agenda on both pottery production (the kilns) and Roman funerary behaviour (the cremation burials).

Anglo-Saxon Pottery (Period 3) (Appendix B.9)

Summary

6.2.18 A series of complete vessels or large sherds were placed as grave-goods in the Anglo-Saxon inhumation burials. They are all of early Anglo-Saxon (5th-6th century) date, other than a fragment of what may be a Bronze Age accessory cup. The pottery assemblage from non-funerary contexts comprised 32 sherds with a total weight of 399g.

Statement of Potential

6.2.19 In broad terms, this group of pottery makes a useful addition to that from other cemeteries in the Cambridge region.

6.2.20 Confirmation of the identification of the possible Bronze Age vessel as a grave good will be required during analysis. Should this early date be confirmed, it has the potential to inform on similar practices recorded in other cemeteries.

Ceramic Building Material (Stone and Concrete/Mortar/Plaster) (Appendix B.10)

A.1.1 A total of 13.1 kg (20 pieces) of stone and CBM (mortar/plaster) were examined from this excavation. The stone assemblage consisted of broken-up rough walling stone (3.31 kg), faced walling stone (6.2 kg) and architectural stone (1.62 kg), most of which appeared to be Roman in date, though re-used/re-deposited within an Early Anglo-Saxon context. The mortar and plaster (total weight 1.98 kg) consisted of samples of Roman floor mortar/ concrete screed (12.59 kg), coarse screed plaster (0.28 kg) plus a basal layer of un-surfaced *opus signinum* (0.11 kg). Once again, most of these pieces came from an Early Saxon context (the secondary fill of the barrow mound).

Ceramic Building Material (Brick/Tile) (Appendix B.11)

6.2.21 The very small assemblage of ceramic building material (13 fragments, weighing 380g) is fragmentary and abraded. It ranges in date from Roman to post-medieval. It has no potential to further the analysis of the site.

Fired Clay and Kiln Furniture (Appendix B.12)

Summary

6.2.22 The relatively large assemblage of fired clay and kiln furniture recovered from the site comprises both amorphous lumps (18 fragments, 112g) and structural fragments (108 fragments, 3409g). It was collected from at least two disturbed kilns and features that truncated or were close to these kilns.

Statement of Potential

6.2.23 The amorphous fragments have no potential for analysis. Analysis of the material relating to the kilns (including fabric types, forms and kiln structures) has the potential to add to current understanding of pottery manufacture during the later phase of local manufacture in the Roman period, before the larger industries developed.

Worked Bone (Appendix B.13)

Summary

6.2.24 The worked bone assemblage comprises five artefacts, comprising three combs and two pin beaters. A single comb came from an Anglo-Saxon grave (**963**), while the other objects were from Middle Saxon contexts, consistent with their dates of manufacture.

Statement of Potential

6.2.25 The comb fragment recovered from the grave has limited potential to inform in burial practices (in relation to its possible breakage before deposition). The small group of other objects has limited potential to inform on local activities (such as weaving) on or near the site, although such items are relatively common at Middle Saxon sites.

Spatial Analysis of Finds (Appendix B.14)

Summary

6.2.26 The large quantity of finds recovered from the burials, combined with the detailed level of recording as grave goods, permits the use of spatial analysis within the Early Saxon cemetery.

Statement of Potential

6.2.27 The use of spatial and statistical methods has the potential to aid analysis of the organisation of a cemetery as part of its chronological and social development, particular as to whether graves are clustered significantly, or arranged randomly (Sayer and Weinhold 2013).

6.3 Environmental Summaries

Human Skeletal Remains (Appendix C.1)

Summary

6.3.1 The assemblage of human skeletal remains from the site is dominated by the material from the early Anglo-Saxon inhumation cemetery, dating to the 5th-6th century, which comprises 125 individuals (and one *in utero*), many of them buried with grave goods. In addition, a single crouched undated burial (presumed to be prehistoric), seven Roman cremation burials and two Roman inhumations (one of which had been robbed/disturbed and contained the remains of two individuals) were also identified. The cremation burials date to two separate periods – the 2nd/3rd and 3rd/4th centuries AD.

6.3.2 A further five possible grave cuts in which the skeleton had not survived were also recorded within the Anglo-Saxon cemetery. The dominant orientation of the grave cuts was SW-NE although there are a number of burials in differing alignments. A range of burial types was evident; the majority contained a single individual but others contained two or more individuals buried side by side. There were also stacked burials, where bodies had been placed on top of each other. Bone preservation, apart from on the neonates and infants is generally good.

*Statement of Potentia*l

6.3.3 The skeletal material from Hatherdene Close offers a rare opportunity in South Cambridgeshire to study a near complete early Anglo-Saxon cemetery which is sufficiently large to make the results of analysis statistically significant. Significantly, the osteological data will be complimented by additional scientific analyses (parasite

studies and aDNA), which broadens the potential for its analysis and publication in relation to a wide range of issues (including issues such as familial relationships, pathological conditions, genetic composition and diet). In addition, comparisons can be made with the evidence from surrounding sites published previously (including all previous work in the vicinity of Cherry Hinton; see Fig. 2), to set the cemetery into its local and wider context.

6.3.4 More widely, the evidence can be compared with the contemporary cemeteries recently excavated at Oakington and Ely (Sayer *et al* forthcoming; Moan & Phillips forthcoming).

Human Teeth (Appendix C.2)

Summary

6.3.5 Human teeth survive well amongst the individuals excavated from the Anglo-Saxon cemetery, even among infants with poorer bone preservation. This provides a viable assemblage for various types of scientific analysis.

Statement of Potential

6.3.6 A method is being developed by a PhD student at UCLAN (Allison Card) that seeks to use dental metrics as a proxy for kinship, with promising results already emerging from the Early Saxon cemetery found at Oakington. Much of the Hatherdene Close assemblage is suitable for such analysis.

Radiocarbon Dating (Appendix C.3)

Summary

6.3.7 Three skeletons (one Roman and two Anglo-Saxon), evidently of different cemetery phases and levels of preservation (Sk 259, Sk 1098, Sk 1264) were sent for trial radiocarbon dating. All successfully returned dates, although the flat section of the calibration curve between AD 430 and AD 540 hampers more precise dating of the Early Saxon burials.

Statement of Potential

6.3.8 It seems likely that even poorly preserved bone from the site can used for radiocarbon dating, but this can probably be used only to determine broad periods of burial.

6.3.9 Radiocarbon dating will mainly be useful in determining any graves suspected (on the basis of factors such as stratigraphy, position and alignment) of lying outside the range AD 430-540.

6.3.10 Due to the relatively modest number of graves with grave goods and near-absence of grave stratigraphy, Bayesian targeting and analysis of radiocarbon dates is unlikely to be productive at this cemetery (Toby Martin and John Hines, pers. comm.). However, should resources be available in future, beyond this project, the assemblage could be integrated with wider regional data from excavations to refine dating estimates.

Human Skeletal Remains (DNA and Isotope Analysis) (Appendices C.4-C.5)

Summary

6.3.11 The survival in this stratified, well-dated cemetery of human teeth and (where appropriate the petrous bone, ribs and femur) permit a variety of analyses.

Statement of Potential

6.3.12 The material has the potential to improve current understanding of the nature of the burials, both in terms of any pathogens present in multiple graves and any kin

relationships between stratified or disparate burials. Two projects based at different organisations (UCLAN and the University of Cambridge) have expressed interest in using the human skeletal remains for various research aspects. These include pathogen DNA, human DNA for kinship analysis, human DNA rarecoal analysis for identifying minor, rare genetic variations indicative of migration, and isotope analysis for provenancing. Further details are provided in Appendices C.4 and C.5.

Animal Bone (Appendix C.6)

Summary

6.3.13 The site produced a very small assemblage of faunal material (457 specimens, weighing 1507g), dominated by domestic mammals. There was little evidence for the presence of birds and no examples of fish were found within this assemblage. However, only hand-collected material has been examined at the assessment stage and material from environmental samples should therefore be included during full analysis. The evidence suggests an entirely domestic usage, with no evidence of any craft/industrial activity.

Statement of Potential

6.3.14 This small assemblage holds limited potential for examining the continuation of methods in domestic farming from the Late Iron Age to the Middle Saxon period. Some range in the age of individuals has been observed, suggesting that animals were brought in as juveniles, that were not necessarily slaughtered immediately.

Parasites (Appendix C7)

Summary

6.3.15 The eggs of intestinal worms are resistant to decay in the soil, and can survive thousands of years. The soil from the pelvic region of burials can also be studied since it contains decomposed human faeces. Pelvic soil samples were taken at the time of excavation of the cemetery, along with control samples from the head and feet of each burial. About 90 samples taken from fills of the Anglo-Saxon graves are available for analysis.

Statement of Potential

6.3.16 The proposed study of the samples from Hatherdene Close will be the first ever large-scale study to investigate the parasites of Anglo-Saxons in Britain. It therefore has the potential to deliver important results that will improve current understanding of health and disease at that time.

Environmental Remains (Appendix C8)

Summary

6.3.17 Approximately 330 samples were taken during the excavation. Preservation of plant remains is by carbonisation but is limited to certain features. Ditches from Periods 1 and 2 were largely devoid of remains, with the exception of occasional wind-blown intrusions. Charred cereal grains occur frequently but mostly as occasional specimens of wheat and barley, with one grain of rye, from Middle Saxon (Period 3.2) pits.

Statement of Potential

6.3.18 The assessed samples demonstrate potential for recovery of charred plant remains from the remaining material. The most productive features are the Roman kilns (**581**/**721**) and the Middle Saxon possible cess pit (**723**). Analysis of the remains from

these features has the potential to inform current understanding of the earlier Roman occupation in the north of the site, the nature of the large Middle Saxon pit that lay close to the earlier cemetery and (to a lesser extent) activity associated with the Middle Saxon settlement in the north-east.

Organic Residue (Birch Bark Tar)

Summary

6.3.19 The previously unidentified organic residue (SF131) from an Anglo-Saxon burial (SK294) has been identified as birch bark tar and its method of manufacture identified.

Statement of Potential

6.3.20 This object appears to be unique in Anglo-Saxon contexts, although is found in other archaeological periods.

7. Updated Research Aims and Objectives

7.1 Regional Research Objectives

7.1.1 Many of the regional themes outlined earlier in this document remain relevant following the assessment process. However, they can now be expanded in relation to the results of assessment, both in terms of refining existing objectives and adding new objectives.

Continuity and Transition from Roman to Saxon Periods

7.1.2 Although the East Anglian research framework (Medleycott 2014) raises this theme largely in the context of settlement and economy, the question is pertinent to the findings from Hatherdene Close. In addition to a (probable) prehistoric inhumation, the site featured a small but multi-phase Roman inhumation and cremation cemetery, followed by an Early Saxon inhumation cemetery which clearly referenced the Roman features.

7.1.3 Some of the burials in the Early Saxon cemetery clearly formed an early phase of the cemetery's use and followed a perpendicular alignment to the later graves, reflecting Roman alignments. These burials are candidates for radiocarbon dating, since they form potential links between Roman and Saxon cemetery organisation.

7.1.4 Given that it contains cemeteries of both Roman and Anglo-Saxon date, the site has the potential to address issues such as changes in burial practice.

Status and Local Population

7.1.5 The character of the Anglo-Saxon grave goods points towards the elevated status of elements of the local population, and may imply the presence of local elites. This cemetery must be considered in association with other burials of similar date from the immediate area, including the cemetery at Limekiln Hill with its bed burial.

7.1.6 Clearly, the proposed suite of scientific analysis has much to contribute in terms of examining the character, status and makeup of the local population, particularly when allied with the results of the associated osteoarchaeological and finds analysis.

Regional Difference

7.1.7 The time span for the Anglo-Saxon cemetery (most likely later 5th to mid-6th century) is identical to that of a similar sized cemetery recently investigated by OAE/UCLAN at Oakington, *c.*10km to the north-west, thereby offering opportunities for inter-site comparison. Differences are already apparent between the two groups, with a higher proportion of multiple burials at Hatherdene Close and an absence of animal burials, which were present at Oakington.

7.1.8 Other Anglo-Saxon cemeteries in the region will be useful in drawing comparisons with the Hatherdene Close population. Many comparator sites will largely draw on grave goods assemblages, but where sufficient data is available, osteological comparison of the populations will also be made. The following sites represent the primary comparators:

- Edix Hill (Barrington A) (Malim and Hines 1998)
- Barrington B (Hooper's Field)
- Girton (Hollingworth 2012)
- Haslingfield
- Linton Heath (Neville 1854)

- Little Wilbraham (Lethbridge 1928)
- Littleport (Holt 2008)
- Minerva (Alwalton, Peterborough) (Gibson 2004)
- St John's sports field

7.1.9 Other Anglo-Saxon cemeteries in the region, such as Great Chesterford (Essex) will be directly relevant as may those further afield of similar date, such as that at Bloodmoor Hill (Suffolk). The duration of use of the cemetery and the possibility that it was disused in the 7th century in favour of a site to the northeast is another theme for discussion.

7.1.10 The presence of a structure adjacent to the Hatherdene Close cemetery and conjectured associated path, both of which were possibly integral with the cemetery's organisation, requires consideration with any comparisons (for example, a 7th century cemetery with an associated structure at Stratton near Biggleswade; David Ingham, pers. comm.).

Interference/Robbing

7.1.11 The site adds to the available data for robbing and disturbance of Anglo-Saxon graves recorded in Kent and northern European cemeteries of the period.

Migration

7.1.12 The claw beaker (SF 461) and two pre-7th century barrow burials are components more normally associated with the south-east of the country and north-west Europe, although such barrows (often of 7th century origin) are also found across other parts of England, including Norfolk and Suffolk. Other artefacts, such as a set of arrowheads and unusual shield boss, also point to links to the south-east. It is possible that some of the cemetery population may have been migrants, either direct from the continent or via the southeast of the country. Correlation between the wealth or status of grave goods between migrant and more local populations within the same cemetery have been observed at Oakington (Schiffels *et al* 2016). There is ample potential to explore this theme with the population here, allied to aspects such as the origin of the numerous beads.

7.2 Local and Site Specific Research Objectives

Late Iron Age and Early Roman

7.2.1 The suspected Early Roman activity in the northern part of the site (focused around a possible spring) clearly developed from Late Pre-Roman Iron Age activity, comprising rectilinear ditch systems. However, the evidence for these periods is relatively limited.

7.2.2 The multi-phased Late Iron Age Enclosure surrounding the possible spring may have parallels elsewhere. The pits that appear to precede it may require radiocarbon dating. The presence of Early Roman kilns and a well here with little other evidence of industry or settlement across the site requires consideration. The kilns may enhance current understanding of the character of local pottery production.

Roman Cemetery

7.2.3 The extent and character of the Roman cemetery (containing inhumations and cremations associated with burial enclosures) has been defined by excavation. Its topographic situation, on a slight ridge, overlooking what is now the catchment of Quy Water should be considered, as well as the significance of springs in the area. The burials appeared to follow the ridge and were richly appointed with grave goods. The

spring, and possible track connecting it with the funerary enclosures, may have served a ritual purpose. Comparisons for such arrangements are recorded, such as at Broughton, Milton Keynes (Atkins and Popescu 2014, 240-1).

7.2.4 The burials need to be placed into the wider context of the local Roman landscape, including the 2nd-3rd century villa at Teversham and trackways north of Church End. The late practice of cremation burial reaching into the 3rd-4th centuries is unusual but not unique to the area (e.g. Godmanchester, Lyons forthcoming B).

Landscape Influence and Continuity

7.2.5 Questions remain to be answered in terms of selection of the site for the Roman and Early Saxon cemeteries, which lay close to a prehistoric burial, which may have left a visible mound. The prominent topographic location may also be relevant (e.g. Lucy 2000, 124).

7.2.6 The possibility raised by a recent evaluation that a 7th century cemetery lies 700m to the northeast in Teversham parish (Brittain 2015; CHER 4388; Fig. 2) suggests an association between the two cemeteries and their communities. Should the latter cemetery be excavated and disseminated prior to the completion of the analysis phase at Hatherdene Close, it may provide evidence that burial activity shifted location between the 6th and 7th centuries, with one cemetery succeeding the other (c.f. Lucy 2000, 151). The Limekiln Hill cemetery at the southern end of Cherry Hinton must also be considered in this aspect.

Association with Middle-Late Saxon and Medieval Church End

7.2.7 With no evidence for the settlement associated with the Early Saxon cemetery, combined with a clear temporal gap of perhaps two centuries and physical separation of around 50m, opportunities to examine any linkage of the Hatherdene Close evidence to that from the Middle and Late Saxon settlement at Church End (Cessford with Dickens 2005) are currently limited.

7.2.8 Unfortunately there is insufficient material to date the large, undated boundary ditch (**743**/**742**) in the north of the site which would appear most likely to relate to the later developments in the area.

8. Methods Statements for Analysis

8.1 Stratigraphic Analysis

8.1.1 Provisional phasing has been assigned to features based on pottery spot dates, radiocarbon dating, and stratigraphic and spatial data. Initial assessment of metallic and other finds, confined to the period c.450-560AD, does not indicate that substantial revision of this phasing scheme will be required at the analytical stage. However, any further refinement (particularly based on radiocarbon dating of human skeletal remains) will be incorporated. Radiocarbon dating should provide a more specific date for Period 1.1: Prehistoric, the isolated crouched burial.

8.2 Digitising and Illustration

8.2.1 All graves excavated were recorded by a combination of photogrammetry and detailed sketch plans. This has enabled high resolution orthographic photos of each grave to be produced. From these accurate, detailed grave plans have been digitised in QGIS.

8.2.2 All other site plans have been digitised in QGIS, with provisional phase data attached to features, enabling automatic production of phased plans which will be completed in Adobe Illustrator.

8.2.3 Digitised grave plans with associated grave goods will be accompanied by photogrammetric images. Selected section drawings will be digitised for the analytical report at appropriate scales.

8.3 Documentary Research

Primary and Published Sources

8.3.1 Primary and published sources will be consulted, primarily the list of similar local sites given above (Section 7.1) as well as the Cambridgeshire Historic Environment Record. Existing information from historical sources and previous archaeological finds and investigations in the vicinity will be collated and these will be integrated into the final report.

Cartographic Evidence

8.3.2 A full map regression of the development site will be conducted during the analysis phase. This will be presented in the final report.

8.4 Artefactual Analysis

Coins

8.4.1 Other than a note for publication (and related catalogue) of the Roman coins, no further work is required on the small coin assemblage. SF417, re-used as a pendant, should be analysed with the non-ferrous Anglo-Saxon grave goods.

Non-ferrous Metals

8.4.2 The assemblage has been catalogued at assessment stage, but particular items may require further examination during analysis (which may include metallurgical analysis; see Appendix B2).

8.4.3 The material requires further specialist investigation in relation to aspects such as social analysis, object reuse and the wider context. This will entail production of an analytical report and synthetic text for publication.

8.4.4 The information will feed into spatial analysis of graves (Appendix B13) and into considerations of the cemetery as a whole, potentially identifying individuals for scientific analysis.

8.4.5 The entire assemblage will be drawn or photographed as appropriate, with the exception of the unidentifiable copper-alloy fragments and the medieval or post-medieval items found outside of grave contexts.

8.4.6 An examination of textile remains and textile impressions will be of value, providing an empirical basis for the reconstruction of mortuary dress ensembles an enabling further social analysis of the cemetery.

Iron Artefacts

8.4.7 The ferrous objects have been catalogued for assessment, although selected items will require further examination by an appropriate specialist, including those identified for x-radiography (see below).

8.4.8 The assemblage requires full analysis and the production of an analytical report and synthesis for publication.

8.4.9 A total of 79 x-rays are required for those objects which are either heavily encrusted and cannot be clearly identified by eye or where this may reveal particular construction

techniques. The existing catalogue will be updated and the information included in the analytical report.

8.4.10 The information will feed into spatial analysis of graves (Appendix B13) and into considerations of the cemetery as a whole.

8.4.11 Those objects identified by the assessment process as 'unusual' will be used to suggest which skeletons might be worth analysing scientifically for different provenance or kinship groups.

Beads

8.4.12 The substantial bead collection has been provisionally catalogued, but will require finalisation of the catalogue at the analytical stage.

8.4.13 The assemblage requires full analysis and the production of an analytical report and synthesis for publication by an appropriate specialist. This will include characterisation of the assemblages into Brugmann's and Guido's bead groups in an attempt to refine phasing for the Early Saxon burials, as well as considerations such as bead sources.

8.4.14 The bead quantification and characterisation will be combined with the human skeletal remains data to analyse any patterns, particularly with respect to the sex, age and status of individuals buried with beads. The data may also feed into the spatial analysis of graves (see Appendix B.14).

8.4.15 Selected beads (specified in Appendix B.6) will be hand-drawn and/or photographically illustrated.

Late Iron Age and Roman Pottery (Periods 1 and 2)

8.4.16 The Late Iron Age and Roman pottery has been fully catalogued.

8.4.17 Further research will be undertaken on the cremation assemblages (fabric and form) and the combination of vessels chosen. The archaeological, ceramic and cremated human bone datasets will be compared to see how the method of burial and the sex and ages of the dead relate to the choices of ceramic accessory vessel made.

8.4.18 Analysis of this data will place it into its regional context, contributing to current understanding of Roman funerary behaviours.

8.4.19 The results of analysis will be presented in an archival report, which will be synthesised for publication.

8.4.20 Selected funerary pottery will be illustrated for publication.

Anglo-Saxon Pottery (Period 3)

8.4.21 The Anglo-Saxon pottery has been fully catalogued at the assessment stage.

8.4.22 An analytical report and synthesis for publication will be produced.

8.4.23 The presence of a possible Bronze Age cup utilised as an Anglo-Saxon grave-good will be discussed in more detail and more parallels sought at the analytical stage. The vessels deposited as grave goods will also be compared with those from other cemeteries in the region.

Ceramic Building Material (Concrete/Mortar/Plaster)

A.1.2 Little in the way of further work is required. However, illustration is suggested of the moulded Barnack Stone plus perhaps the best example of the cut and faced tufa (S.F. 147 or S.F. 159) – the latter perhaps on account of its unusual use.

Ceramic Building Material (Brick/Tile)

8.4.24 The assemblage has been fully recorded and described in this assessment, which will be incorporated into the project archive. There are no fragments that require illustration or photography. Other than the few Roman fragments, the material should be considered for de-selection.

8.4.25 The Roman fragments should be retained and analysed in conjunction with the fired clay.

Fired Clay and Kiln Furniture

8.4.26 The assemblage of fired clay and kiln furniture has been fully catalogued and described. Further work is required to place the kiln-related material into its local context. Roman ceramic building material and the pottery found within the kilns will be incorporated into this analysis.

8.4.27 An analytical report and a note for publication will be prepared. The assemblage will also be reported in the online database of Roman kilns.

8.4.28 A few selected items will be illustrated.

Worked Bone

8.4.29 The small assemblage of worked bone objects has been catalogued.

8.4.30 An analytical report and note for publication will be prepared.

8.4.31 Four items (SF 244, 332, 366, 543) should be drawn or photographed, as appropriate.

Finds' Spatial Data

8.4.32 Relevant data relating to the site plans, burials and grave goods will be combined. Using spatial and statistical methods supported by QGIS and R, this information will be analysed using Ripley's K function to identify or prove the absence of clustering of social groups based on the grave goods. A kernel density function will then be used to visualize clustering

8.5 Environmental Analysis

Human Skeletal Remains

8.5.1 The fact that the human skeletal remains have simply been scanned for the purposes of this assessment means that full recording of each skeleton (a catalogue of bones present, dentition, metrical data, descriptions of all visible pathologies) will be required during analysis.

8.5.2 In addition, the disarticulated bone recovered from multiple graves/intercutting graves/re-used plots needs to be attributed, where possible, to a specific skeleton.

8.5.3 The processing of the cremated bone needs to be completed and reported on.

8.5.4 A full catalogue of all 130 skeletons and all the disarticulated material is required, following which samples for aDNA and isotopic analysis will be selected.

8.5.5 A minimum of x-ray will be required (on the immature skull; Sk 767), although further x-rays may be required following full analysis of the assemblage. Photographs will be taken of relevant pathologies.

8.5.6 A full osteological report (including prevalence rates for dental disease and pathological conditions, stature and demographic analysis) will be produced and the cemetery assemblage will be Integrated with archaeological data and compared with

contemporary sites within the region, including those recently excavated at Oakington and Ely as well as those at Edix Hill and Great Chesterford.

Human Teeth

8.5.7 Prior to any destructive sampling (below) full metrical sampling of the available human teeth will be undertaken. This will be analysed for statistically significant patterning indicating kinship groups within the cemetery.

8.5.8 This UCLan project is not resourced by the client but results are expected to be delivered before the end of the analysis stage and, if available, will be incorporated in the report.

Human Skeletal Remains – Radiocarbon Dating

8.5.9 External funding is being sought to radiocarbon date the c.37 samples taken for the After the Plague and UCLan DNA/pathogen projects. This is not resourced by OA/the client and availability within the project programme is therefore uncertain.

8.5.10 In addition to any radiocarbon dates resourced and obtained by external projects, c.10 dates will be obtained during analysis stage, focusing on those Anglo-Saxon inhumations of potentially earlier or later dates and/or with apparent deviations in alignment, location, burial position etc. The probable prehistoric burial (Sk 249, Period 1.1) will be radiocarbon dated.

Human Skeletal Remains – 'After the Plague' Project (Human DNA, Pathogen DNA, Isotopes)

8.5.11 A selection of c.20 Early Saxon skeletons will be submitted for analysis as part of the After the Plague project detailed in Appendix C.4. In general, those sampled will be distinct from those submitted for rarecoal analysis (see below). However, isotope analysis for provenancing individuals may be complementary to aspects of the rarecoal analysis.

8.5.12 Primarily teeth will be sampled: one for Human and Pathogen DNA, two for isotope (oxygen and strontium analysis). Petrous bones will only be sampled where teeth are unavailable or have failed to produced a sequence. Rib and femur samples (approximately 0.5-1g each) will be used for the analysis of stable carbon and nitrogen (assessment of diet).

Other non-destructive analyses that may be undertaken as part of this project include: CT scans of the tibia, fibula (possibly also humerus and clavicle) for biomechanics, X-ray/scan of the femur and os coxae to assess for metastases, general skeletal inventory of preservation, age, sex (alongside DNA sexing for those sampled), non-metric traits, craniometrics, entheses, metrics and pathology. Full details are provided in Appendix C.4.

8.5.13 DNA data will be made publicly available after publication of the results through ENA http://www.ebi.ac.uk/ena.

8.5.14 The After the Plague project is not resourced by the client. It is anticipated that results will not be available during the analysis stage and will not be incorporated in the report, unless preliminary results happen to be available.

Human Skeletal Remains – (Human DNA Rarecoal and Pathogen DNA)

8.5.15 Twelve skeletons will be analysed and will be selected following analysis of levels of 'status' in terms of their grave goods. A petrous bone from each individual will be sampled to ensure the best chance of extraction of preserved DNA. The emphasis of

this analysis is on the study of migration. Additionally (complementing the 'After the Plague' project), teeth will be sampled from the same individuals to investigate genetic evidence for pathogens.

8.5.16 This UCLan project is not resourced by OA/the client but results are expected to be delivered before the end of the analysis stage and, if available, will be incorporated in the report.

Animal Bone

8.5.17 No further analysis is required on the faunal assemblage other than assessment and potential analysis of the fish, bird and small mammal bone from sample residues. A short note will be prepared for publication.

Parasites

8.5.18 The processing of parasite samples is an external project not resourced by OA/the client.

8.5.19 The existing samples will be converted to a liquid suspension (disaggregation), passed through micro-sieves to concentrate the parasite eggs, and viewed under high power digital light microscopy (Anastasiou and Mitchell 2013). Any eggs present will be identified from their colour, shape, size and special characteristics, and the species of parasitic worm determined.

8.5.20 The resultant analysis (and reporting for both archive and publication) will seek to address research issues such as species presence, proportion of infestation and infection variations (between age and sex).

Environmental Samples

8.5.21 Further processing of the samples from the Roman kilns will be undertaken, as well as those from the Middle Saxon cess pit. These and the unsorted flots will be sorted and analysed.

8.5.22 A report will be prepared for the archive and a short note for publication if necessary.

Organic Residue (Birch Bark Tar)

8.5.23 Julie Dunne and Ian Bull propose to publish this result, potentially in the *Oxford Journal of Archaeology*. This is not funded by the client/OA and will be separate from a note and discussion incorporated in the Hatherdene Close publication.

9. Report Writing, Archiving and Publication

9.1 Report Writing

The project team is identified in Table 16, while tasks associated with report writing are identified in Table 17.

9.2 Storage and Curation

9.2.1 Excavated material and records will be deposited with, and curated by, Cambridgeshire County Council in appropriate county stores under the Site Code CAMHAT14 and the county HER code ECB 4258. A digital archive will be deposited with OA Library/ADS and OASIS.

9.2.2 CCC requires transfer of ownership prior to deposition. During analysis and report preparation, OA East will hold all material and reserves the right to send material for specialist analysis.

9.2.3 The archive will be prepared in accordance with CCC Archive Guidance 2017 (*Deposition of Archaeological Archives in Cambridgeshire v2* https://ccc-live.storage.googleapis.com/upload/www.cambridgeshire.gov.uk/residents/libraries-leisure-&-culture/Deposition%20of%20archaeological%20archives%20in%20Cambridgeshire%202017.pdf?inline=true [accessed 31st May 2018]).

9.3 Publication

9.3.1 It is proposed that the results of the project should be published as a small monograph in the East Anglian Archaeology series, under the title 'The Roman and Early Anglo-Saxon Cemetery at Hatherdene Close, Cherry Hinton, Cambridge' by Stuart Ladd, Toby Martin and Richard Mortimer.

9.4 Report Structure

Front matter (listings, acknowledgements, list of contributors etc.)
(c. 2 pages)

Chapter 1 Introduction
(c. 2 text pages, c. 1 figure)

- I. Project Background
- II. Geology, Topography & Setting
- III. Methodologies
- IV. Phasing & Report Structure

Chapter 2 The Romano-British Period
(c. 10 text pages, c. 6 tables, c. 13 figures, c. 4 plates)

- I. Introduction
- II. Archaeological Sequence
  - The pre-Roman & Roman Landscape
  - The Roman Cemetery
- III. The Finds
  - Coins, by Denis Sami
  - Non-ferrous metalwork, by Toby Martin

Cemetery development

Finds distribution

Osteological factors

Chapter 4. Conclusions
(c. 5 text pages)

9.4.1 Volume Summary

Sub-total	**No. pages**
Total front matter	2
Total text pages	82
Total tables	26 (20p)
Total figures	213 (60p)
Total plates	29 (15p)
Back material	6
Volume Total	185

10. Resources and Programming

10.1 Project Team Structure

Name	Initials	Project Role	Establishment
Richard Mortimer	RM	Project Manager / 3rd Author	OAE
Natasha Dodwell	ND	Finds Manager/Osteo-logist	OAE
Stuart Ladd	SL	Project Officer/Principal Author	OAE
Toby Martin	TM	Grave goods specialist / 2nd Author	Freelance
TBC	(via TM)	Textile analysis	TBC
Karen Barker	KB	Conservator	Freelance
Mary Andrews	MA	Conservator/cleaner	OAE
Alice Lyons	AL	Roman Pottery special-ist	OAE
Paul Blinkhorn	PB	Saxon Pottery special-ist	Freelance
Ian Riddler	IR	Worked bone specialist	Freelance
Lauren McIntyre	LM	Osteologist	OAS
Rachel Fosberry	RF	Archaeo-botanist	OAE
TBC	ill	Illustrator	OAE
Katherine Hamilton	KH	Archivist	OAE
Sarah Inskip	SI	DNA/Isotopes	Cambridge University
Duncan Sayer	DS	DNA	UCLan
Stephan Schiffels	SS	DNA	Max Planck Institute
Alison Stewart	AS	Human Dentition	UCLan
Piers Mitchell	PM	Parasite Analysis	Cambridge University

Table 16: Project team

10.2 Stages, Products and Staffing

	Task	Staff	No. Days
Stage 1: Data Analysis			
Project Management			

	Task	Staff	No. Days
	Project management	RM	10
	Liaison with relevant staff and specialists, distribution of relevant information and materials	ND	5
Stratigraphic analysis			
	Integrate ceramic/artefact dating with site matrix	SL	3
	Update database and digital plans/sections to reflect any changes	SL	3
	Finalise site phasing	SL	1
	Add final phasing to database	SL	1
	Compile group and phase text	SL	5
	Compile overall stratigraphic text and site narrative to form the basis of the publication text	SL/TM/RM	15/3/2
	Review, collate and standardise results of all final specialist reports and integrate with stratigraphic text and project results	SL/TM	1/4
	Spatial Analysis of the cemetery	DS	n/a*
Synopsis/Proposal			
	Review analysis progress	SL/RM/EP	0.5/0.5/0.5
	Write and submit proposal	SL/EP	1/1
Documentary research			
	Background research	SL/TM	5/5
Artefact Conservation			
	Stabilisation as required of c.4 CuA brooches (following further recommendation by TM)	KB	2
	Cleaning of Jet Hairpin	MA	0.5
Artefact studies			
	X-rays	KB	5
	Grave Good assemblages (Metalwork, inc. textiles, glass beads, glass beaker etc.)	TM	40
	Roman Pottery	AL	5
	Anglo-Saxon Pottery	PB	1
	Middle Saxon worked bone	IR	1

	Task	Staff	No. Days
	HSR analysis	LM	70
	HSR report writing	ND	10
	'After the Plague' Human DNA, Pathogen DNA, Isotopes	SI	n/a*
	UCLAN Human DNA Rarecoal and Pathogen DNA	DS/SS	n/a*
	Dental Analysis	AS	n/a*
	Parasite Analysis	PM	n/a*
Environmental Remains			
	Processing of additional environmental samples	RF	4
	Tabulation and analysis of environmental results	RF	1
	Evnironmental report writing	RF	1
Illustration			
	Digitise selected sections	SL/ill	1/1
	Prepare draft phase plans, sections and other report figures	SL/ill	2/3
	Select photographs for inclusion in the report	SL	1
	Finds photography	JF	4
	Saxon pottery	ill	5
	IA & Roman pottery	ill	5
	Burials	SL/ill	5/10
Stage 2: Report Writing			
	Integrate documentary research	SL/TM	1/2
	Write historical and archaeological background text	SL/TM	1/2
	Edit phase and group text	RM	3
	Compile list of illustrations/liaise with illustrators	SL/TM	1/1
	Write discussion and conclusions	SL/TM	4/6
	Prepare report figures	SL/ill	5/20
	Collate/edit captions, bibliography, appendices etc	SL	2
	Produce draft report	SL	1

	Task	Staff	No. Days
	Internal edit	EP/RM	8/2
	Incorporate internal edits	SL/TM/ND	2/2/2
	Final edit	EP	8
	Send to publisher for refereeing	EP	-
	Post-refereeing revisions	SL	3
	Copy edit queries	SL/TM/RM/EP/ill	5
	Proof-reading	TBA	10
Stage 3: Archiving			
	Compile paper archive	KH/SL	4/1
	Archive/delete digital photographs	KH/SL	3/2
	Compile/check material archive & catalogue for CCC	KH	5
	Archive deposition/dispersal (of HSR to UCLan teaching collection)	KH	10
* days n/a as external projects not resourced by OA/the client (See Risk #3, Appendix E.)			

Table 17: Task list

10.3 Project Timetable

Stage 1: Data Analysis — Estimated Completion Date September 2018

Stage 2: Report Writing — Estimated Completion Date December 2018 (Proposal Submission to EAA July 2018) (Publication timeline to follow)

Stage 3: Archiving — Estimated Completion Date December 2019

Appendix A. Context Summary with Provisional Phasing

A.1 Context Summary

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
5	6	6	HSR	skeleton	(lifted at evaluation)	0.7	0.5	0.05	3.1
6	6	6	cut	grave	grave (from evaluation)				3.1
200	200	200	cut	grave	burial	1.78	0.61	0.32	3.1
201	200	200	HSR	skeleton					0
202	200	200	fill	grave	backfill	1.78	0.61	0.32	0
204	204	204	cut	grave	burial	1.57	0.45	0.14	3.1
205	204	204	HSR	skeleton					0
206	204	204	fill	grave	backfill	1.57	0.45	0.14	0
207		214	fill	ditch	deposit of animal bone				0
208	208	208	cut	grave	burial	1.7	0.6	0.6	3.1
209	208	208	HSR	skeleton					0
210	208	208	fill	grave	backfill	1.7	0.6	0.6	0
211	211	211	cut	grave	burial	1.6	0.6	0.1	3.1
212	211	211	HSR	skeleton					0
213	211	211	fill	grave	backfill	1.6	0.6	0.1	0
214	214	214	cut	ditch	cremation enclosure (recut, extension)		1.2	0.59	2.3
215	214	214	fill	ditch	slumping			0.59	0
216	214	214	fill	ditch	disuse			0.55	0
217	214	214	fill	ditch	disuse			0.36	0
219	219	219	cut	grave	burial	1.73	1.15	0.15	3.1
220	219	219	HSR	skeleton					0
221	1429	219	HSR	skeleton					0
222	219	219	fill	grave					0
223	223	223	cut	grave	burial	2.1	0.88	0.18	3.1
224	223	223	HSR	skeleton					0
225	1428	223	HSR	skeleton					0
226	1428	223	HSR	skeleton					0
227	223	223	fill	grave	backfill		0.88	0.18	0
228	1427	223	HSR	skeleton					0
229	229	229	cut	pit	cremation burial	0.45	0.32	0.13	2.3
230	229	229	fill	pit	backfill of cremation			0.13	0
231	231	231	cut	pit	cremation burial	1.07	0.86	0.21	2.3
232	231	231	fill	cremation goods					0
233	231	231	fill	cremation vessel					0
234	231	231	fill	cremated material inside vessel		0			0
235	231	231	fill	pit	backfill of cremation			0.21	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
236	236	236	cut	grave	grave	1.9			3.1
237	236	236	fill	pit	backfill				0
238	238	355	void	void	void				3.1
239	355	355	fill	grave	subsoil/upper fill of grave				0
240	240	240	cut	grave	burial	2.08	0.86	0.12	3.1
241	240	240	HSR	skeleton					0
242	240	240	fill	grave				0.12	0
243	244	305	fill	ditch					0
244	244	305	cut	ditch	mortuary enclosure/square barrow ditch				2.3
245	245	245	cut	grave	burial	1.47	0.64	0.14	3.1
246	245	245	HSR	skeleton					0
247	245	245	fill	grave	backfill			0.14	0
248	248	248	cut	grave	burial	1.27	0.8	0.27	1.1
249	248	248	HSR	skeleton					0
250	248	248	fill	grave	backfill			0.27	0
251	251	251	cut	grave	burial	1.1	0.62	0.15	3.1
252	251	251	HSR	skeleton					0
253	251	251	fill	grave	backfill			0.15	0
254	251	251	fill	vessel 67					0
255	255	255	cut	grave	burial	1.7	0.64	0.1	3.1
256	255	255	HSR	skeleton					0
257	255	255	fill	grave				0.1	0
258	258	258	cut	grave	burial	2.24	1.01	0.56	3.1
259	258	258	HSR	skeleton					0
260	258	258	fill	grave	backfill			0.56	0
261	261	261	cut	pit	cremation burial		0.9	0.19	2.4
262	261	261	fill	pit	backfill of cremation burial			0.19	0
263	358	358	masonry	barrow wall		4.9	5.7		0
264	229	229	fill	cremation					0
265	265	265	cut	pit	possible mortuary association		1.28	0.31	0
266	265	265	fill	pit				0.31	0
267	265	265	fill	pit				0.31	0
268	268	268	cut	ditch	Roman boundary/?track ditch	0	1.3	0.44	2.3
269	268	268	fill	ditch	disuse	0.96	1.28	0.44	0
270	270	214	cut	ditch	cremation enclosure (recut, extension)		1.4	0.72	2.3
271	270	214	fill	ditch	slumping		0.71	0.26	0
272	270	214	fill	ditch			1.94	0.48	0
273	273	273	cut	grave	burial	2.3	0.95	0.4	3.1
274	273	273	HSR	skeleton					0
275	273	273	fill	grave	backfill	2.3	0.95	0.4	0
277		305	layer	soil		0			0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
278	278	278	cut	grave	burial				3.1
279	278	278	HSR	skeleton					0
280	278	278	fill	grave	backfill				0
281	281	281	cut	grave	burial	0.99	0.68	0.28	3.1
282	281	281	HSR	skeleton					0
283	281	281	fill	grave		0.99	0.68	0.23	0
284	284	284	cut	grave	burial	1.14	0.7	0.24	3.1
285	284	284	HSR	skeleton					0
286	284	284	fill	grave	backfill	1.14	0.7	0.24	0
287	287	287	cut	grave	burial	1.35	0.93	0.24	3.1
288	287	287	HSR	skeleton					0
289	287	287	fill	grave	backfill			0.24	0
290	290	290	cut	grave	burial				3.1
291	290	290	HSR	skeleton					0
292	290	290	fill	grave					0
293	293	293	cut	grave	burial	1.11	0.68	0.22	3.1
294	293	293	HSR	skeleton					0
295	293	293	fill	grave		1.11	0.68	0.22	0
296	296	296	cut	grave	burial	1.8	0.96	0.18	3.1
297	296	296	HSR	skeleton					0
298	296	296	fill	grave	backfill			0.18	0
299	299	299	cut	grave	burial	1.68	0.64	0.26	3.1
300	299	299	HSR	skeleton					0
301	299	299	fill	grave	backfill			0.1	0
302	302	302	cut	grave	burial	1		0.2	3.1
303	302	302	HSR	skeleton					0
304	302	302	fill	grave	backfill	1		0.2	0
305	305	305	cut	ditch	mortuary enclosure/square barrow ditch		1.2	0.42	2.3
306	305	305	fill	ditch	disuse		1.2	0.42	0
307	307	268	cut	ditch	Roman boundary/?track ditch				2.3
308	307	268	fill	ditch					0
309	309	309	cut	furrow	agricultural		0.76	0.18	5
310	309	309	fill	furrow			0.76	0.18	0
311	311	311	cut	plough scar	agricultural		0.13	0.1	0
312	311	311	fill	plough scar			0.13	0.1	0
313	313	311	cut	plough scar	agricultural		0.09	0.1	0
314	314	314	cut	grave	burial	0.96	0.5	0.1	3.1
315	314	314	HSR	skeleton					0
316	314	314	fill	grave	backfill			0.1	0
317	317	317	cut	furrow	agricultural				5
318	317	317	fill	furrow		0			0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
319	319	319	cut	ditch	boundary/enclosure		1.6	0.18	5
320	319	319	fill	ditch	disuse		1.6	0.18	0
321	321	321	cut	natural feature	natural		0.9	0.56	0
322	321	321	fill	natural feature				0.56	0
323	1430	299	HSR	skeleton					0
324	324	324	cut	grave	burial	2.28	0.95	0.44	3.1
325	324	324	HSR	skeleton					0
326	324	324	fill	grave	backfill			0.2	0
330	330	330	cut	tree throw	natural	1.54	0.9	0.08	0
331	330	330	fill	tree throw					0
332	299	299	fill	grave	backfill	0		0.26	0
350	350	305	cut	ditch	mortuary enclosure/square barrow ditch		1.7	0.46	2.3
351	350	305	fill	ditch		0		0.17	0
352	350	305	fill	ditch		0		0.38	0
353	1431	324	HSR	skeleton		0			0
354	324	324	fill	grave	backfill	0		0.44	0
355	355	355	cut	grave	burial	2.17	1.04	0.5	3.1
356	355	355	HSR	skeleton		0			0
357	355	355	fill	grave	backfill	0			0
358	358	358	cut	ditch	barrow ditch around grave 258	0			3.1
359	358	358	fill	ditch		0			0
360	360	298	cut	grave	burial	0			3.1
361	360	298	HSR	skeleton		0			0
362	360	298	fill	grave		0			0
363	363	214	cut	ditch	cremation enclosure (recut, extension)	0	0.9	0.22	2.3
364	363	214	fill	ditch	disuse	0			0
365	365	365	cut	grave	burial	1.9		0.4	3.1
366	365	365	HSR	skeleton		0			0
367	365	365	fill	grave	backfill	0		0.4	0
368	368	368	cut	gully	Roman boundary/?track ditch	0	0.3	0.13	2.2
369	368	368	fill	gully				0.13	0
370	370	370	cut	ditch	Roman boundary/?track ditch		0.7	0.25	2.3
371	370	370	fill	ditch				0.25	0
372	372	372	cut	grave	burial	2.06	1.24	0.5	3.1
373	372	372	HSR	skeleton		0			0
374	372	372	fill	grave	backfill	0		0.5	0
375	375	375	cut	grave	burial	1.16	0.65	0.4	3.1
376	375	375	HSR	skeleton		0			0
377	375	375	fill	grave	backfill			0.4	0
378	378	268	cut	ditch	Roman boundary/?track ditch		1.1		2.3

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
379	378	268	fill	ditch					0
380	380	385	fill	ditch				0.12	0
381	381	381	cut	ditch	ditch associated with cremation 261		0.5	0.12	2.2
382	381	381	fill	ditch	disuse	0		0.2	0
383	383	381	cut	ditch	ditch associated with cremation 261	0	0.5	0.12	2.2
384	383	381	fill	ditch		0		0.12	0
385	385	381	cut	ditch	ditch associated with cremation 261		0.56	0.12	2.2
386	386	268	cut	ditch	Roman boundary/?track ditch	0		0.39	2.3
387	386	268	fill	ditch					0
388	388	268	cut	pit	Roman boundary/?track ditch	1.4			2.3
389	388	268	fill	pit		0			0
390	390	390	cut	pit	disturbed natural, edge of ditch 381	0.3	0.22	0.07	0
391	390	390	fill	pit	cremated bone			0.07	0
392	392	370	cut	ditch	Roman boundary/?track ditch	0	1.2	0.35	2.3
393	392	370	fill	ditch				0.34	0
394	394	368	cut	ditch	Roman boundary/?track ditch		0.48	0.16	2.2
395	394	368	fill	ditch	disuse			0.16	0
396	396	268	cut	ditch	Roman boundary/?track ditch	1.74	0.7	0.54	2.3
397	396	268	fill	ditch		0		0.54	0
398	398	398	cut	gully	boundary/track ditch		0.5	0.12	2.2
399	398	398	fill	gully	disuse			0.12	0
400	400	398	cut	gully	boundary/track ditch		0.47	0.12	2.2
401	400	398	fill	gully				0.12	0
402	402	402	cut	gully	boundary/track ditch		0.44	0.16	2.2
403	402	402	fill	gully	disuse		0.44	0.16	0
404	404	370	cut	ditch	Roman boundary/?track ditch		0.62	0.26	2.3
405	404	370	fill	ditch			0.62	0.26	0
406	406	370	cut	ditch	Roman boundary/?track ditch	0	0.7	0.3	2.3
407	406	370	fill	ditch				0.3	0
408	396	268	fill	ditch			0.7	0.54	0
409	396	268	fill	ditch		0		0.54	0
410	410	410	cut	ditch	enclosure ditch		1.2	0.31	2.2
411	410	410	fill	ditch				0.24	0
412	410	410	fill	ditch				0.26	0
413	413	410	cut	gully	enclosure ditch				2.2
414	413	410	fill	gully				0.21	0
415	410	410	fill	ditch				0.31	0
416	416	416	cut	grave	burial	1.84	0.82	0.34	3.1
417	416	416	HSR	skeleton					0
418	416	416	fill	grave	backfill				0
419	419	370	cut	ditch	Roman boundary/?track ditch		0.41	0.14	2.3

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
420	419	370	fill	ditch	disuse			0.14	0
421	421	421	cut	grave	burial	2	0.84	0.16	3.1
422	421	421	HSR	skeleton					0
423	421	421	fill	grave				0.16	0
424	424	268	cut	ditch	Roman boundary/?track ditch		0.9	0.22	2.3
425	424	268	fill	ditch				0.14	0
426	424	268	fill	ditch				0.22	0
427	427	410	cut	ditch	enclosure ditch		0.7	0.15	2.2
428	427	410	fill	ditch	disuse	0		0.15	0
429	429	268	cut	ditch	Roman boundary/?track ditch		1.06	0.24	2.3
430	429	268	fill	ditch	disuse				0
431	431	268	cut	ditch	Roman boundary/?track ditch	0	0.48	0.18	2.3
432	431	268	fill	ditch	disuse	0		0.18	0
433	410	410	cut	ditch	enclosure ditch	0	0.3	0.31	2.2
434	433	410	fill	ditch	disuse				0
435	435	370	cut	ditch	Roman boundary/?track ditch	0	0.38	0.16	2.3
436	435	370	fill	ditch		0			0
437	437	437	cut	furrow	agricultural				5
438	437	437	fill	furrow					0
439	439	439	cut	grave	burial			0.08	3.1
440	439	439	HSR	skeleton					0
441	439	439	fill	grave	backfill			0.8	0
442	442	442	cut	grave	burial	1.66	0.74	0.18	3.1
443	442	442	HSR	skeleton					0
444	442	442	fill	grave	backfill	0		0.18	0
445	445	445	cut	pit	burnt natural chalk?	0.9	0.66	0.06	0
446	445	445	fill	pit	burnt material	0		0.04	0
447	445	445	fill	pit	disuse			0.02	0
448	448	305	cut	ditch	mortuary enclosure/square barrow ditch		1.7	0.53	2.3
449	448	305	fill	ditch		0		0.06	0
450	448	305	fill	ditch				0.08	0
451	448	305	fill	ditch		0		0.18	0
452	448	305	fill	ditch		0		0.22	0
453	453	268	cut	ditch	Roman boundary/?track ditch		1.8	1.16	2.3
454	453	268	fill	ditch	silting			1.15	0
455	453	268	fill	ditch		0		0.35	0
456	456	456	cut	grave	burial	1.75	1.12	0.25	3.1
457	456	456	HSR	skeleton		0			0
458	456	456	fill	grave	backfill			0.25	0
459	453	268	fill	ditch		0		1.13	0
460	453	268	fill	ditch				0.92	0
461	453	268	fill	ditch		0		0.57	0
462	462	462	cut	ditch	boundary		0.54	0.13	2.2

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
463	462	462	fill	ditch	disuse		0.46	0.14	0
464	464	464	cut	grave	burial	0.96	0.58	0.27	3.1
465	464	464	HSR	skeleton		0			0
466	464	464	fill	grave	backfill			0.27	0
467	467	467	cut	grave	burial	1.86	0.88	0.4	3.1
468	467	467	HSR	skeleton					0
469	467	467	fill	grave	backfill			0.4	0
470	470	268	cut	ditch	Roman boundary/?track ditch	0	1.7	0.5	2.3
471	470	268	fill	ditch				0.45	0
473	470	268	fill	ditch		0		0.24	0
475	470	268	fill	ditch		0		0.5	0
476	476	476	cut	ditch	sub-enclosure ditch		0.72	0.14	2.3
477	476	476	fill	ditch	disuse			0.14	0
478	478	478	cut	grave	burial	2.8	1.45	0.6	2.3
479	478	478	fill	grave					0
480	478	478	fill	grave					0
481	481	268	cut	ditch	Roman boundary/?track ditch			0.35	2.3
482	481	268	fill	ditch				0.35	0
483	481	268	fill	ditch					0
485	481	268	fill	ditch				0.35	0
486	486	486	cut	grave	burial	2.2	1.26		3.1
487		487	layer	disturb-ance from plough scarring		0			0
488	488	476	cut	ditch	boundary		0.56	0.11	2.3
489	488	476	fill	ditch	disuse	0		0.11	0
490	486	486	fill	grave	backfill				0
492	492	492	cut	grave	burial	1.2	1.04	0.39	3.1
493	492	492	HSR	skeleton					0
494	492	492	fill	grave	backfill			0.39	0
495	495	268	cut	ditch	Roman boundary/?track ditch		1.4	0.7	2.3
496	495	268	fill	ditch					0
497	495	268	fill	ditch		0		0.62	0
498	495	268	fill	ditch				0.59	0
499	495	268	fill	ditch		0			0
500	500	500	cut	pit	cremation burial	0.7	0.5	0.22	2.3
501	500	500	fill	pit	backfill			0.22	0
502	500	500	fill	pit	cremated bone inside pot 218				0
503	500	500	fill	pit	fill of pot 219				0
504	504	504	cut	grave	burial	1.14	0.76	0.22	3.1
505	504	504	HSR	skeleton					0
506	515	515	HSR	skeleton					0
507	504	504	fill	grave	backfill			0.22	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
508	556	556	fill	grave	backfill				0
509	509	268	cut	ditch	Roman boundary/?track ditch		1.8	0.72	2.3
510	509	268	fill	ditch	silting			0.72	0
511	509	268	fill	ditch				0.6	0
512	509	268	fill	ditch				0.48	0
513	509	268	fill	ditch				0.4	0
514	504	504	fill	grave	backfill				0
515	515	515	cut	grave	burial				3.1
516	556	556	fill	grave	backfill	0			0
517	517	370	cut	ditch	Roman boundary/?track ditch		0.87	0.27	2.3
518	517	370	fill	ditch			0.87	0.27	0
519	519	462	cut	ditch	enclosure ditch		0.44	0.13	2.2
520	519	462	fill	ditch		0			0
521	521	410	cut	ditch ter-minus	enclosure ditch		1.48	0.62	2.2
522	521	410	fill	ditch ter-minus			1.04	0.24	0
523	521	410	fill	ditch ter-minus			0.76	0.12	0
524	521	410	fill	ditch ter-minus			1.46	0.44	0
525	525	525	cut	grave	burial	2	0.7	0.14	3.1
526	525	525	HSR	skeleton					0
527	525	525	fill	grave	backfill			0.14	0
529	529	529	cut	ditch	enclosure ditch		1.1	0.52	2.1
530	530	530	cut	ditch	enclosure ditch		0.96	0.48	2.1
531	531	531	cut	pit	enclosure marker pit/tree throw	4.2	1	0.47	2.1
532	532	462	cut	ditch	boundary		0.7	0.26	2.2
533	532	462	fill	ditch				0.12	0
534	534	534	cut	pit	cremation burial	0.6	0.54	0.1	2.3
535	534	534	fill	pit	backfill of cremation			0.1	0
536	534	534	fill	cremation	cremated HSR in vessel 229				0
537	529	529	fill	ditch	silting	0		0.53	0
538	529	529	fill	ditch		0		0.52	0
539	529	529	fill	ditch	disuse	0		0.4	0
540	530	530	fill	ditch				0.44	0
541	530	530	fill	ditch	silting	0		0.41	0
542	530	530	fill	ditch		0		0.36	0
543	531	531	fill	pit		0		0.47	0
544	531	531	fill	pit				0.44	0
545	531	531	fill	pit		0		0.38	0
546	531	531	fill	pit		0		0.38	0
547	547	547	cut	ditch	track ditch?		0.7	0.2	2.2
548	547	547	fill	ditch			0.7	0.2	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
549	549	549	cut	ditch	track ditch?		0.68	0.18	2.2
550	549	549	fill	ditch terminus			0.42	0.18	0
551	551	462	cut	ditch	track ditch?		0.78	0.28	2.2
552	551	462	fill	ditch					0
553	553	553	cut	grave	burial	1.4	0.5	0.08	3.1
554	553	553	HSR	skeleton					0
555	553	553	fill	grave	backfill			0.08	0
556	556	556	cut	grave	burial	1.2	0.56	0.13	3.1
557	556	556	HSR	skeleton					0
558	556	556	fill	grave	backfill			0.13	0
559	486	486	HSR	skeleton					0
560	486	486	HSR	skeleton		0			0
561	532	462	fill	ditch			0.52	0.14	0
562	562	562	cut	ditch	track/enclosure ditch?		0.44	0.1	2.2
563	562	562	fill	ditch	disuse			0.1	0
564	564	564	cut	pit	burning?		0.67	0.08	1.2
565	564	564	fill	pit				0.08	0
566	566	562	cut	ditch	track/enclosure ditch?		0.39	0.14	2.2
567	566	562	fill	ditch			0.36	0.14	0
568	568	568	cut	furrow	agricultural		0.6	0.1	5
569	568	568	fill	gully			0.6	0.1	0
570	570	568	cut	furrow	agricultural		0.66	0.12	5
571	570	568	fill	furrow		0		0.12	0
581	581	581	cut	kiln	kiln construction	1.18	0.95	0.36	2.2
582	582	547	cut	ditch	track ditch?		0.6	0.22	2.2
583	582	547	fill	ditch				0.22	0
584	584	549	cut	ditch	track ditch?		0.44	0.2	2.2
585	584	549	fill	ditch			0.44	0.2	0
586	586	462	cut	ditch	track ditch?		0.56	0.22	2.2
587	586	462	fill	ditch			0.56	0.22	0
588	588	588	cut	ditch	track ditch?		0.34	0.13	2.2
589	588	588	fill	ditch				0.13	0
590	590	530	cut	ditch	enclosure ditch		0.6	0.44	2.1
591	591	529	cut	ditch	enclosure ditch		0.9	0.38	2.1
592	592	370	cut	ditch	Roman boundary/?track ditch		0.34	0.13	2.3
593	592	370	fill	ditch			0.34	0.13	0
594	594	588	cut	ditch	track ditch?		0.41	0.06	2.2
595	594	588	fill	ditch	disuse	0	0.41	0.06	0
596	591	529	fill	ditch			0.9	0.24	0
597	591	529	fill	ditch			0.5	0.16	0
598	590	530	fill	ditch	backfill		0.34	0.14	0
599	590	530	fill	ditch		0	0.6	0.3	0
600	581	581	fill	kiln	kiln wall	1.18	0.95	0.36	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
601	581	581	fill	kiln	kiln disuse		0.48	0.1	0
602	602	602	cut	grave	burial				3.1
603	602	602	HSR	skeleton					0
604	602	602	fill	grave	backfill				0
605	605	605	cut	posthole	outlier posthole	0.4	0.4	0.1	3.2
606	605	605	fill	post hole		0.4	0.4	0.1	0
607	607	607	cut	pit	quarry?		4.12	0.98	2.3
608	607	607	fill	pit				0.24	0
609	607	607	fill	pit		0		0.68	0
610	610	610	cut	grave	burial	1.01	0.8	0.14	3.1
611	610	610	HSR	skeleton					0
612	610	610	fill	grave	backfill			0.14	0
613	613	613	cut	grave	burial	1.4	0.4	0.15	3.1
614	613	613	HSR	skeleton					0
615	613	613	fill	grave	backfill				0
616	616	616	cut	grave	burial	0			3.1
617	616	616	HSR	skeleton					0
618	616	616	fill	grave	backfill				0
619	619	619	cut	pit	Mid-Saxon pit	1.26	1.1	0.48	3.2
620	619	619	fill	pit	disuse	1.26	1.1	0.06	0
621	607	607	fill	pit				0.26	0
622	623	623	fill	pit		1.4	1.1	0.16	0
623	623	623	cut	pit	Mid-Saxon pit	1.4	1.1	0.16	3.2
624	619	619	fill	pit		0	0.5	0.1	0
625	619	619	fill	pit				0.24	0
626	619	619	fill	pit		0	1	0.18	0
627	623	623	fill	pit		0	1.1	0.16	0
628	628	628	cut	pit	Mid-Saxon pit	1.68	1.46	0.58	3.2
629	628	628	fill	pit		0		0.06	0
630	628	628	fill	pit			1.62	0.18	0
631	631	631	cut	ditch	boundary		0.48	0.14	3.2
632	631	631	fill	ditch		0	0.48	0.14	0
633	633	633	cut	grave	burial	2.15	1	0.23	3.1
634	633	633	HSR	skeleton					0
635	633	633	fill	grave	backfill	0		0.23	0
636	636	636	cut	grave	burial	0.8	0.54	0.55	3.1
637	633	636	HSR	skeleton					0
638	636	636	fill	grave	backfill	0.8	0.54	0.55	0
639	639	636	cut	grave	burial	2	1.2	0.53	3.1
640	639	636	HSR	skeleton					0
641	639	636	fill	grave	backfill	0		0.53	0
642	628	628	fill	pit		0	1.44	0.26	0
643	628	628	fill	pit		0	1.14	0.12	0
644	644	631	cut	ditch	Mid-Saxon enclosure ditch	1	0.6	0.26	3.2

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
645	644	631	fill	ditch		1	0.6	0.26	0
646	646	646	cut	posthole	structural	0.21	0.2	0.04	3.2
647	646	646	fill	post hole		0		0.04	0
648	648	648	cut	posthole	structural	0.19	0.12	0.02	3.2
649	648	648	fill	post hole				0.02	0
650	650	650	cut	posthole	structural	0.2	0.21	0.1	3.2
651	650	650	fill	post hole		0		0.1	0
652	652	652	cut	posthole	structural	0.28	0.27	0.08	3.2
653	652	652	fill	post hole		0		0.08	0
654	581	581	fill	kiln	demolition layer		0.6	0.12	0
655	581	581	fill	kiln	kiln lining (heated)	0		0.21	0
656	581	581	fill	kiln	kiln disuse	0	0.6	0.18	0
657	657	657	cut	posthole	structural	0.33	0.35	0.06	3.2
658	657	657	fill	post hole				0.06	0
659	659	659	cut	posthole	structural	0.3	0.25	0.16	3.2
660	659	659	fill	post hole				0.16	0
661	661	661	cut	ditch	enclosure ditch		1.13	0.34	2.2
662	661	661	fill	ditch		0		0.34	0
663	663	661	cut	pit	enclosure ditch	0.7	0.9	0.38	2.2
664	663	661	fill	pit		0.7	0.9	0.38	0
665	665	665	cut	plough scar	agricultural		0.26	0.14	0
666	665	665	fill	plough scar		0		0.14	0
667	667	667	cut	posthole	structural	0.46	0.35	0.12	3.2
668	667	667	fill	post hole		0		0.12	0
669	669	669	cut	posthole	structural		0.3	0.09	3.2
670	669	669	fill	post hole		0		0.09	0
671	671	671	cut	posthole	structural	0.28	0.26	0.05	3.2
672	671	671	fill	post hole				0.05	0
673	673	673	cut	posthole	structural		0.36	0.16	3.2
674	673	673	fill	post hole		0		0.16	0
675	675	675	cut	posthole	structural	0.32	0.31	0.05	3.2
676	675	675	fill	post hole		0		0.05	0
677	677	677	cut	posthole	structural	0.29	0.25	0.06	3.2
678	677	677	fill	post hole				0.06	0
679	679	607	cut	pit	quarry?		4.12	1.06	2.3
680	679	607	fill	pit		0		0.42	0
681	679	607	fill	pit		0		0.28	0
682	679	607	fill	pit				0.72	0
683	683	683	cut	posthole	structural	0.37	0.33	0.08	3.2
684	683	683	fill	post hole				0.08	0
685	685	685	cut	posthole	structural	0.16	0.16	0.09	3.2
686	685	685	fill	post hole				0.09	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
687	687	687	cut	posthole	structural	0.24	0.23	0.06	3.2
688	687	687	fill	post hole		0.24	0.23	0.06	0
689	679	607	fill	pit		0		0.6	0
690	690	690	cut	grave	burial				3.1
691	690	690	HSR	skeleton					0
692	690	690	fill	grave	backfill	0			0
693	478	478	fill	grave	disturbed backfill	0			0
694	694	694	cut	posthole	structural	0.33	0.35	0.16	3.2
695	694	694	fill	post hole		0		0.16	0
696	696	696	cut	posthole	structural	0.23	0.22	0.06	3.2
697	696	696	fill	post hole		0		0.06	0
698	698	698	cut	posthole	structural	0.19	0.11	0.09	3.2
699	698	698	fill	post hole				0.09	0
700	700	700	cut	posthole	structural	0.4	0.43	0.08	3.2
701	700	700	fill	post hole				0.08	0
702	702	702	cut	posthole	structural	0.29	0.2	0.06	3.2
703	702	702	fill	post hole				0.06	0
704	704	704	cut	grave	burial	0			3.1
705	704	704	HSR	skeleton		0			0
706	704	704	fill	grave	backfill	0			0
707	707	707	cut	grave	burial	1.82	1	0.32	3.1
708	707	707	HSR	skeleton		0			0
709	707	707	fill	grave	backfill	0		0.32	0
710	478	478	fill	grave	backfill	0			0
711	711	478	cut	posthole/slot?	within grave 478	0.2	0.17	0.05	2.3
712	711	478	fill	post hole				0.05	0
713	713	478	cut	posthole/slot?	within grave 478	0.4	0.24	0.04	2.3
714	713	478	fill	post hole				0.04	0
715	715	715	cut	grave	burial	1.5	0.8	0.24	3.1
716	715	715	HSR	skeleton		0			0
717	715	715	HSR	skeleton		0			0
718	715	715	fill	grave	backfill	0			0
719	719	719	cut	ditch	enclosure ditch				2.1
720	719	719	fill	ditch					0
721	721	721	cut	kiln	kiln construction	0	0.5	0.16	2.2
722	721	721	fill	kiln	kiln use		0.4	0.07	0
723	723	723	cut	pit	uncertain. secondary: cess.		2.7	1.65	3.2
724	724	775	cut	ditch	track/cultivation?	1.06	0.72	0.14	2.2
725	724	775	fill	ditch					0
726	726	726	cut	pit	associated with parallel ditches	1.15	1.13	0.58	2.2
727	726	726	fill	pit		1.15	1.13	0.58	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
728	723	723	fill	pit	slumping/silting		1.2	0.3	0
729	723	723	fill	pit	silting		1.2	0.35	0
730	723	723	fill	pit	waste disposal		2.2	0.3	0
731	723	723	fill	pit			2.5	1	0
732	723	723	fill	pit	lining	0			0
733	733	733	cut	grave	burial	1.76	0.94	0.28	3.1
734	733	733	HSR	skeleton		0			0
735	733	733	fill	grave	backfill	0		0.28	0
736	736	733	cut	grave	burial	1.76	0.94	0.28	3.1
737	736	733	HSR	skeleton					0
738	736	733	fill	grave	backfill	0		0.28	0
739	739	739	cut	grave	burial	1.32	0.98	0.2	3.1
740	739	739	HSR	skeleton	(no bone)				0
741	739	739	fill	grave	backfill		0.98	0.2	0
742	742	742	cut	ditch	post-Roman boundary ditch		2.62	1.1	0
743	743	743	cut	ditch	post-Roman boundary ditch		0.5	0.54	0
744	744	744	cut	pit?	enclosure ditch	0		1	2.1
745	745	745	cut	pit	associated with kiln 581	0.25	0.51	0.16	0
746	745	745	fill	pit		0.25	0.51	0.16	0
747	742	742	fill	ditch		0		0.21	0
748	742	742	fill	ditch		0		0.22	0
749	742	742	fill			0		0.4	0
750	742	742	fill	ditch				0.35	0
751	742	742	fill	ditch		0		0.42	0
752	743	743	fill	ditch		0		0.54	0
753	744	744	fill	pit?		0		0.08	0
754	744	744	fill	pit?		0		0.1	0
755	744	744	fill	pit?				0.18	0
756	744	744	fill	pit?		0		0.07	0
757	744	744	fill	pit?				0.66	0
758	744	744	fill	pit?				0.59	0
759	759	759	cut	grave	burial	1.64	0.86	0.14	3.1
760	759	759	HSR	skeleton					0
761	759	759	fill	grave	backfill	0		0.14	0
762	721	721	fill	kiln	kiln wall	0	0.1	0.17	0
763	794	719	fill	ditch			0.15	0.18	0
764	721	721	fill	kiln	kiln disuse/demolition		0.43	0.11	0
765		765	fill	wheel ruts/plough scar		0	0.55	0.09	0
766	766	766	cut	grave	burial	2.04	0.8	0.23	3.1
767	766	766	HSR	skeleton					0
768	766	766	fill	grave	backfill			0.23	0
769	769	769	cut	ditch	enclosure ditch		1	0.41	2.2

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
770	769	769	fill	ditch				0.12	0
771	769	769	fill	ditch				0.34	0
772	772	772	cut	pit	cremation burial	0.9	0.8	0.18	2.4
773	772	772	fill	pit	backfill of cremation burial	0			0
774	772	772	fill	cremation vessel 320	cremated HSR				0
775	775	775	cut	ditch	track/cultivation?	0.86	0.28	0.13	2.2
776	775	775	fill	ditch		0		0.13	0
777	777	777	cut	pit	associated with parallel ditches	1.4	0.4	0.42	2.2
778	777	777	fill	pit		0		0.42	0
779	779	779	cut	plough scar	agricultural	0.3	0.08	0.18	0
780	779	779	fill	plough scar		0		0.18	0
782	782	370	cut	ditch	Roman boundary/?track ditch		0.8	0.18	2.3
783	782	370	fill	ditch				0.18	0
784	784	661	cut	ditch	enclosure ditch		0.64	0.12	2.2
785	784	661	fill	ditch		0		0.12	0
786	786	786	cut	ditch ter-minus	sub-enclosure ditch		0.38	0.14	2.2
787	786	786	fill	ditch ter-minus				0.14	0
788	788	769	cut	ditch	enclosure ditch		0.54	0.15	2.2
789	788	769	fill	ditch		0		0.03	0
790	788	769	fill	ditch		0		0.12	0
791	791	791	cut	ditch	track/cultivation?		0.48	0.06	2.2
792	791	791	fill	ditch				0.06	0
793	794	719	fill	ditch				0.11	0
794	794	719	cut	ditch	enclosure ditch		0.5	0.11	2.1
795		529	fill	ditch		0	0.69	0.1	0
796	796	769	cut	ditch	enclosure ditch		0.24	0.16	2.2
797	796	769	fill	ditch		0		0.16	0
798	798	268	cut	ditch	Roman boundary/?track ditch		0.52	0.6	2.3
799	798	268	fill	ditch		0		0.6	0
800	800	800	cut	posthole	cemetery structure SE	0.45	0.5	0.12	3.1
801	800	800	fill	post hole	cemetery structure SE	0		0.12	0
802	802	800	cut	posthole	cemetery structure SE	0.4	0.55	0.15	3.1
803	802	800	fill	post hole	cemetery structure SE	0		0.15	0
804	804	800	cut	posthole	cemetery structure SE	0.4	0.56	0.15	3.1
805	804	800	fill	post hole	cemetery structure SE	0		0.15	0
806	806	800	cut	posthole	cemetery structure SE	0.45	0.4	0.42	3.1
807	806	800	fill	post hole	cemetery structure SE			0.42	0
808	808	800	cut	posthole	cemetery structure SE	0.25	0.23	0.06	3.1
809	808	800	fill	post hole	cemetery structure SE	0		0.06	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
810	810	800	cut	posthole	cemetery structure SE	0.33	0.35	0.09	3.1
811	810	800	fill	post hole	cemetery structure SE	0		0.09	0
812	812	800	cut	posthole	cemetery structure SE	0.3	0.28	0.05	3.1
813	812	800	fill	post hole	cemetery structure SE	0		0.05	0
814	814	800	cut	posthole	cemetery structure SE	0.22	0.32	0.1	3.1
815	814	800	fill	post hole	cemetery structure SE			0.1	0
816	816	800	cut	posthole	cemetery structure SE	0.3	0.32	0.05	3.1
817	816	800	fill	post hole	cemetery structure SE	0		0.05	0
818	818	800	cut	posthole	cemetery structure SE	0.35	0.42	0.17	3.1
819	818	800	fill	post hole	cemetery structure SE	0		0.17	0
820	820	800	cut	posthole	cemetery structure SE	0.32	0.61	0.2	3.1
821	820	800	fill	post hole	cemetery structure SE	0		0.2	0
822	822	800	cut	posthole	cemetery structure SE	0.44	0.7	0.2	3.1
823	822	800	fill	post hole	cemetery structure SE	0		0.2	0
824	824	800	cut	posthole	cemetery structure SE	0.27	0.3	0.06	3.1
825	824	800	fill	post hole	cemetery structure SE	0.27	0.3	0.06	0
826	826	830	cut	posthole	cemetery structure NW	0.42	0.32	0.12	3.1
827	826	830	fill	post hole	cemetery structure NW	0		0.12	0
828	828	830	cut	posthole	cemetery structure NW	0.3	0.36	0.15	3.1
829	828	830	fill	post hole	cemetery structure NW	0		0.15	0
830	830	830	cut	posthole	cemetery structure NW	0.28	0.25	0.08	3.1
831	830	830	fill	post hole	cemetery structure NW	0		0.08	0
832	832	830	cut	posthole	cemetery structure NW	0.28	0.25	0.08	3.1
833	832	830	fill	post hole	cemetery structure NW	0		0.08	0
834	834	830	cut	posthole	cemetery structure NW	0.3	0.25	0.08	3.1
835	834	830	fill	post hole	cemetery structure NW	0		0.08	0
836	836	830	cut	posthole	cemetery structure NW	0.32	0.37	0.14	3.1
837	836	830	fill	post hole	cemetery structure NW	0		0.14	0
838	838	830	cut	posthole	cemetery structure NW	0.44	0.42	0.15	3.1
839	838	830	fill	post hole	cemetery structure NW	0		0.15	0
840	840	830	cut	posthole	cemetery structure NW	0.32	0.31	0.17	3.1
841	840	830	fill	post hole	cemetery structure NW	0.32	0.31	0.17	0
842	842	830	cut	posthole	structural	0.25	0.23	0.11	3.1
843	842	830	fill	post hole	structural	0		0.11	0
846	846	846	cut	pit	uncertain. Backfilled.	1.5	1.1	0.48	0
847	846	846	fill	pit					0
848	846	846	fill	pit		0		0.2	0
849	846	846	fill	pit		0		0.2	0
850	850	830	cut	posthole	cemetery structure NW	0.35	0.24	0.05	3.1
851	850	830	fill	post hole	cemetery structure NW	0		0.05	0
852	852	852	cut	pit	Mid-Saxon pit	2.04	1.86	1.02	3.2
853	852	852	fill	pit		0		0.18	0
854	854	854	cut	ditch	enclosure ditch	1.2	1.34	0.98	2.2
855	855	855	cut	grave	burial	2.04	0.92	0.44	3.1

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
856	855	855	HSR	skeleton		0			0
857	855	855	fill	grave	backfill	0	0.92	0.44	0
858	858	858	cut	ditch	barrow ditch around grave 855	0	0.74	0.2	3.1
859	858	858	fill	ditch		0	0.74	0.2	0
860	860	858	cut	ditch	barrow ditch around grave 855		0.69	0.14	3.1
861	860	858	fill	ditch			0.69	0.14	0
862	862	305	cut	ditch	mortuary enclosure/square barrow ditch		1.3	0.35	2.3
863	862	305	fill	ditch	disuse			0.15	0
864	862	305	fill	ditch	silting				0
865	862	305	fill	ditch		0		0.2	0
866	866	866	cut	ditch	cremation 945 square gully	0	0.6	0.2	2.3
867	866	305	fill	ditch			0.6	0.2	0
868	868	868	cut	pit	boundary/enclosure related		0.8		2.3
869	868	868	fill	pit		0			0
870	870	870	cut	ditch	enclosure ditch		0.56		2.2
871	870	870	fill	ditch					0
872	872	631	cut	ditch	Mid-Saxon enclosure ditch		0.66	0.34	3.2
873	872	631	fill	ditch			0.66	0.34	0
874	874	874	cut	pit	Mid-Saxon pit		1	0.72	3.2
875	874	874	fill	pit	disuse		1.48	0.32	0
876	874	874	fill	pit			0.12	0.18	0
877	874	874	fill	pit		0		0.14	0
878	874	874	fill	pit				0.26	0
879	874	874	fill	pit		0		0.08	0
880	880	880	cut	pit	Mid-Saxon pit	1.84	1.2	0.68	3.2
881	880	880	fill	pit		1.72	0.93		0
882	880	880	fill	pit		0			0
883	880	880	fill	pit		0			0
884	852	852	fill	pit			1.43	0.4	0
885	852	852	fill	pit		0		0.12	0
886	852	852	fill	pit		0	0.6	0.1	0
887	852	852	fill	pit		0		0.18	0
888	852	852	fill	pit		0		0.18	0
889	854	854	fill	ditch			1.34	0.24	0
890	854	854	fill	ditch		0		0.16	0
891	854	854	fill	ditch		0		0.07	0
892	854	854	fill	ditch		0		0.12	0
893	854	854	fill	ditch		0		0.06	0
894	854	854	fill	ditch		0		0.35	0
895	895	895	cut	ditch	enclosure ditch?	0			2.2
896	895	895	fill	ditch			0.65	0.08	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
897	897	897	cut	pit	associated with parallel period 2.2 ditches	1.2	2.22	0.46	2.2
898	897	897	fill	pit		0		0.06	0
899	897	897	fill	pit		0		0.02	0
900	897	897	fill	pit		0		1.16	0
901	897	897	fill	pit		0		0.28	0
902	897	897	fill	pit		0	2.94	0.16	0
903	903	903	cut	posthole	structural	0.25	0.22	0.05	3.1
904	903	903	fill	post hole		0	0.22	0.05	0
905	905	905	cut	posthole	structural	0.25	0.37	0.07	0
906	905	905	fill	post hole				0.07	0
907	907	907	cut	posthole	structural	0.22	0.3	0.07	0
908	907	907	fill	post hole		0		0.07	0
909	909	909	cut	posthole	structural	0.2	0.17	0.05	0
910	909	909	fill	post hole				0.05	0
911	911	661	cut	ditch	enclosure ditch	0	0.3	0.11	2.2
912	911	661	fill	ditch		0		0.11	0
913	913	868	cut	pit	boundary/enclosure related	0		0.74	2.3
914	913	868	fill	pit		0		0.74	0
915	916	370	cut	ditch	Roman boundary/?track ditch			0.1	2.3
916	915	370	fill	ditch				0.1	0
917		866	layer	soil		0			0
918	918	918	cut	posthole	structure/fence?	0.32	0.52	0.8	2.2
919	918	918	fill	posthole		0.32	0.52	0.8	0
920	920	918	cut	posthole	structure/fence?	0.48	0.48	0.08	2.2
921	920	920	fill	post hole				0.08	0
922	922	918	cut	posthole	structure/fence?		0.3	0.2	2.2
923	922	922	fill	post hole		0	0.3	0.2	0
924	924	918	cut	posthole	structure/fence?		0.45	0.13	2.2
925	924	924	fill	post hole		0	0.45	0.13	0
926	926	858	cut	ditch	barrow ditch around grave 855		0.58	0.18	3.1
927	926	858	fill	ditch			0.58	0.18	0
928	928	858	cut	ditch	barrow ditch around grave 855	0	0.75	0.2	3.1
929	928	858	fill	ditch		0	0.75	0.2	0
930	852	852	fill	pit		0	1.8	0.34	0
931	931	800	cut	posthole	cemetery structure SE	0.3	0.26	0.07	3.1
932	931	800	fill	post hole	cemetery structure SE	0.3	0.26	0.07	0
933	933	800	cut	posthole	cemetery structure SE	0.25	0.24	0.07	3.1
934	933	800	fill	post hole	cemetery structure SE	0		0.07	0
935	935	268	cut	ditch	Roman boundary/?track ditch		1.4	0.47	2.3
936	935	268	fill	ditch	disuse		1.4	0.47	0
937	937	937	cut	pit	grave?	2.3	1.06	0.3	2.3

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
938	937	937	fill	pit				0.3	0
939	939	939	cut	pit	grave	1.3	0.5	0.3	2.2
940	939	939	fill	pit		0		0.3	0
941	941	214	cut	ditch	cremation enclosure (recut, extension)		0.8	0.36	2.3
942	942	942	cut	ditch	cremation enclosure		1	0.45	2.3
943	941	214	fill	ditch			0.8	0.36	0
944	942	942	fill	ditch			1	0.45	0
945	945	945	cut	pit	cremation burial	1.3	0.9	0.45	2.3
946	945	945	fill	pit	backfill of cremation (upper spit)	0			0
947	947	947	cut	pit	intercut with 949	0	1.4	0.46	2.2
948	947	947	fill	pit			1.4	0.46	0
949	949	949	cut	pit	intercut with 947	0	2.04	0.91	2.2
950	949	949	fill	pit		0		0.08	0
951	949	949	fill	pit				0.24	0
952	949	949	fill	pit				0.28	0
953	949	949	fill	pit		0		0.1	0
954	949	949	fill	pit				0.41	0
955	955	955	cut	grave	burial	1.8	0.8	0.25	3.1
956	955	955	HSR	skeleton					0
957	955	955	fill	grave	backfill			0.25	0
958	945	945	fill	pit	backfill of cremation (lower spit)	0			0
963	963	963	cut	grave	burial	2.1	1.2	0.4	3.1
964	963	963	HSR	skeleton					0
965	963	963	fill	grave	backfill	2.1	1.2	0.4	0
966	966	966	cut	grave	burial	2.58	0.76	0.3	3.1
967	966	966	HSR	skeleton					0
968	966	966	fill	grave	backfill			0.3	0
969	969	971	cut	grave	possible grave	0.96	0.69	0.2	3.1
970	969	971	fill	pit	backfill	0.96	0.69	0.2	0
971	971	971	cut	grave	burial	1.3	0.8	0.25	3.1
972	971	971	HSR	skeleton					0
973	971	971	fill	grave	backfill	0	0.8	0.25	0
974	971	971	fill	grave	fill of vessel 357	0			0
975	975	975	cut	grave	burial				3.1
976	975	975	HSR	skeleton					0
977	975	975	fill	grave	backfill				0
978	978	305	cut	ditch	mortuary enclosure/square barrow ditch		1.25	0.32	2.3
979	978	305	fill	ditch			1.25	0.3	0
980	980	214	cut	ditch	cremation enclosure (recut, extension)	0	0.65	0.24	2.3
981	980	214	fill	ditch		0	0.65	0.24	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
982	982	631	cut	ditch	Mid-Saxon enclosure ditch		0.68	0.39	3.2
983	982	631	fill	ditch			0.3	0.08	0
984	982	631	fill	ditch			0.46	0.06	0
985	982	631	fill	ditch			0.62	0.12	0
986	982	631	fill	ditch			0.64	0.14	0
987	987	987	cut	pit	Mid-Saxon pit		0.76	0.38	3.2
988	987	987	fill	pit			0.32	0.12	0
989	987	987	fill	pit			0.52	0.08	0
990	987	987	fill	pit			0.56	0.06	0
991	987	987	fill	pit			0.78	0.18	0
992	992	992	cut	pit	Mid-Saxon pit		0.24		3.2
993	992	992	fill	pit			0.24		0
994	994	529	cut	ditch	enclosure ditch		1	0.38	2.1
995	994	529	fill	ditch		0		0.38	0
996	996	268	cut	ditch	Roman boundary/?track ditch		1.4	0.52	2.3
997	996	268	fill	ditch				0.52	0
998	998	998	cut	grave	burial	2.34	1.05	0.4	3.1
999	998	998	HSR	skeleton					0
1000	998	998	fill	grave	backfill	2.34	1.05	0.4	0
1001	1001	1001	cut	grave	burial	1.85	1.2	0.32	3.1
1002	1001	1001	HSR	skeleton					0
1003	1001	1001	fill	grave	backfill			0.32	0
1004	1001	1001	fill	grave	fill of pot 359				0
1005	1005	1005	cut	pit	Mid-Saxon pit	0.72	0.86	0.08	3.2
1006	1005	1005	fill	pit	dump of burnt material		0.84	0.06	0
1007	1005	1005	fill	pit			0.62	0.06	0
1008	1008	1018	cut	pit	enclosure ditch		0.9	0.16	2.1
1009	1008	1018	fill	pit	disuse		0.9	0.07	0
1010	1008	1018	fill	pit			0.9	0.09	0
1012	1012	1012	cut	grave	burial	0.64	0.34	0.07	3.1
1013	1012	1012	HSR	skeleton					0
1014	1012	1012	fill	grave	backfill	0.64	0.34	0.07	0
1015	1015	1015	cut	grave	burial	2.34	1.05	0.4	3.1
1016	1015	1015	HSR	skeleton					0
1017	1015	1015	fill	grave	backfill	2.34	1.05	0.4	0
1018	1018	1018	cut	ditch	enclosure ditch			0.64	2.1
1019	1018	1018	fill	ditch				0.64	0
1020	1020	1020	cut	ditch	enclosure ditch		0.84	0.4	2.1
1021	1020	1020	fill	pit		0	0.84	0.4	0
1022	1022	1029	cut	pit	Mid-Saxon pit	2.14	1.5	0.56	3.2
1023	1022	1029	fill	pit			1.12	0.3	0
1024	1022	1029	fill	pit			0.96	0.38	0
1025	1022	1029	fill	pit		0	0.88	0.1	0
1026	1026	1029	cut	pit	Mid-Saxon pit	1.94	1.26	0.32	3.2

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1027	1026	1029	fill	pit			0.53	0.16	0
1028	1026	1029	fill	pit			0.38	0.16	0
1029	1029	1029	cut	pit	Mid-Saxon pit	1.41		0.49	3.2
1030	1029	1029	fill	pit		0		0.14	0
1031	1029	1029	fill	pit		0		0.28	0
1032	1032	1032	cut	grave	burial				3.1
1033	1032	1032	HSR	skeleton					0
1034	1032	1032	fill	grave	backfill	0		0.5	0
1035	1035	1035	cut	grave	burial	2.5	1.54	0.58	3.1
1036	1035	1035	HSR	skeleton		0			0
1037	1035	1035	fill	grave	backfill	0		0.58	0
1038	1029	1029	fill	pit				0.13	0
1039	1039	1039	cut	pit	enclosure marker pit/tree throw		1.1	0.7	0
1040	1039	1039	fill	pit				0.7	0
1041	1041	1041	cut	pit	enclosure marker pit/tree throw		0.6	0.48	2.1
1042	1041	1041	fill	pit				0.48	0
1043	1043	1043	cut	pit	enclosure marker pit/tree throw		1	0.8	2.1
1044	1043	1041	fill	pit		0		0.8	0
1045	1045	529	cut	ditch	enclosure ditch	0	1	0.5	2.1
1046	1045	529	fill	ditch		0		0.3	0
1047	1045	529	fill	ditch		0		0.2	0
1048	1048	719	cut	ditch	enclosure marker pit/tree throw	0	1.2	0.95	2.1
1049	1048	719	fill	ditch				0.95	0
1050	1050	1050	cut	grave	burial	1.8	0.8	0.24	3.1
1051	1050	1050	HSR	skeleton		0			0
1052	1050	1050	fill	grave	backfill	1.8	0.8	0.24	0
1053	1053	1053	cut	grave	burial	1.5	1	0.28	3.1
1054	1053	1053	fill	grave	backfill			0.28	0
1055	1055	1055	cut	grave	burial	1.42	0.96	0.12	3.1
1056	1055	1055	HSR	skeleton		0			0
1057	1055	1055	fill	grave	backfill	1.42	0.96	0.12	0
1058	1058	1058	cut	grave	burial			0.1	3.1
1059	1058	1058	HSR	skeleton		0			0
1060	1058	1058	fill	grave		0			0
1061	1061	942	cut	ditch	cremation enclosure		1.85	0.69	2.3
1062	1061	942	fill	ditch		0		0.31	0
1063	1061	942	fill	ditch		0		0.23	0
1064	1061	942	fill	ditch				0.2	0
1065	1061	942	fill	ditch		0		0.19	0
1066	1066	214	cut	ditch	cremation enclosure (recut, extension)		1.21	0.44	2.3

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1067	1066	214	fill	ditch		0		0.24	0
1068	1066	214	fill	ditch				0.19	0
1069	1069	1069	cut	grave	burial	1.9	1.1	0.4	3.1
1070	1069	1069	HSR	skeleton		0			0
1071	1069	1069	fill	grave	backfill	1.9	1.1	0.4	0
1072	1072	1072	cut	grave	burial	2.1	1.2	0.47	3.1
1073	1072	1072	HSR	skeleton					0
1074	1072	1072	fill	grave	backfill	2.1	1.2	0.47	0
1075	1075	942	cut	ditch	cremation enclosure		1.45	0.66	2.3
1076	1075	942	fill	ditch				0.21	0
1077	1075	942	fill	ditch		0		0.18	0
1078	1075	942	fill	ditch		0		0.28	0
1079	1079	1079	cut	solution hollow	natural		3.1		0
1080	1079	1079	fill	solution hollow		0	3.1	1.5	0
1081	1081	1081	cut	solution hollow	natural		2.2		0
1082	1081	1081	fill	solution hollow	silting	0			0
1083	1083	743	cut	ditch	post-Roman boundary ditch		0.76	0.42	0
1084	1083	743	fill	ditch		0			0
1085	1085	742	cut	ditch	post-Roman boundary ditch		3.5	1.02	0
1086	1085	742	fill	ditch			3.5	1.02	0
1087	1087	305	cut	ditch	mortuary enclosure/square barrow ditch	0	2.18	0.59	2.3
1088	1087	305	fill	ditch	slumping			0.19	0
1089	1087	305	fill	ditch		0		0.3	0
1090	1087	305	fill	ditch				0.32	0
1091	1091	1091	cut	grave	burial	1.86	0.88	0.38	3.1
1092	1091	1091	HSR	skeleton					0
1093	1091	1091	fill	grave	backfill	1.86	0.88	0.38	0
1094	1094	1094	cut	grave	burial	1.44	0.82	0.34	3.1
1095	1094	1094	HSR	skeleton					0
1096	1094	1094	fill	grave	backfill	0		0.34	0
1097	1097	1097	cut	grave	burial				3.1
1098	1097	1097	HSR	skeleton					0
1099	1097	1097	layer	grave	backfill	0			0
1100	1100	214	cut	ditch	cremation enclosure (recut, extension)		1.7	0.28	2.3
1101	1100	214	fill	ditch				0.14	0
1102	1100	214	fill	ditch	enclosure			0.12	0
1103	1103	305	cut	ditch	mortuary enclosure/square barrow ditch	0	1.5	0.31	2.3
1104	1103	305	fill	ditch		0		0.09	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1105	1103	305	fill	ditch		0		0.2	0
1106	1106	214	cut	ditch	cremation enclosure (recut, extension)		1.4	0.49	2.3
1107	1106	214	fill	ditch		0		0.2	0
1108	1106	214	fill	ditch		0		0.29	0
1109	1152	1150	HSR	skeleton		0			0
1110	1150	1150	HSR	skeleton		0			0
1111	1111	742	cut	ditch	post-Roman boundary ditch		1		0
1112	1111	742	fill	ditch			1	0.4	0
1113	1113	743	cut	solution hollow	post-Roman boundary ditch	0	0.6		0
1114	1113	743	fill	solution hollow	silting	0		0.32	0
1115	1115	1115	cut	grave	burial	2	0.67	0.16	3.1
1116	1115	1115	HSR	skeleton					0
1117	1115	1115	fill	grave	backfill	2	1.64	0.16	0
1118	1118	1118	cut	grave	burial	1.9	0.82	0.34	3.1
1119	1118	1118	HSR	skeleton					0
1120	1118	1118	fill	grave	backfill	0		0.34	0
1121	1121	1121	cut	pit	Late Saxon pit	2.5	1.2	0.8	4
1122	1121	1121	fill	pit					0
1123	1121	1121	fill	pit		0			0
1124	1121	1121	fill	pit					0
1125	1121	1121	fill	pit					0
1126	1126	1126	cut	grave	burial	1.2	0.5	0.15	3.1
1127	1126	1126	HSR	skeleton		0			0
1128	1126	1126	fill	grave	backfill			0.15	0
1129	1121	1121	fill	pit		0			0
1130	1130	1130	cut	pit	enclosure marker pit/tree throw		1.5	0.46	2.1
1131	1219	719	fill	ditch		0		0.44	0
1132	1130	1130	fill	pit		0		0.46	0
1133	1133	1133	cut	grave	burial	1.12	0.94	0.12	3.1
1134	1133	1133	HSR	skeleton		0			0
1135	1133	1133	fill	grave	backfill	1.12	0.94	0.12	0
1136	1136	529	cut	ditch	enclosure ditch	0	1.5	0.44	2.1
1137	1136	529	fill	ditch	disuse	0	1.5	0.44	0
1138	1115	1115	HSR	skeleton		0			0
1139	1139	1139	cut	grave	burial		1.02	0.61	3.1
1140	1139	1139	HSR	skeleton					0
1141	1139	1139	fill	grave	backfill			0.61	0
1142	1142	214	cut	ditch	cremation enclosure (recut, extension)	0	0.75	0.31	2.3
1143	1142	214	fill	ditch				0.31	0
1144	1144	529	cut	ditch	enclosure ditch	0	1.5	0.44	2.1

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1145	1144	529	fill	ditch	disuse		1.5	0.44	0
1146	1146	1146	cut	pit	enclosure marker pit/tree throw		1	0.4	2.1
1147	1146	1146	fill	pit	disuse		1	0.4	0
1148	1150	1150	HSR	skeleton					0
1149	1150	1150	HSR	skeleton		0			0
1150	1150	1150	cut	grave	burial	2.14	0.75	0.14	3.1
1151	1150	1150	fill	grave	backfill	2.14	0.75	0.14	0
1152	1152	1150	cut	grave	burial	2.14	0.6	0.14	3.1
1153	1152	1150	fill	grave	backfill		0.6	0.14	0
1154	1154	1154	cut	grave	burial	1.04	0.78	0.28	3.1
1155	1154	1154	HSR	skeleton					0
1156	1154	1154	fill	grave	backfill	1.04	0.78	0.28	0
1157		1157	layer	buried soil		0		0.21	0
1158	1158	1158	cut	grave	burial	2			3.1
1159	1158	1158	HSR	skeleton					0
1160	1158	1158	fill	grave	backfill				0
1161	1161	1161	cut	kiln	possible remains of kiln		0.85	0.12	2.2
1162	1161	1161	fill	kiln	fragments of kiln	0	0.85	0.12	0
1163	1163	1163	cut	grave	burial	0		0.3	3.1
1164	1163	1163	HSR	skeleton					0
1165	1163	1163	HSR	skeleton					0
1166	1163	1163	fill	grave				0.25	0
1167	1167	1167	cut	grave	burial	1.9	0.9	0.38	3.1
1168	1167	1167	HSR	skeleton					0
1169	1167	1167	fill	grave	backfill	0		0.38	0
1170	1170	942	cut	ditch	cremation enclosure	0	1.6	0.56	2.3
1171	1170	942	fill	ditch				0.14	0
1172	1170	942	fill	ditch				0.4	0
1173	1173	214	cut	ditch	cremation enclosure (recut, extension)		1.1	0.38	2.3
1174	1173	214	fill	ditch				0.38	0
1175	1175	1157	layer	buried soil		0		0.15	0
1176	1176	1157	layer	buried soil		0		0.17	0
1177	1177	1177	cut	grave	burial	2.4	1.14	0.44	3.1
1178	1177	1177	HSR	skeleton					0
1179	1177	1177	fill	grave		2.4	1.14	0.44	0
1180	1180	1180	cut	grave	burial	1.95	0.7	0.3	3.1
1181	1180	1180	HSR	skeleton		0			0
1182	1180	1180	fill	grave	backfill	1.95	0.07	0.3	0
1183	1183	1183	cut	gully	furrow marker?	0	0.6	0.28	5
1184	1183	1183	fill	gully	backfill	0	0.6	0.28	0
1185	1185	1185	cut	grave	burial	1.9	0.82	0.28	3.1
1186	1185	1185	HSR	skeleton		0			0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1187	1185	1185	fill	grave	backfill	1.9	0.82	0.28	0
1188	1188	866	cut	ditch	cremation 945 square gully	0			2.3
1189	1188	866	fill	ditch	silting	0			0
1190	1190	866	cut	ditch	cremation 945 square gully	0			2.3
1191	1190	866	fill	ditch	silting	0			0
1192	1190	866	fill	ditch	backfill	0			0
1193	1193	1193	cut	pit	possible tree throw/natural	1.1	1	0.45	2.2
1194	1193	1193	fill	pit		0	1	0.45	0
1195	1195	942	cut	ditch	cremation enclosure	0	0.8	0.4	2.3
1196	1195	942	fill	ditch	slump	0		0.2	0
1197	1195	942	fill	ditch	silting	0		0.22	0
1198	1198	214	cut	ditch	cremation enclosure (recut, extension)	0	2.1	0.59	2.3
1199	1198	214	fill	ditch	silting	0		0.2	0
1200	1198	214	fill	ditch	silting	0		0.4	0
1201	1201	1201	cut	grave	burial	2.28	0.92	0.3	3.1
1202	1201	1201	HSR	skeleton		0			0
1203	1201	1201	fill	grave	backfill	2.28	0.92	0.3	0
1204	1204	1204	cut	grave	burial	2.04	0.98	0.41	3.1
1205	1204	1204	HSR	skeleton		0			0
1206	1204	1204	fill	grave	backfill	2.04	0.98	0.41	0
1207	1207	1207	cut	ditch	enclosure ditch	0	1.4	0.52	2.1
1208	1207	1207	fill	ditch		0		0.12	0
1209	1207	1207	fill	ditch		0		0.4	0
1210	1210	744	cut	ditch	enclosure ditch	0	0.78	0.7	2.1
1211	1210	744	fill	ditch		0		0.26	0
1212	1210	744	fill	ditch		0		0.26	0
1213	1210	744	fill	ditch		0		0.32	0
1214	1205	1205	fill	pot fill		0			0
1215	1215	305	cut	ditch	mortuary enclosure/square barrow ditch	0	1.3	0.48	2.3
1216	1215	305	fill	ditch	primary			0.12	0
1217	1215	305	fill	ditch	secondary			0.18	0
1218	1215	305	fill	ditch	secondary			0.28	0
1219	1219	719	cut	ditch / beamslot	enclosure ditch		0.6	0.37	2.1
1220	1219	719	fill	ditch / beamslot?			0.6	0.37	0
1221	1221	1221	cut	ditch?	enclosure? Possibly part of 529.		1	0.2	0
1222	1221	1221	fill	ditch?				0.2	0
1223	1223	529	cut	ditch	enclosure ditch				2.1
1224	1223	529	fill	ditch				0.4	0
1225	1223	529	fill	ditch	disuse?			0.35	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1226	1226	1226	cut	pit?	enclosure marker pit/tree throw	2	0.6	0.27	2.1
1227	1226	1226	fill	pit				0.27	0
1228	1228	1228	cut	grave	burial	2.26	1	0.34	3.1
1229	1228	1228	HSR	skeleton					0
1230	1228	1228	fill	grave	backfill			0.34	0
1231	1231	305	cut	ditch	mortuary enclosure/square barrow ditch		1.3	0.55	2.3
1232	1231	305	fill	ditch				0.25	0
1233	1231	305	fill	ditch				0.3	0
1234	1234	1234	cut	grave	burial	2.2	1.3	0.8	2.2
1235	1234	1234	fill	grave	backfill			0.8	0
1236		1228	layer	spread					0
1237	1237	719	cut	ditch / beamslot terminus	enclosure ditch		0.37	0.18	2.1
1238	1237	719	fill	ditch / beamslot terminus			0.37	0.18	0
1239	1239	1239	cut	pit	Mid-Saxon pit			0.18	3.2
1240	1239	1239	fill	pit	disuse?			0.18	0
1241	1241	1029	cut	pit	Mid-Saxon pit	2.48			3.2
1242	1241	1029	fill	pit	disuse			0.2	0
1243	1241	1029	fill	pit	disuse			0.38	0
1244	1241	1029	fill	pit	backfill			0.2	0
1245	1241	1029	fill	pit	disuse			0.16	0
1246	1246	1246	cut	ditch	boundary/enclosure		0.08	0.07	2.2
1247	1246	1246	fill	ditch	boundary?		0.08	0.07	0
1248	1248	854	cut	pit	enclosure ditch	1.6	1.58	0.8	2.2
1249	1248	854	fill	pit			2.2	0.16	0
1250	1248	854	fill	pit			2.5	0.56	0
1251	1248	854	fill	pit			2.52	0.08	0
1252	1248	854	fill	pit	uncertain		2.3	0.2	0
1253	1248	854	fill	pit			1.6	0.18	0
1254	1254	1254	cut	grave	burial	1.44	0.8	0.23	3.1
1255	1254	1254	HSR	skeleton					0
1256	1254	1254	fill	grave	backfill	1.44	0.8	0.23	0
1257	1257	1257	cut	grave	burial				3.1
1258	1257	1257	HSR	skeleton					0
1259	1257	1257	fill	grave	backfill				0
1260	1260	1260	cut	grave	burial	1.3	0.7	0.12	3.1
1261	1260	1260	HSR	grave					0
1262	1260	1260	fill	grave	backfill			0.12	0
1263	1234	1234	fill	grave (coffin)	degraded coffin		0.7	0.4	0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1264	1234	1234	HSR	skeleton					0
1265	1265	1265	cut	grave	burial				3.1
1266	1265	1265	HSR	skeleton					0
1267	1265	1265	fill	grave	inhumation				0
1268	1268	1268	cut	grave	burial	1.5	0.78	0.28	3.1
1269	1268	1268	HSR	skeleton					0
1270	1268	1268	fill	grave	backfill			0.28	0
1271	1271	1271	cut	grave	burial	1.92	0.94	0.28	3.1
1272	1271	1271	HSR	skeleton					0
1273	1271	1271	fill	grave	backfill	1.92	0.94	0.28	0
1274	1274	1274	cut	grave	burial				3.1
1275	1274	1274	HSR	skeleton					0
1276	1274	1274	fill	grave	inhumation				0
1277	1277	1079	cut	natural	solution hollow	0			0
1278	1277	1079	fill	natural					0
1279	1279	1279	cut	well	well		3	3	2.2
1280	1279	1279	fill	well					0
1281	1279	1279	fill	well					0
1282	1279	1279	fill	well					0
1283	1279	1279	fill	well	tertiary				0
1284	1284	1284	cut	ditch	boundary				0
1285	1284	1284	fill	ditch	boundary				0
1286	1286	1286	cut	gully	boundary		0.4	0.2	0
1287	1286	1286	fill	gully	boundary		0.4	0.2	0
1288	1288	1288	cut	pit	funerary/natural		0.8	0.32	0
1289	1288	1288	fill	pit	backfill?			0.32	0
1290	1288	1288	fill	pit	backfill?			0.14	0
1291	1288	1288	fill	pit	backfill?			0.04	0
1292	1292	1292	cut	grave	burial	1.82	0.76	0.16	3.1
1293	1292	1292	HSR	skeleton					0
1294	1292	1292	fill	grave	backfill	1.82	0.76	0.16	0
1295	1295	1295	cut	grave	burial				3.1
1296	1295	1295	HSR	skeleton					0
1297	1295	1295	fill	grave	inhumation				0
1298	1295	1295				0			0
1299	1299	1299	cut	grave	burial	1.74	0.84	0.37	3.1
1300	1299	1299	HSR	skeleton					0
1301	1299	1299	fill	grave	backfill			0.37	0
1302	1302	1302	cut	grave	burial	2.02	1.12	0.42	3.1
1303	1302	1302	HSR	skeleton					0
1304	1302	1302	fill	grave	backfill		2.02	0.42	0
1305	1305	1305	cut	grave	burial	1.3	0.73	0.34	3.1
1306	1305	1305	fill	grave		1.3	0.73	0.34	0
1307	1307	1307	cut	grave	burial	1.04	0.52	0.18	3.1

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1308	1307	1307	HSR	skeleton					0
1309	1307	1307	fill	grave	backfill	1.04	0.52	0.18	0
1310	1310	1310	cut	grave	burial	1.58	0.71	0.22	3.1
1311	1310	1310	HSR	skeleton					0
1312	1310	1310	fill	grave	backfill			0.22	0
1313	1313	1313	cut	grave	burial	1.1	0.74	0.22	3.1
1314	1313	1313	HSR	skeleton					0
1315	1313	1313	fill	grave	backfill			0.22	0
1316	1313	1313	fill	vessel					0
1317	1310	1310	fill	vessel		0			0
1318	1318	1318	cut	grave	burial	1.64	0.8	0.26	3.1
1319	1318	1318	HSR	skeleton					0
1320	1318	1318	fill	grave	burial	1.64	0.8	0.26	0
1321	1318	1318	fill	vessel		0			0
1322	1322	1322	cut	grave	burial	1.2	0.7	0.15	3.1
1323	1322	1322	HSR	skeleton					0
1324	1322	1322	fill	grave	Inhumation		1.2	0.15	0
1325	1325	1325	cut	grave	burial	1.93	1	0.38	3.1
1326	1325	1325	HSR	skeleton					0
1327	1325	1325	fill	grave	backfill			0.8	0
1328	1325	1325	fill	vessel fill					0
1329	1329	830	cut	posthole	cemetery structure NW	0	0.32	0.14	3.1
1330	1329	830	fill	post hole	cemetery structure NW	0			0
1331	1331	830	cut	posthole	cemetery structure NW	0	0.45	0.18	3.1
1332	1331	830	fill	post hole	cemetery structure NW	0			0
1333	1333	830	cut	posthole	cemetery structure NW	0	0.36	0.16	3.1
1334	1333	830	fill	post hole	cemetery structure NW	0			0
1335	1335	830	cut	posthole	cemetery structure NW	0	0.28	0.12	3.1
1336	1335	830	fill	post hole	cemetery structure NW	0			0
1337	1337	830	cut	posthole	cemetery structure NW	0	0.28	0.1	3.1
1338	1337	830	fill	post hole	cemetery structure NW	0			0
1339	1339	830	cut	posthole	cemetery structure NW	0	0.22	0.04	3.1
1340	1339	830	fill	post hole	cemetery structure NW	0			0
1341	1341	830	cut	posthole	cemetery structure NW	0	0.24	0.2	3.1
1342	1341	830	fill	post hole	cemetery structure NW	0			0
1343	1343	830	cut	posthole	cemetery structure NW	0	0.36	0.09	3.1
1344	1343	830	fill	post hole	cemetery structure NW	0			0
1345	1345	830	cut	posthole	cemetery structure NW	0	0.14	0.06	3.1
1346	1345	830	fill	post hole	cemetery structure NW	0			0
1347	1347	830	cut	posthole	cemetery structure NW	0	0.48	0.14	3.1
1348	1347	830	fill	post hole	cemetery structure NW	0			0
1349	1349	830	cut	posthole	cemetery structure NW	0	0.42	0.18	3.1
1350	1349	830	fill	post hole	cemetery structure NW	0			0
1351	1351	830	cut	posthole	cemetery structure NW	0	0.38	0.18	3.1

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1352	1351	830	fill	post hole	cemetery structure NW	0			0
1353	1353	830	cut	posthole	cemetery structure NW	0	0.68	0.22	3.1
1354	1353	830	fill	post hole	cemetery structure NW	0			0
1355	1355	830	cut	posthole	cemetery structure NW	0	0.32	0.1	3.1
1356	1355	830	fill	post hole	cemetery structure NW	0			0
1357	1357	830	cut	posthole	cemetery structure NW	0	0.48	0.16	3.1
1358	1357	830	fill	post hole	cemetery structure NW	0			0
1359	1359	830	cut	posthole	cemetery structure NW	0	0.28	0.18	3.1
1360	1359	830	fill	post hole	cemetery structure NW	0			0
1361	1361	830	cut	posthole	cemetery structure NW	0	0.3	0.08	3.1
1362	1361	830	fill	post hole	cemetery structure NW	0			0
1363	1363	830	cut	posthole	cemetery structure NW	0	0.28	0.08	3.1
1364	1363	830	fill	post hole	cemetery structure NW	0			0
1365	1365	830	cut	posthole	cemetery structure NW	0	0.34	0.2	3.1
1366	1365	830	fill	post hole	cemetery structure NW	0			0
1367	1367	830	cut	posthole	cemetery structure NW	0	0.2	0.04	3.1
1368	1367	830	fill	post hole	cemetery structure NW	0			0
1369	1369	830	cut	posthole	cemetery structure NW	0	0.3	0.08	3.1
1370	1369	830	fill	post hole	cemetery structure NW	0			0
1371	1371	830	cut	posthole	cemetery structure NW	0	0.34	0.16	3.1
1372	1371	830	fill	post hole	cemetery structure NW	0			0
1373	1373	830	cut	posthole	cemetery structure NW	0	0.6	0.23	3.1
1374	1373	830	fill	post hole	cemetery structure NW	0			0
1375	1375	830	cut	posthole	cemetery structure NW	0	0.3	0.2	3.1
1376	1375	830	fill	post hole	cemetery structure NW	0			0
1377	1377	830	cut	posthole	cemetery structure NW	0	0.51	0.18	3.1
1378	1377	830	fill	post hole	cemetery structure NW	0			0
1379	1379	830	cut	posthole	cemetery structure NW	0	0.3	0.16	3.1
1380	1379	830	fill	post hole	cemetery structure NW	0			0
1381	1381	830	cut	posthole	cemetery structure NW	0	0.42	0.2	3.1
1382	1381	830	fill	post hole	cemetery structure NW	0			0
1383	1383	830	cut	posthole	cemetery structure NW	0	0.5	0.22	3.1
1384	1383	830	fill	post hole	cemetery structure NW	0			0
1385	1385	830	cut	posthole	cemetery structure NW	0	0.56	0.19	3.1
1386	1385	830	fill	post hole	cemetery structure NW	0			0
1387	1387	830	cut	posthole	cemetery structure NW	0	0.36	0.16	3.1
1388	1387	830	fill	post hole	cemetery structure NW	0			0
1389	1389	830	cut	posthole	cemetery structure NW	0	0.48	0.14	3.1
1390	1389	830	fill	post hole	cemetery structure NW	0			0
1391	1391	830	cut	posthole	cemetery structure NW	0	0.5	0.13	3.1
1392	1391	830	fill	post hole	cemetery structure NW	0			0
1393	1393	830	cut	posthole	cemetery structure NW	0	0.52	0.07	3.1
1394	1393	830	fill	post hole	cemetery structure NW	0			0
1395	1395	830	cut	posthole	cemetery structure NW	0	0.48	0.2	3.1

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1396	1395	830	fill	post hole	cemetery structure NW	0			0
1397	1397	830	cut	posthole	cemetery structure NW	0	0.3	0.08	3.1
1398	1397	830	fill	post hole	cemetery structure NW	0			0
1399	1399	830	cut	posthole	cemetery structure NW	0	0.2	0.06	3.1
1400	1399	830	fill	post hole	cemetery structure NW	0			0
1401	1401	830	cut	posthole	cemetery structure NW	0	0.3	0.08	3.1
1402	1401	830	fill	post hole	cemetery structure NW	0			0
1403	1403	830	cut	posthole	cemetery structure NW	0	0.28	0.06	3.1
1404	1403	830	fill	post hole	cemetery structure NW	0			0
1405	1405	830	cut	posthole	cemetery structure NW	0	0.5	0.1	3.1
1406	1405	830	fill	post hole	cemetery structure NW	0			0
1407	1407	830	cut	posthole	cemetery structure NW	0	0.44	0.08	3.1
1408	1407	830	fill	post hole	cemetery structure NW	0			0
1409	1409	830	cut	posthole	cemetery structure NW	0	0.35	0.08	3.1
1410	1409	830	fill	post hole	cemetery structure NW	0			0
1411	1411	830	cut	posthole	cemetery structure NW	0	0.36	0.08	3.1
1412	1411	830	fill	post hole	cemetery structure NW	0			0
1413	1413	830	cut	posthole	cemetery structure NW	0	0.52	0.18	3.1
1414	1413	830	fill	post hole	cemetery structure NW	0			0
1415	1415	830	cut	posthole	cemetery structure NW	0	0.34	0.1	3.1
1416	1415	830	fill	post hole	cemetery structure NW	0			0
1417	1417	830	cut	posthole	cemetery structure NW	0	0.3	0.08	3.1
1418	1417	830	fill	post hole	cemetery structure NW	0			0
1419	1419	830	cut	posthole	cemetery structure NW	0	0.3	0.14	3.1
1420	1419	830	fill	post hole	cemetery structure NW	0			0
1421	1421	830	cut	posthole	cemetery structure NW	0	0.3	0.15	3.1
1422	1421	830	fill	post hole	cemetery structure NW	0			0
1423	1423	830	cut	posthole	cemetery structure NW	0	0.64	0.26	3.1
1424	1423	830	fill	post hole	cemetery structure NW	0			0
1425	1425	830	cut	posthole	cemetery structure NW	0	0.42	0.16	3.1
1426	1425	830	fill	post hole	cemetery structure NW	0			0
1427	1427	223	cut	grave	burial	2	0.8		3.1
1428	1428	223	cut	grave	burial	1.65	0.81		3.1
1429	1429	219	cut	grave	burial	1.3	0.5		3.1
1430	1430	299	cut	grave	burial	1.7	0.7		3.1
1431	1431	324	cut	grave	burial	2.2	0.9		3.1
1432	1433	553	HSR	skeleton		0			0
1433	1433	553	cut	grave	burial		0.4		3.1
1434	486	486	HSR	skeleton	fetal	0			0
1435	1435	942	cut	ditch	cremation enclosure		2.03		2.3
1436	1436	942	cut	ditch	cremation enclosure		1.5		2.3
1437	1437	942	cut	ditch	cremation enclosure				2.3
1438	1438	1438	cut	ditch	sub-enclosure ditch?		0.4	0.4	0
1439	1438	1438	fill	ditch		0			0

Context	Cut	Master Number	Category	Feature Type	Function	Length	Breadth	Depth	Phase
1440	1440	1440	cut	well?	possible well?		1.6		0
9999				finds unit	unstratified finds	0			0

Table 18: Context summary

A.2 Grave Stratigraphic Summary

A.2.1 Grave stratigraphy has been broken up into earliest (left), intermediate and final cuts (right), skeleton(s) and fills per grave plot (Table 19). Empty graves (or those simply with grave goods) have been included.

Grave/Plot Master number	Earliest Cut	Earliest Skeleton	Earliest Fill	Intermediate Cut	Intermediate Skeleton(s)	Intermediate Fill	Final Cut	Final Skeleton(s)	Final Fill	Total Skeletons in plot	Total Grave Cuts in plot	Period
6							**6**	5		1	1	3.1
200							**200**	201	202	1	1	3.1
204							**204**	205	206	1	1	3.1
208							**208**	209	210	1	1	3.1
211							**211**	212	213	1	1	3.1
219				**219**	220	-	**1429**	221	222	2	2	3.1
223	**1427**	228	-	**1428**	225 & 226		**223**	224	227	4	3	3.1
236							**236**	*Empty/Grave goods only*	236	0	1	3.1
240							**240**	241	242	1	1	3.1
245							**245**	246	247	1	1	3.1
248							**248**	249	250	1	1	1.1
251							**251**	252	253	1	1	3.1
255							**255**	256	257	1	1	3.1
258							**258**	259	260	1	1	3.1
273							**273**	274	275	1	1	3.1
278							**278**	279	280	1	1	3.1
281							**281**	282	283	1	1	3.1
284							**284**	285	286	1	1	3.1
287							**287**	288	289	1	1	3.1
290							**290**	291	292	1	1	3.1
292							**293**	294	295	1	1	3.1
296							**296**	297	298	1	1	3.1

Grave/Plot Master number	Earliest Cut	Earliest Skeleton	Earliest Fill	Intermediate Cut	Intermediate Skeleton(s)	Intermediate Fill	Final Cut	Final Skeleton(s)	Final Fill	Total Skeletons in plot	Total Grave Cuts in plot	Period
299	**360**	361	362	**1430**	323	-	**299**	300	301	3	3	3.1
302							**302**	303	304	1	1	3.1
314							**314**	315	316	1	1	3.1
324				**1431**	353	-	**324**	325	326	2	2	3.1
355							**355**	356	357	1	1	3.1
365							**365**	366	367	1	1	3.1
371							**372**	373	374	1	1	3.1
375							**375**	376	377	1	1	3.1
388							**388**	*Empty*	389	0	1	3.1
416							**416**	417	418	1	1	3.1
421							**421**	422	423	1	1	3.1
439				**456**	457	458	**439**	440	441	2	2	3.1
442							**442**	443	444	1	1	3.1
464							**464**	465	466	1	1	3.1
467							**467**	468	469	1	1	3.1
478							**478**	Disarticulated bone (2 individuals)	479, 480, 693, 710	2	1	2.3
492							**492**	493	494	1	1	3.1
504				**504**	505	514	**515**	506	507	2	2	3.1
525							**525**	526	527	1	1	3.1
553				**613 & 1433**	614 & 1432	615	**553**	554	555	3	3	3.1
486	**602**	603	604	**486**	560 & 1434 & 559	490	**556**	557	516=558	5	3	3.1
610							**610**	611	612	1	1	3.1
616	**1274**	1275	1276	**1265**	1266	1267	**616**	617	618	3	3	3.1
633							**633**	634	635	1	1	3.1

Grave/Plot Master number	Earliest Cut	Earliest Skeleton	Earliest Fill	Intermediate Cut	Intermediate Skeleton(s)	Intermediate Fill	Final Cut	Final Skeleton(s)	Final Fill	Total Skeletons in plot	Total Grave Cuts in plot	Period
636				**636**	637	638	**639**	640	641	2	2	3.1
690				**704**	705	706	**690**	691	692	2	2	3.1
707							**707**	708	709	1	1	3.1
715							**715**	716 & 717	718	2	1	3.1
733				**736**	737	738	**733**	734	735	2	2	3.1
739							**739**	*Empty/Grave goods only ("Sk 740")*	741	0	1	3.1
759							**759**	760	761	1	1	3.1
766							**766**	767	768	1	1	3.1
855							**855**	856	857	1	1	3.1
937							**937**	*Empty*	938, 940	0	1	2.3
955							**955**	956	957	1	1	3.1
963							**963**	964	965	1	1	3.1
966							**966**	967	968	1	1	3.1
969							**969**	*Empty*	970	0	1	3.1
971							**971**	972	973	1	1	3.1
975				**1001**	1002	1003	**975**	976	977	2	2	3.1
998				**1015**	1016	1017	**998**	999	1000	2	2	3.1
1012							**1012**	1013	1014	1	1	3.1
1032							**1032**	1033	1034	1	1	3.1
1035							**1035**	1036	1037	1	1	3.1
1050							**1050**	1051	1052	1	1	3.1
1053							**1053**	*Empty*	1054	0	1	3.1
1055							**1055**	1056	1057	1	1	3.1
1058							**1058**	1059	1060	1	1	3.1
1069							**1069**	1070	1071	1	1	3.1

Grave/Plot Master number	Earliest Cut	Earliest Skeleton	Earliest Fill	Intermediate Cut	Intermediate Skeleton(s)	Intermediate Fill	Final Cut	Final Skeleton(s)	Final Fill	Total Skeletons in plot	Total Grave Cuts in plot	Period
1072							**1072**	1073	1074	1	1	3.1
1091							**1091**	1092	1093	1	1	3.1
1094							**1094**	1095	1096	1	1	3.1
1097							**1097**	1098	1099	1	1	3.1
1150				**1150**	1110 & 1148 & 1149	1151	**1152**	1109	1153	4	2	3.1
1158				**1158**	1159	1160	**1115**	1116 & 1138	1117	3	2	3.1
1118							**1118**	1119	1120	1	1	3.1
1163				**1163**	1164 & 1165	1166	**1126**	1127	1128	3	2	3.1
1133				**1201**	1202	1203	**1133**	1134	1135	2	2	3.1
1139							**1139**	1140	1141	1	1	3.1
1154							**1154**	1155	1156	1	1	3.1
1167							**1167**	1168	1169	1	1	3.1
1117							**1177**	1178	1179	1	1	3.1
1180							**1180**	1181	1182	1	1	3.1
1185							**1185**	1186	1187	1	1	3.1
1204							**1204**	1205	1206	1	1	3.1
1228							**1228**	1229	1230	1	1	3.1
1254							**1254**	1255	1256	1	1	3.1
1257							**1257**	1258	1259	1	1	3.1
1260							**1260**	1261	1262	1	1	3.1
1263							**1263**	1264	1265	1	1	2.2
1268							**1268**	1269	1270	1	1	3.1
1271							**1271**	1272	1273	1	1	3.1
1292							**1292**	1293	1294	1	1	3.1
1295							**1295**	1296	1297	1	1	3.1
1299							**1299**	1300	1301	1	1	3.1

Grave/Plot Master number	Earliest Cut	Earliest Skeleton	Earliest Fill	Intermediate Cut	Intermediate Skeleton(s)	Intermediate Fill	Final Cut	Final Skeleton(s)	Final Fill	Total Skeletons in plot	Total Grave Cuts in plot	Period
1302							**1302**	1303	1304	1	1	3.1
1307							**1307**	1308	1309	1	1	3.1
1310							**1310**	1311	1312	1	1	3.1
1313							**1313**	1314	1315	1	1	3.1
1318							**1318**	1319	1320	1	1	3.1
1322							**1322**	1323	1324	1	1	3.1
1325							**1325**	1326	1327	1	1	3.1

Table 19: Grave/plot stratigraphy

Appendix B. Finds Reports

B.1 Coins

By Denis Sami

Assemblage and condition

B.1.1 A total of 10 copper-alloy coins came from the top-soil and excavated features, of which five are Roman, one is late medieval and the remainder are post-medieval. Despite oxidation, the preservation of the assemblage is, in most of the cases, sufficiently good to allow a precise identification of the coins. However, Roman coin SF 417 is heavily worn and SF 433 has advanced metal disease.

B.1.2 The assemblage covers exclusively the late 3rd-4th century AD and the period spanning between the 14th to possibly the early 17th centuries. No coins dating between the 5th and the 13th centuries were identified.

Statement of Potential

B.1.3 The coins have little potential to add to the analysis of the site, particularly given their generally residual/unstratified finds spots.

B.1.4 However, Late Roman coin SF 417 has been pierced and reused as a pendant in an Anglo-Saxon female burial (Grave **1115**, Sk 1116) showing how such artefacts can change meaning and function. SF 433 was found in the upper part of a grave backfill (1166 of Grave **1163**) and may be residual.

Recommendations

B.1.5 The material has been fully catalogued and no further work is required, other than a note on the Roman coins for publicationand SF 417 which should be considered for analysis with the Anglo-Saxon copper alloy grave goods.

Catalogue

Late Roman

SF 3, (99999)
Incomplete, illegible CuA radiate, AD 260-96.
OBV: Bust, radiate, right
REV: Standing figure
Diameter.: 0.56 mm
Thickness: 0.028 mm
Weight: 1.10 g

SF 88 (99999)
Incomplete, CuA, nummus, of Helena (AD 337-41), Reece period 17, minted in Trier.
OBV: FL IVL HE-LENAE AVG – Bust, lau. and pearls, dr., mantel
REV: PAX PVBLICA - Pax standing left, holding branch and transverse spear
-/-//.TR[...].
Diameter.: 0.514 mm
Thickness: 0.033 mm
Weight: 0.87 g

SF 203 (99999)
Incomplete, CuA coin of the house of Constantine (AD 317-50)
OBV: Illeg. - Bust, diad., draped. Right
REV: probably GLORIA EXERCITVS – two soldiers with two standards
Diameter.: 0.606 mm
Thickness: 0.029 mm
Weight: 1.50 g

SF 202 (99999)
A complete CuA nummus of Gratian, dating to the period AD 367-75 (Reece period 19)
OBV: [DN GR]ATIANVS AVGG [AVG] - Diademed, draped and cuirassed bust right
REV: [GLORIA NOVI SAECVLI] - Emperor standing facing, holding shield and standard.
Mint: N/-//[…]
Diameter.: 0.588 mm
Thickness: 0.039 mm
Weight: 1.44 g

SF417, (1117), Sk 1116
A complete, illegible, copper alloy nummus, possibly a Fel Tem Reparatio (?) dating to AD 348-51. The coin has been pierced and reused as pendant and should be analysed with the copper alloy grave goods.
OBV: Diademed bust facing right
Diameter.: 17. 44 mm
Thickness: 1.35 mm
Weight: 1.78 g

SF433, (1166)
An incomplete, illegible heavily corroded Roman coin.
Diameter.: 23.86 mm
Thickness: 2.23 mm
Weight: 4.82 g

Late Medieval

SF 4, (99999)
French ‘shield of France’ modern jetton, dating to the period AD 1380-1422
OBV: [AVE MARIA] GRACIA PL[ENA] - Probably the shield of modern France, saltire stops,
REV: Triple stranded cross fleuretty with a four arched tressure around it, – roses around the outside.
c.f. Mitchiner 1988, 175
Diameter.: 1.004 mm
Thickness: 0.008 mm
Weight: 2.14 g

Post-medieval

SF 89, (99999)
A fragment of a copper alloy post-medieval Nuremberg 'rose/orb' jetton. Only the central part of the jetton remains. The outer legend has been deliberately removed making it impossible to identify the makers. Date (1515-1711)
OBV: Three crowns and three fleur de lis alternating around a central eight-petalled rose.
REV: An imperial orb surmounted by a cross, within a tressure of three arches and three points.
Diameter.: 0.882 mm
Thickness: 0.004 mm
Weight: 0.78 g

SF1, (99999)
An incomplete, illegible, copper alloy post-medieval rose farthing of Charles I, dating to the period AD 1625-49
OBV: A single arched crown with two sceptres in saltire through it
REV: A single rose surmounted by a single arched crown
Cf. North 1991, vol.II, no.2287-2293
Diameter.: 0.483 mm
Thickness: 0.017 mm
Weight: 0.73 g

SF245, (318) 442/594
Complete, illegible post-medieval farthing or token farthing, possibly 16th century
Diameter.: 0.581 mm
Thickness: 0.020 mm
Weight: 0.82 g

B.2 Non-ferrous Metal Artefacts

By Toby Martin

Overview

B.2.1 A substantial assemblage of 147 non-ferrous small finds was recovered from the Hatherdene Close site, of which all but one silver wire ring (SF 409) are of copper alloys, many with secondary components of iron.

Methodology

B.2.2 The purpose of this assessment is to provide an initial categorisation and quantification of the assemblage, assess its condition, offer recommendations for further work and provide a statement of its research potential. All but 18 of the items were examined in person (those not seen were largely unidentifiable fragments), and each artefact was briefly described and given a type and spot date where possible. In addition to the recording of basic materials, dimensions and weights (to closest 0.5mm and gramme), the presence of inlays, surface treatments, punched decoration and surviving textile or textile impressions, as well as evidence of repair, were assessed.

B.2.3 The typologies used here include Hines' for wrist clasps (1984) and great square-headed brooches (1997); Martin's (2015) for cruciform brooches; Leeds' (1945) for small long brooches; Marzinzik's (2003) for buckles; Felder's (2014) for girdle-hangers; and Fowler's (1960) for penannular brooches (recently updated by Booth 2014).

B.2.4 A detailed breakdown of the assemblage is provided in an Excel spreadsheet and the tables reproduced below in the text. Extracts from these data are provided below in tabular format.

Storage, condition and conservation

B.2.5 With the exception of a small number of artefacts the assemblage is in generally very good condition and most items are relatively complete, other than the iron fittings of brooches, for instance, which have largely corroded away. All items have been cleaned to a high standard and a number of fragmented examples have been restored. The condition of most of the copper alloy appears to be stable but a small number of objects, such as the great square-headed brooch (SF 27 and 69), the applied saucer brooch (SF 95) and the possible pendant (SF 127) may require further stabilisation with their long term survival in mind.

B.2.6 None of the objects are suitable for discard.

Assessment

B.2.7 The vast majority of the assemblage belongs to the early Anglo-Saxon period (5th to 7th centuries AD), although there are a small number of Roman artefacts and a few medieval or post-medieval unstratified finds. Selected items are illustrated in Plate 7.

B.2.8 The artefacts in the assemblage are almost exclusively characterised as dress accessories, and these can be divided into a number of functional categories, which in order of magnitude are: brooches (56), wrist-clasps (25), belt equipment (9), rings (8), pins (5), finger rings (4), mounts (5), pendants (4), toilet items (3), and girdle hangers (1). A final miscellaneous category includes a number of unidentifiable fragments (16) and a small number of medieval and post-medieval artefacts (6). Summaries of these categories are presented below in the tables.

B.2.9 A small number of items are independently datable by typology (the cruciform brooches, the great square-headed brooch and potentially some of the buckles), but all of these fall into the same broad bracket of the second half of the 5th century up to 550/60 (see Hines 1997; Martin 2015; Hines and Bayliss 2013). All other items are datable with less precision, but are likely to fall into a similar period. A conspicuous absence is anything obviously either particularly early (i.e. first half of the 5th century) or late (i.e. 7th century or even mid-6th century) which if the non-ferrous evidence was taken in isolation might initially imply a relatively brief lifespan of the cemetery between the later 5th and first half of the 6th century.

B.2.10 A small number of objects under closer analysis may, however, be datable to the 7th century, in particular pin SF 294 (which is from a Fill 625 of Middle Saxon pit **619**), wire ring SF 409 (from Sk 999, grave **998**), and possibly buckle SF 49 (although this is from Sk 228, in a securely 5th-6th century context). It may well be the case that the bead assemblages and ironwork (as well as radiocarbon dating) will be able to offer important complementary chronological data that could confirm or deny the possibility that the cemetery continued in use during the 7th century (see Brugmann 2005; Hines and Bayliss 2013).

Statement of Potential

B.2.11 The assemblage from Hatherdene Close is of regional and national significance, and as such, has an excellent potential to contribute to wider analyses of early medieval Cambridgeshire and England. Here, however, emphasis will be placed on the potential for research into the cemetery itself. The assemblage has a limited chronological potential because of the narrow date range for the grave goods.

B.2.12 The non-ferrous metalwork perhaps offers its best potential in terms of social analysis taking into account aspects such as gender, age categories, hierarchy, and inter-generational spatial relationships. Such studies based on data such as that from Hatherdene Close offers have had demonstrable success elsewhere, and would have good potential for an assemblage as rich as this one (e.g. Stoodley 1999; Martin 2015; Sayer and Weinhold 2013). A more original analysis would also take into account aspects of biography in terms of both people and their grave goods and the potential of such studies has again been demonstrated across regions, but never before comprehensively for a single site (Martin 2012; 2016).

B.2.13 A total of 19 repairs and use-adaptations have been observed in this assemblage (SF 27, 69, 95, 116, 173, 232, 238, 385, 413, 414, 416, 447, 460, 471, 472, 475, 509, 527, 528), which includes a quarter of all the brooches, and such information, though rarely explored, would be of direct relevance, and would also provide a complementary context for discussing the remarkable and most likely re-used shield mounts SF 416 and 475.

Recommendations

B.2.14 The entire assemblage should be drawn or photographed as appropriate, with the exception of the unidentifiable copper-alloy fragments and the medieval or post-medieval items found outside of grave contexts. There is little point in x-raying the assemblage as most of the formal, decorative and constructional details are readily visible. The only exception to this may be the applied saucer brooch (SF 95) whose repoussé sheet is largely illegible. An x-ray may or may not reveal additional detail.

B.2.15 Although beyond the remit of this project, should external resources for metallurgical analysis become available in future, it should be as comprehensive as possible. There are no uniquely interesting objects in the assemblage for which a metallurgical profile

would be especially useful in isolation. Instances of moderate interest that would benefit from surface x-ray fluorescence analysis include the enamel on one of the cruciform brooches (SF 9), and the blue glass inlay on the great square-headed brooch (SF 27 and 69). A small number of copper-alloy objects have also had their surfaces treated with a white metal, and x-ray fluorescence analysis may reveal the chemical nature of this treatment. These include SF 50, 530 and 547, and possibly also 525 and 526. A number of wrist clasps also have surfaces on which the residue of a solder is revealed, including SF 11, 32, 212, 213, 464, 465, and 466. This is also true for the reverse of pendant SF 127. While knowledge regarding the chemical compositions of these substances would always have some value, it would be sensible to situate any such work in a wider research framework or survey the assemblage comprehensively.

B.2.16 An examination of textile remains and textile impressions would be of more immediate and obvious value, as it would provide an empirical basis for the reconstruction of mortuary dress ensembles, something that is likely to be of direct value to any social analysis of the cemetery. At least eleven brooches and mounts have visible textile remains or impressions (SF 9, 36, 55, 84, 365. 385, 416, 419, 448, 497 and possibly 381). An additional 10 brooches have substantial corrosive products on their reverses, a closer inspection of which may well reveal further evidence for textile (SF 10, 20, 27, 211, 248, 250, 386, 387, 447, 460). However, to make such an analysis worthwhile it would be recommended for a specialist to see the entire assemblage.

Catalogue

Brooches

B.2.17 Saxon brooches are catalogued in Tables 20-26 and the Roman brooch in Table 27.

SF	Skeleton	Description
365	SK1016	Annular brooch of moulded type with circular section. 5th- to 6th-century. Copper alloy with iron pin and extensive textile remains. Diameter 41.5mm, weight 9g.
385	SK1095	Annular brooch of quoit type. 5th- to 6th-century. Copper alloy with iron pin and extensive textile remains. Extra perforation indicative of repair. Diameter 34.0mm, weight 4g.
420	SK1116	Annular brooch of flat type. 5th- to 6th-century. Copper alloy with iron pin. Diameter 41.0mm, weight 6g.
509	SK1300	Annular brooch of flat type. 5th- to 6th-century. Copper alloy with iron pin. Extra perforation indicative of repair. Fragmented into 6 pieces, two re-joined. Diameter 48.0mm, weight 5g.
190	SK443	Annular brooch of flat type. 5th- to 6th-century. Copper alloy with iron pin. Fragmented into 6 pieces, packaged with human bone. Diameter unknown, weight 5g.
272	SK691	Annular brooch of moulded type with circular section, or a simple ring. 5th- to 6th-century. Copper alloy, no trace of pin. Diameter 57.0mm, weight 26g.

Table 20: Annular brooches

SF	Skeleton	Description
381	Sk1095	Cruciform brooch of Martin's group 3, probably type 3.3.2. Martin phase B (475-550). Copper alloy with iron fittings containing possible textile remains. Foot missing. Length 80.0mm, weight 53.
448	SK1202	Cruciform brooch of Martin's type 3.3.1. Martin phase B (475-550). Copper alloy with iron fittings and textile remains. Relief ornament in Style I on lappets and punched decoration. Length 130.0mm, weight 65g.
9	SK220	Cruciform brooch of Martin's type 3.2.5. Martin phase B (475-550). Copper alloy with iron fittings and red enamel inlay, possible gilding and textile remains. Punched and ring-and-dot decoration. Length 116.5mm, weight 51g.
28	SK225	Cruciform brooch of Martin's type 2.2.2. Martin phase B (475-550). Copper alloy with iron fittings, miscast on bow reverse. Punched decoration. Length 80.0mm, weight 21g.
473	SK634	Cruciform brooch knob of Martin's type KB4. Martin phase B (475-550). Copper alloy with iron axis. Presumably belongs to SF 248. Length 13.0mm, weight 3g.
248	SK634	Cruciform brooch of Martin's type 3.2.1. Martin phase B (475-550). Copper alloy with iron fittings. Punched decoration and devolved Style I on lappets. Length 125.0mm, weight 39g.

Table 21: Cruciform brooches

SF	Skeleton	Description
69	SK225	See SF 27
27	SK225	Great square-headed brooch of Hines' group X. Hines phase 2b (510-550). Gilt-copper alloy with blue glass inlay and iron fittings. Relief ornament in Salin's Style I. Repaired twice with rivets, terminal now detached (SF 69). Length 101.5+25.0mm, weight 75g

Table 22: Great square-head brooches

SF	Skeleton	Description
278	SK691	Openwork swastika brooch. Pair with SF 279. 5th- to 6th-century. Copper alloy with iron fittings. Ring-and-dot ornament. Diameter 45.0mm, weight 11g.
279	SK691	Openwork swastika brooch. Pair with SF 278. 5th- to 6th-century. Copper alloy with iron fittings. Ring-and-dot ornament. Diameter 47.0mm, weight 13g.

Table 23: Openwork brooches

SF	Skeleton	Description
455	SK1205	Penannular brooch of Fowler's type F. 5th- to 6th-century. Copper alloy. Zoomorphic terminals. Diameter 62.0mm, weight 25g.
538	SK1300	Penannular brooch of Fowler's type C. 5th- to 6th-century. Copper alloy. Fragment only. Length 29.0mm, weight 1g.
551	SK1300	Penannular brooch of Fowler's type C. 5th- to 6th-century. Copper alloy with possible iron pin remains. Incomplete. Length 34.0mm, weight 2g.
550	SK1095	Penannular brooch of plain type or buckle. 5th-7th century. Copper alloy. Probably complete. Diameter 29.0mm, weight 2g.
198		Penannular brooch of Fowler's type C. 5th- to 6th-century. Copper alloy with no trace of pin. Diameter 36.5mm, weight 4g.

Table 24: Penannular brooches

SF	Skeleton	Description
95	SK325	Applied saucer brooch. 5th- 6th-century. Copper alloy with gilt copper-alloy repoussé sheet and iron fittings. Style I ornament. Possible riveted repair. Diameter 61.0mm, weight 16g.

Table 25: Applied saucer brooch

SF	Skeleton	Description
386	SK1092	Small long brooch of Leeds' trefoil (c) type with crescent terminal. 5th- to 6th-century. Pair with SF 387. Copper alloy with iron fittings. Punched decoration. Length 71.5mm, weight 16g.

SF	Skeleton	Description
387	SK1092	Small long brooch of Leeds' trefoil (c) type with crescent terminal. 5th- to 6th-century. Pair with SF 386. Copper alloy with iron fittings. Punched decoration. Length 71.0mm, weight 16g.
419	SK1116	Small long brooch of Leeds' trefoil type (a-e) with chisel terminal. 5th- to 6th-century. Copper alloy with iron fittings and textile remains now detached. Punched decoration. Length 65.0mm, weight 15g.
435	SK1168	Small long brooch of Leeds' cross potent type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched decoration. Length 60.5mm, weight 17g.
460	SK1202	Small long brooch of Leeds' cross potent derivative type with crescent terminal. 5th- to 6th-century. Pair with SF 447. Copper alloy with iron fittings. Punched decoration. Now in two parts, catch repaired with solder. Length 60.0mm, weight 16g.
447	SK1202	Small long brooch of Leeds' cross potent derivative type with crescent terminal. 5th- to 6th-century. Pair with SF 460. Copper alloy with iron fittings. Punched decoration. Now in two parts. Foot repair with solder, lug repair with rivet. Length 60.0mm, weight 16g.
462	SK1229	Small long brooch of Leeds' cross potent type with chisel terminal. 5th- to 6th-century. Pair with SF 463. Copper alloy with iron fittings. Length 63.0mm, weight 13g.
463	SK1229	Small long brooch of Leeds' cross potent type with chisel terminal. 5th- to 6th-century. Pair with SF 462. Copper alloy with iron fittings. Length 62.5mm, weight 14g.
502	SK1272	Small long brooch of great square-headed imitation type. 5th- to 6th-century. Pair with SF 497. Copper alloy with iron fittings. Ring-and-dot decoration. Length 54.0mm, weight 10g.
497	SK1272	Small long brooch of great square-headed imitation type. 5th- to 6th-century. Pair with SF 502. Copper alloy with iron fittings and textile remains. Ring-and-dot decoration. Length 55.0mm, weight 10g.
513	SK1303	Small long brooch of Leeds' square-headed type with chisel terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched decoration. Length 81.0mm, weight 18g.
527	SK1326	Small long brooch of Leeds' trefoil (i) type with lappets and bifurcated crescent terminal. 5th- to 6th-century. Pair with SF 528. Copper alloy and iron fittings. Punched decoration. Solder repair to catch and left headplate knob fragmented. Length 81.0mm, weight 21g.
528	SK1326	Small long brooch of Leeds' trefoil (i) type with lappets and bifurcated crescent terminal. 5th- to 6th-century. Pair with SF 527. Copper alloy with iron fittings. Punched decoration. Solder repair to catch. Length 82.0mm, weight 22g.
10	SK220	Small long brooch of Leeds' square-headed panelled type with chisel terminal. 5th- to 6th-century. Copper alloy with iron fittings. Length 63.5mm, weight 19g.
19	SK221	Small long brooch of Leeds' square-headed type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched decoration. Length 66.5mm, weight 19g.
20	SK221	Small long brooch of Leeds' cross potent type with chisel terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched decoration. Length 83.0mm, weight 11g.
173	SK221	Small long brooch of Leeds' cross pattée derivative type with chisel terminal. 5th- to 6th-century. Copper alloy with iron fittings. Solder repair on catch. Length 58.0mm, weight 11g.
174	SK221	Fragment of brooch found during processing. Not observed. Could originate from SF 19, 20 or 173.
36	SK225	Small long brooch of hybrid type. 5th- to 6th-century. Copper alloy with iron fittings. Single punch ornament. Textile remains, miscasting on right lobe reverse. Length 84.0mm, weight 18g.
121	SK285	Small long brooch of Leeds' cross potent type with spatula terminal. 5th- to 6th-century. Pair with SF 116. Copper alloy with iron fittings. Punched ornament. Length 64.5mm, weight 15g.
116	SK285	Small long brooch of Leeds' cross potent type with spatula terminal. 5th- to 6th-century. Pair with SF 121. Copper alloy with iron fittings. Punched ornament. Solder repair to catch. Length 64.5mm, weight 17g.
123	SK294	Small long brooch Leeds' square-headed panelled type with chisel terminal. 5th- to 6th-century. Pair with SF 124. Copper alloy with iron fittings. Punched and ring-and-dot ornament with possible gilding. Length 55.0mm, weight 10g.
124	SK294	Small long brooch Leeds' square-headed panelled type with chisel terminal. 5th- to 6th-century. Pair with SF 123. Copper alloy with iron fittings. Punched and ring-and-dot ornament. Length 55.0mm, weight 9g.
138	SK325	Small long brooch of Leeds' trefoil (a-e) type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched ornament. Length 98.0mm, weight 26g.

SF	Skeleton	Description
166	SK356	Small long brooch of Leeds' cross potent type with crescent terminal. 5th- to 6th-century. Pair with SF 167. Copper alloy with iron fittings. Punched ornament. Length 88.0mm, weight 20g.
167	SK356	Small long brooch of Leeds' cross potent type with crescent terminal. 5th- to 6th-century. Pair with SF 166. Copper alloy with iron fittings. Punched ornament. Length 89.0mm, weight 20g.
490	SK493	Small long brooch of Leeds' cross pattée derivative type with chisel terminal. 5th- to 6th-century. Pair with SF 211. Copper alloy with iron fittings. Punched ornament. Length 68.0mm, weight 15g.
211	SK493	Small long brooch of Leeds' cross pattée derivative type with chisel terminal. 5th- to 6th-century. Pair with SF 490. Copper alloy with iron fittings. Punched ornament. Length 67.0mm, weight 16g. In bag with punch-ornamented spangle.
222	SK505	Incomplete small long brooch, possibly of Leeds' trefoil type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Missing all headplate knobs. Length 60.5mm, weight 7g.
238	SK554	Small long brooch of Leeds' trefoil (a-e) type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Lug repaired with rivet and miscasting reverse of headplate. Length 92.5mm, weight 26g.
232	SK554	Small long of Leeds' cross potent type with crescent terminal. 5th- to 6th-century. Copper alloy with iron fittings. Punched ornament. Catch repaired with rivet. Length 87.5mm, weight 22g.
249	SK634	Small long of Leeds' cross potent type with chisel terminal. 5th- to 6th-century. Pair with SF 250. Copper alloy with iron fittings. Length 73.0mm, weight 19g.
250	SK634	Small long of Leeds' cross potent type with chisel terminal. 5th- to 6th-century. Pair with SF 249. Copper alloy with iron fittings. Length 75.0mm, weight 19g.

Table 26: Small long brooches

SF	Skeleton	Description
374	n/a	Dolphin or Colchester derivative brooch. Early Roman (1st-2nd century AD). Copper alloy with iron spring axis. Length 25.0mm, weight 5g.

Table 27: Roman brooch

Wrist Clasps

B.2.18 Wrist clasps are detailed in Table 28.

SF	Skeleton	Description
389	SK1092	Wrist clasps (pair) of Hines' type B13a. 5th- to 6th-century. Copper alloy. Somewhat fragmented. Length 33.0mm, weight 3g.
391	SK1092	Wrist clasps (pair) of Hines' type B7. 5th- to 6th-century. Copper alloy. Slightly fragmented. Length 36.0mm, weight 2g.
382	Sk1095	Wrist clasps (pair) of Hines' type B13a. 5th- to 6th-century. Copper alloy. Nearly complete. Length 29.5mm, weight 4g. ?twig also in bag.
383	SK1095	Wrist clasps (pair) of Hines' type B13a. 5th- to 6th-century. Copper alloy. Virtually complete. Length 30.5mm, weight 5g.
451	SK1202	Wrist clasps (pair) of Hines's type B18b. 5th- to 6th-century. Copper alloy. Length 43.0mm, weight 20g.
452	SK1202	Wrist clasp (female) of Hines' type B13a. 5th- to 6th-century. Copper alloy. Punched ornament. Visible solder from now missing bar. Length 31.5mm, weight 1g.
453	SK1202	Wrist clasp (pair) of Hines' type B18b. 5th- to 6th-century. Copper alloy. Length 42.0mm, weight 17g.
464	SK1229	Wrist clasp (male) of Hines' type B13c. 5th- to 6th-century. Possible pair with SF 466. Copper alloy. Missing repoussé plate, visible solder. Length 31.5mm, weight 1g.
465	SK1229	Wrist clasp (male) of Hines' type B13c. 5th- to 6th-century. Possible pair with SF 466. Copper alloy. Missing repoussé plate, visible solder. Length 31.5mm, weight 2g.
466	SK1229	Wrist clasp (female) of Hines' type B13c. 5th- to 6th-century. Probable pair with SF 464 or 465. Copper alloy. Missing repoussé plate, visible solder. Length 31.5mm, weight 3g.
525	SK1326	Wrist clasp (pair) of Hines' type B18b. 5th- to 6th-century. Copper alloy. White metal on roundels. Length 41.0mm, weight 12g.

SF	Skeleton	Description
526	SK1326	Wrist clasp (pair) of Hines' type B18b. 5th- to 6th-century. Copper alloy. White metal on roundels. Length 40.5mm, weight 11g.
11	SK220	Wrist clasp (male) of Hines' type B13c. 5th- to 6th-century. Pair with SF 32. Copper alloy. Missing repoussé plate, visible solder. Length 37.0mm, weight 2g.
32	SK220	Wrist clasp (female) of Hines' type B13c. 5th- to 6th-century. Pair with SF 11. Copper alloy. Missing repoussé plate, visible solder and severely fragmented, some parts now re-joined. Length 35.0mm, weight 1g.
29	SK225	Wrist clasp of Hines' type B7. 5th- to 6th-century. Copper alloy. Severely fragmented. Length 39.0mm, weight 1g.
142	SK325	Wrist clasp (male) of Hines' type B7. 5th- to 6th-century. Copper alloy. Severely fragmented. Length 15.0mm, weight <1g.
212	SK493	Wrist clasp (male) of Hines' type B13c. 5th- to 6th-century. Pair with SF 213. Copper alloy. Missing repoussé plate with visible solder. Length 36.5mm, weight 1g.
213	SK493	Wrist clasp (male) of Hines' type B13c. 5th- to 6th-century. Pair with SF 212. Copper alloy. Repoussé plate partially present with geometric ornament. Length 37.0mm, weight 2g.
470	SK634	Wrist clasp bar (female) of Hines' type B12 or B14. Copper alloy. Plate missing, visible solder. Length 39.5mm, weight 1g.
542	SK634	Wrist clasp (female) of Hines' type B19. 5th- to 6th-century. Copper alloy. Punched ornament. Length 38.0mm, weight 6g. Bagged with the detached clasp of its pair.
414	SK634	Wrist clasp (female, part of SF 472) of Hines' type B12. Possible pair with SF 413 or 471. 5th- to 6th-century. Copper alloy. Severely fragmented. Solder repair. Length 22.5mm, weight 1g.
472	SK634	Wrist clasp (female, part of SF 414) of Hines' type B12. Possible pair with SF 413 or 471. 5th- to 6th-century. Copper alloy. Severely fragmented. Solder repair. Length 22.5mm, weight 1g.
413	SK634	Wrist clasp (male) of Hines' type B12. Possible pair with SF 414 and 472. Copper alloy. Solder repair to clasp. Length 34.5mm, weight 4g.
471	SK634	Wrist clasp (male) of Hines' type B12. Possible pair with SF 414 and 472. Copper alloy. Solder repair to clasp. Length 34.0mm, weight 4g.
432	n/a	Wrist clasp (female) of Hines' type B7. Copper alloy. Fragmented. Length 26.0mm, weight <1g.

Table 28: Copper alloy wrist clasps

Belt Equipment

B.2.19 Belt equipment is detailed in Table 29.

SF	Skeleton	Description
50	SK228	Two small rectangular belt mounts. 5th- to 7th-century. Probable belt set with SF 55 and 49. Copper alloy with copper-alloy and iron rivets. White metal applied to surface. Length of each 20.0mm, weight of each 4g.
55	SK228	Single rectangular belt mount. 5th- to 7th-century. Probable belt set with SF 40 and 49. Copper alloy with three integral studs. Textile remains of ?leather. Length 20.5mm, weight 6g.
49	SK228	Buckle with integrally cast buckle plate of Marzinzik type II.24a(?). 5th- to 7th-century, likely later end of bracket. Copper alloy. Length 34.0mm, weight 8g.
85	SK259	Buckle with buckle plate and belt mount of Marzinzik type II.14b. Part of set with SF 84. 5th- to 6th-century. Gilt copper alloy. Style I ornament. Length of buckle 37.5mm, total weight 24g
84	SK259	Small rectangular belt mount. Part of set with SF 85. 5th- to 6th-century. Gilt copper alloy with iron fittings. Style I ornament. Textile remains. Length 23.5mm, weight 6g.
530	SK1326	Strap-end of a shield-shaped variety. 5th- to 7th-century. Copper alloy with three iron rivets. White metal applied to surface. Length 23.0mm, weight 2g.
109	SK274	Strap-end of elongated shape. 5th- to 7th-century. Copper alloy. Length 28.0mm, weight <1g.
570	SK691	Strap-end of elongated shape. 5th- to 7th-century. Copper alloy with iron or textile remains. Length 41.0mm, weight 2g.

Table 29: Copper alloy belt equipment

Rings

B.2.20 Rings are detailed in Table 30.

SF	Skeleton	Description
23	SK226	Small suspension ring with flat section, 5th- to 7th century. Copper alloy. Diameter 22.0mm, weight 2g.
60	SK241	Small suspension ring with circular section. 5th- to 7th-century. Copper alloy. Diameter 20.5mm, weight 3g.
192	SK443	Small suspension loop with rectangular section. 5th- to 7th-century. Copper alloy. Diameter 19.5mm, weight 3g.
193	SK443	Small suspension ring with circular section. 5th- to 7th-century. Copper alloy. Diameter 20.0mm, weight 3g.
259	SK640	Small suspension ring with oval irregular section. 5th- to 7th-century, Diameter 20.0mm, weight 2g.
454	SK1201	Small suspension ring with flat section and overlapping terminals. Unknown date. Copper alloy. Diameter 18.0mm, weight <1g.
360	SK1002	Large wire loop with terminals joined by a twist. 5th- to 7th-century. Copper alloy. Incomplete. Diameter 38.0mm, weight <1g.
560	SK1116	Small metal loop with a flat and oval section. 5th-7th century. Copper alloy. Diameter 16.5mm, weight 2g.

Table 30: Copper alloy rings

Pins

SF	Skeleton	Description
294	(Middle Saxon Pit Context)	Pin with lateral chasing on shaft. 5th- to 7th-century. Copper alloy. Incomplete. Length 51.0mm, weight 1g.
506	SK1293	Pin with looped head. 5th- to 7th-century. Copper alloy. Incomplete and fragmented. Length 10.5mm, weight <1g.
189	SK443	Pin with flattened and perforated head. 5th- to 7th-century. Copper alloy. Length 198.0mm, weight 2g.
326	SK443	Pin shaft segment. 5th- to 7th-century. Copper alloy. Incomplete. Length 25.0mm, weight <1g.
331	n/a	Pin. Undated. Copper alloy. Length 59.5mm, weight 1g

Table 31: Copper alloy pins

Finger Rings

B.2.21 Finger Rings are detailed in Table 32.

SF	Skeleton	Description
397	SK1202	Finger or suspension ring of circular-section wire and twisted ends. 5th- to 7th-century. Copper alloy. Diameter 21.0mm, weight 2g.
140	SK325	Finger ring of circular-section wire with curled terminals. 5th- to 7th-century. Copper alloy. Diameter 22.5mm, weight 4.
280	SK691	Finger ring of sheet metal with one perforated terminal. 5th- to 7th-century. Copper alloy. Diameter 23.0mm, weight 4g.
409	SK999	Finger ring of circular-section wire with terminals twisted into a decorative knot. Silver. Diameter 24.0mm, weight <1g.

Table 32: Copper alloy finger rings

Mounts and Studs

B.2.22 Mounts and studs are details in Table 33.

SF	Skeleton	Description
236	SK554	Mount or chatelaine of sheet metal with three perforations and small rings. 5th- to 7th-century. Copper alloy. Length 28.5mm, weight 3g.
475	SK1116	Shield mount of 'fish' shape. 5th- to 6th-century. Gilt copper alloy. Punched ornament. Missing one terminal. Riveted repair. Length 41.0mm, weight 7g.
416	SK1116	'Hippogriff' shield mount. 5th- to 6th-century. Gilt copper alloy with iron fittings. Punched ornament. Adapted into a brooch. Length 70.0mm, weight 20g
547	SK1138	Stud, possibly for a shield. 5th- to 7th-century. Copper alloy with surface coated in white metal. Incomplete. Diameter 19.2mm, weight <1g.
337	Cremation 945	Circular mount from casket. Roman. Copper alloy with concentric chased ornament. Diameter 14.0mm, weight 1g.
337	Cremation 945	Square casket face plate with circular hole. Roman. Copper alloy with chased concentric ornament. Length 111.5mm, weight 36g. Paste on reverse. Three studs on corners, one now detached.
337	Cremation 945	Rectangular casket lock plate with keyhole. Roman. Copper alloy with paste or other corrosive product. Length 67.0mm, weight 14g.
337	Cremation	Three casket lock plate flanges. Roman. Copper alloy with paste. Length of longest 58.0mm, weight 5g.
337	Cremation	Stud from casket face plate. Roman. Lead or other white metal. Length 13.5mm, weight 1g.
578	SK554	Rim mount of wooden bowl repair clip. 5th- to 7th-century. Copper alloy with iron rivet and possible wood remains. Length 9.54mm, weight 2g.

Table 33: Copper alloy mounts and studs

Pendants

B.2.23 Pendants are detailed in Table 34.

SF	Skeleton	Description
514	SK1303	Flat and perforated fragment, possibly from a form of pendant or other accoutrement. 5th- to 7th-century. Copper alloy. Incomplete. Length 21.0mm, weight <1g.
478	SK1326	Sheet pendant with 7 perforations and a curled terminal. 5th- to 7th-century. Copper alloy. Length 40.0mm, weight <1g.
358	n/a	Flat and perforated fragment, possibly from a form of pendant or other accoutrement. 5th- to 7th-century. Copper alloy. Incomplete. Length 38.0mm, weight 1g.
127	SK294	Circular disc with raised central boss and applied ?spiralled wire possibly an unusual scutiform pendant. 5th- to 7th-century. Severely fragmented with solder strip on reverse. Diameter 23.5mm, weigh 1g.

Table 34: Copper alloy pendants

Toilet Items

B.2.24 Toilet items are detailed in Table 35.

SF	Skeleton	Description
531	SK1326	Ear scoop with looped end and wire suspension ring. 5th- to 7th-century. Copper alloy. Length 54.0mm, weight 2g.
371	SK1036	Tweezers with wire suspension ring. 5th- to 7th-century. Copper alloy. Length 58.5mm, weight 7g.
436	SK1168	Miniature tweezers. 5th- to 7th-century. Copper alloy. Length 35.0mm, weight 2g.

Table 35: Copper alloy toilet items

Girdle Hangers

SF	Skeleton	Description
129	SK294	Girdle-hanger of Felder type A2f. 5th- to 6th-century. Copper alloy. Punched ornament. Lateral wear marks visible on head. Length 104.0mm, weight 19g.

Table 36: Copper alloy girdle hangers

Miscellaneous, medieval and later

SF	Skeleton	Description
191	SK443	Miscellaneous copper-alloy fragment. Not seen.
179	SK325	Miscellaneous copper-alloy fragment. Not seen.
180	SK325	Miscellaneous copper-alloy and iron fragments. Not seen.
122	SK285	Miscellaneous copper-alloy fragment. Not seen.
182	SK285	Miscellaneous copper-alloy fragment. Not seen.
107	SK274	Miscellaneous copper-alloy fragment. Not seen.
61	SK241	Miscellaneous copper-alloy fragment. Not seen.
62	SK241	Miscellaneous copper-alloy fragment. Not seen.
53	SK228	Fragments of sheet copper-alloy. Possibly part of an openwork decoration. 5th- to 7th-century. Length 16.0mm, weight <1g.
75	SK221	Miscellaneous copper-alloy fragment. Not seen.
76	SK220	Miscellaneous copper-alloy fragment. Not seen.
408	SK1202	Miscellaneous copper-alloy fragment. Not seen.
476	SK1116	Fragment of copper-alloy sheet. Length 21.0mm, weight <1g.
328	n/a	Buckle of post-medieval date. Incomplete. Not seen.
231	n/a	Small buckle, figure-of-eight shape, of medieval or post-medieval type. Copper alloy. Length 19.5mm, weight 1g.
246	n/a	Buckle, figure-of-eight shape, of medieval or post-medieval date. Incomplete. Length 22.5mm, weight 2g.
137	n/a	Circular button. Post medieval. Copper alloy. Diameter 14.0mm, weight 2g.
66	n/a	Lump of copper alloy possibly distorted by heat. Length 23.5mm, weight 4g.
110	n/a	Miscellaneous copper-alloy fragment. Not seen.
230	n/a	Small key with looped head and single tooth. Medieval or post-medieval. Copper alloy. Length 35.0mm, weight 2g.
136	n/a	Thimble, cracked and distorted. Post-medieval. Copper alloy. Length 19.0mm, weight 2g.
74	??	Miscellaneous copper-alloy fragment. Not seen.
410	n/a	Small buckle and buckle plate probably later medieval. 13th- to 15th-century. Complete but folded. Copper alloy with iron fittings. Length 27.0mm, weight 7g.

Table 37: Miscellaneous, medieval and later copper alloy objects

B.3 Lead Object

By Denis Sami

B.3.1 A bent lead wire (in three fragments) was uncovered in Early Saxon grave **739** (assigned to Sk 740, a possible infant inhumation, although no bones survived). Taking into account its circular/oval shape, it appears to be a portable decoration, possibly a bracelet. However, lead bracelets with a circular section are not a common find. An old fracture shows the artefact was missing one end when buried.

B.3.2 The artefact may represent a personal possession or was perhaps placed in the grave as an act of devotion from a member of the deceased's family.

Recommendations

B.3.3 No further work is required on this object, other than to include relevant details in the archive report and publication.

Lead wire/bracelet, SF315, Grave **739**, SK740. Incomplete, fragmented. An oval/circular in section (Diam: 3.03 mm) wire with one tapered end, while the other extremity is missing. The wire is bent in a sub-oval open shape. L: 310.0 mm; W: 98.7 mm; Wt: 17.5 g.

B.4 Iron Artefacts

By Denis Sami

Summary

B.4.1 A total of 206 iron artefacts were collected from the excavation site. The assemblage consists mainly of Anglo-Saxon artefacts, alongside a smaller number from the Roman period. Bearing in mind that iron artefacts can be multifunctional, the collected objects can be categorised into three main groups: dress accessories or objects that tended to be worn (comprising buckles, knifes, keys, hair pins and tweezers), weapons (shield bosses, seaxes, spearheads, ferrules and arrowheads) and structural/furniture elements (nails, furniture fittings, casket elements and unidentified objects). Sub-categories were then created on the basis of form and function (Table 38).

Dress Accessories	**Quantity**	**Type**
	27	Buckles
	2	Hair-pins
	11	Hobnails
	16	Keys and loops
	49	Knives
Weapons	**Quantity**	**Type**
	6	Shield-bosses
	5	Shield fittings
	1	Seaxes
	18	Spearheads
	3	Ferrules
	5	Arrowheads
Structural and furniture	**Quantity**	**Type**
	8	Furniture fittings
	8	Casket elements
	19	Nails
	18	Unidentified

Table 38: Groups and types of iron artefacts

B.4.2 Each find is fully described below and measurements have been included together with the relevant contextual information (SF= small find; context; SK=skeleton/CR=cremation; Samp=sample). A short preliminary discussion including formal comparisons and typological information is included here. The catalogue is in order of SF number.

B.4.3 Most of the iron artefacts are largely complete, although often fragmented. The iron is heavily oxidised and in some cases this has prevented a clear and precise identification (particularly with buckles and knifes).

Assessment

B.4.4 The assemblage of Roman iron artefacts includes hobnails, nails and furniture fittings, datable only to a broad period between the 1st and 4th centuries. The Anglo-Saxon assemblage dates to between the late 5th and early 7th centuries, although it should be borne in mind that iron artefacts from this period are difficult to date precisely and may have been in use for long durations, undergoing only minimal stylistic variations.

B.4.5 The shield bosses exhibit distinctive variation in terms of typology and construction techniques with a predominance of Dickinson and Härke's Type 1 (Dickinson and Härke 1992), which dates between the late 5th and early 7th centuries (see discussion below). The typological range of spearheads is very consistent comprising mainly Swanton's type H (Swanton 1974) a form that is very common in Cambridgeshire. The knife assemblage also shows a high degree of internal consistency with a predominance of Evison's types 2 and 3 (Evison 1987).

Statement of Potential

B.4.6 As one of the largest early Anglo-Saxon cemeteries yet excavated in Cambridgeshire, the assemblage from Hatherdene Close presents a good opportunity to better understand the communities that lived in this region.

Recommendations

B.4.7 The assemblage requires full specialist analysis and reports for the archive and publication, setting the material into its local, regional and national context.

B.4.8 X-rays will be needed for up to 79 artefacts that are either heavily encrusted and cannot be clearly identified by eye or may reveal particular construction techniques.

B.4.9 Illustration (drawn or photographed) is suggested for those finds that are most relevant to future publication (up to 89 artefacts in total, see Table 42).

Catalogue – Portable objects and dress accessories

B.4.10 Buckles are recorded both in female and male burials and were used to fasten belts or other straps (Table 39). Without confirmation by x-ray, it initially appears that the most common form is the Type I oval loop (Marzinzik 2003). SF 520 is a very small rectangular buckle Type I.6, probably from a strap. SF 193 and 194 are good and complete examples of Type II.18a, comprising an oval loop with a sub-rectangular plate.

B.4.11 Loops and keys are also well represented at Hatherdene Close (Dress Accessories, Table 40). They consist of a generally square-sectioned straight shank between 100 and 150 mm long, with a small, narrow loop on one end and a sub-rectangular open shape on the other end used to lift a latch. Found in groups of two to five, these finds are usually exclusive to female burials and are thought to be associated with some kind of household role (Evison 1989, 116).

B.4.12 Despite being common finds in Roman funerary contexts, hobnails can only dated very broadly. The hobnails from Hatherdene Close were collected from the Roman cremations highlighting the symbolic and religious meaning of such artefacts (Crummy 1981, 51-53).

B.4.13 Knives represent a frequently encountered and consistent artefact group. Although Evison's Types 1, 2, 3 and 5 are present, the majority of knives from Hatherdene Close belong to Type 2 (straight back and curved cutting edge) and Type 3 (angled back and curved cutting edge). Notably Types 2 and 3 can be connected with similar forms documented on the Continent between the 5th to the late 6th centuries (Evison 1989, 117).

Belt Fittings

SF	Skeleton	Con-text	Object	Description	Illust.	X-Ray
5	SK 205	(206)	Buckle	Incomplete fragmented. Poorly preserved part of loop with remain of tongue encrusted. W: 27.17 mm Th: 4.12 mm Wt: 638 g.	Y	Y
68	SK 252	(253)	Buckle	Fragment. Part of oval loop with circular section. Remains of tongue are still attached to the loop while the bar for the strap is missing. L: 16.25 mm W: 25.93 mm Th: 4.92 mm Wt: 2.97 g.	Y	Y
87	SK 256	(257)	Buckle	Fragment. Part of a possible oval loop with oval section. W: 24.02 mm Th: 4.77 mm Wt: 1.94 g.	N	N
141	SK 325	(326)	Buckle	Complete. Narrow oval loop with straight bar for strap. Tongue still attached to the bar (Marzinizik Type unidentified). Need x-ray to identify. L: 31.31 mm W: 38.40 mm Th: 7.73 mm Wt: 22.02 g.	Y	Y

SF	Skeleton	Con-text	Object	Description	Illust.	X-Ray
170	SK 373	(374)	Buckle	Complete. Narrow oval loop with oval section and straight bar for strap. Tongue still attached to the bar (Marzinzik Type II?). Buckle-loop L: 32.18 mm W: 46.61 Th: 6.21 mm Wt: 21.48 g.	Y	Y
172	CR 231	(233)	Belt-plate	Incomplete. Heavily encrusted small rectangular plate with two domed rivets fastening a poorly preserved second plate. Associated with cremation. L: 21.65 W: 22.02 Th: 12.03 mm Wt:4.20 g.	Y	Y
194	SK 443.	(444)	Buckle and buckle-plate	Incomplete fragmented. Oval flat loop with narrow axis (Marzinzik Type I.10.b). L: 25.85 mm W: 31.126 mm Th: 5.61 mm Wt: 9.55 g. Long sub-triangular plate possibly with two rivets (Marzinzik Type II.18b). L: 66.46 mm W: 29.17 mm Th: 3.91 mm Wt: 12.16 g	Y	Y
195	SK 443	(444)	Buckle and buckle-plate	Complete. Oval flat loop (Marzinzik Type I.10.b). L: 27.06 mm W: 35.48 mm Th: 6.80 mm. Long sub-triangular plate possibly with rivets (Marzinzik Type II.18.b). L: 37.36 mm W: 24.61 mm Th: 5.41 mm Wt: 2121.14 g.	Y	Y
227	SK 526	(527)	Buckle	Complete. Sub-rectangular loop with possibly rectangular section. Straight complete tongue (Marzinzik Type I.6b). L: 21.35 mm W: 28.07 mm Th: 6.49 mm Wt: 6.65 g.	Y	Y
263	SK 640	(641)	Buckle-plate (?)	Incomplete fragmented. Rectangular folded sheet. The pin is still present but the buckle is missing. L: 31.19 mm W: 18.93 mm Th: 2.80 mm Wt: 9.13 g.	Y	Y
296	SK 716	(718)	Buckle	Incomplete. Narrow oval loop with missing bar for strap. L: 21.59 mm W: 26.25 mm Th: 7.94 mm Wt: 4.98 g.	Y	Y
347		(958)	Buckle	Complete. Oval loop with circular section. Straight possibly club-shaped tongue (Marzinzik Type 10). L: 36.16 mm W: 31.65 mm Th 11.87 mm Wt: 14.90 g.	Y	Y
354	SK 964	(965)	Buckle	Incomplete. Small fragment of oval loop with oval section. Th: 6.38 mm: Wt: 4.68 g.	N	N
384	SK 1095.	(1096)	Buckle	Complete fragmented. Circular loop with narrow circular section (Th: 3.89 mm) where the tongue was attached. The tongue had a possible circular hook. The stem is flat, slightly curved with rectangular section. Loop W: 47.10 mm Th: 7.14 mm Wt: 19.42 g; Tongue L: 48.43 mm W: 10.55 Th: 5.16 mm Wt: 6.72 g.	Y	Y
394	SK 1134	(1135)	Buckle	Complete. Circular loop with possibly oval section and straight tongue (Marzinzik Type I.12 possibly b? Need x-ray. W: 27.94 mm Th: 7.02 mm Wt: 11.76 g.	Y	Y
406	SK 506	(507)	Buckle	Incomplete. Small part of oval loop with oval section. Th: 5.82 mm Wt: 2.43 g.	N	N

SF	Skeleton	Con-text	Object	Description	Illust.	X-Ray
415	SK 1116	(1117)	Buckle	Complete. Oval flat loop with very narrow axis (possibly Marzinzik Type I.10b). L: 21.59 mm W: 25.55 mm Th: 5.58 mm Wt: 3.14 g.	Y	Y
423	SK 1138	(1117)	Buckle	Incomplete fragmented. Oval loop with flat oval section (W:9.21 mm Th: 3.91 mm) and straight bar for strap narrowed in the centre to host the tongue. Loop and bar W: 35.81 mm	N	N
434	SK 1164	(1166)	Buckle	Incomplete. Oval loop with oval section tapered on one side. Straight short tongue forming a loop at one end. L: 29.79 mm W: 26.31 mm Th: 7.43 mm Wt: 6.61g.	Y	Y
442	SK 1181	(1182)	Buckle and buckle-plate	incomplete fragmented. Part of oval loop with oval section. Rectangular CuA plate with two rivets attached to the buckle axis (Marzinzik Type II.19). Loop W: 23.82 mm Th: 6.25 mm. Plate L: 24.22 mm W: 17.51 mm Th: 1.30 mm Wt: 6.92 g.	Y	Y
444	SK 1181	(1182)	Buckle	Incomplete. Small fragment of oval loop with circular section. Th: 5.64 mm	N	N
501	SK 1275	(1276)	Buckle	Incomplete. Heavily encrusted oval loop with part of straight tong still attached. Need x-ray. L: 28.88 mm W: 23.37 mm Th: 6.10 mm Wt: 7.88 g.	N	Y
504	SK 1272	(1273)	Buckle	Complete. Oval loop with possibly oval section (Diam: 5.49 mm) and straight bar for strap. A straight tongue is encrusted with the buckle. L: 24.32 mm W: 29.04 mm Th: 7.20 mm Wt: 9.96 g.	Y	Y
505	SK 1272	(1273)	Buckle	Incomplete. Narrow oval loop with thin oval section (Th: 5.09 mm) straight bar for strap. L: 22.72 W: 28.38 Th: 5.74 Wt:5.65 g.	Y	Y
520	SK 1314	(1315)	Buckle	Complete. Small square buckle with square section and straight tongue (Marzinzik Type I.6). L: 15.87 mm W: 16.40 mm Th: 2.90 mm Wt: 1.22 g.	Y	Y
562	SK 221	(222)	Buckle	Incomplete fragmented. Very poorly preserved oval loop with circular section (Diam: 5.50 mm) with straight tapered tong. W: 32.42 mm Wt: 10.49 g.	N	N
565	SK 225	(227)	Buckle	Complete. Oval loop with oval section and straight bar for strap. Straight tongue. Remains of buckle plate may still be encrusted with the buckle. Need x-ray. L: 27.45 mm W: 20.66 mm Th: 6.19 mm Wt: 9.55 g.	Y	Y

Table 39: Iron belt fittings

Dress Accessories

Small Find	Context	Skeleton	Object	Description	Illust.	X-Ray
83	(257)	SK 256	Tweezers	Complete, Fragmented. Made from a strip widening toward the two ends, the terminals are slightly in-turned. L: 65.41 mm; W: 11.82; Th: 2.75; Wt: 12.78 g.	Y	Y
98	(262)	SK 261	Hobnails	Incomplete, Fragmented. About 96 dome headed hobnails with tapered stem with circular section (Manning Type 9). Total Wt: 170.43 g.	N	N
117	(286)	SK 285	Hair pin (?)	Fragment. Straight, circular section stem (Diam: 4.61 mm) with a possible globular end. L: 45.80 mm; Th: 8.36 mm; Wt:3.62 g.	Y	Y
130	(295)	SK 294	Ring	Complete. Loop with circular section. It may be a suspension ring for a key, or perhaps a buckle? Heavily encrusted. W: 41.71 mm; Th: 7.78 mm; Wt: 21.82 g.	Y	Y
132	(295)	SK 294	Hair pin (?)	Fragment. Straight circular section stem (Diam: 3.67 mm) terminating with possible globular head. L: 32.63 mm; Th: 12.07; Wt: 4.57 g.	Y	Y
162	(354)	SK 353	Key (?)	Incomplete. Straight stem with square section (?) tapering into a hook. Need to clearly identify. L: 95.10 mm; Th: 5.90 mm; Wt: 15.25 g.	N	Y
177	(326)	SK 325	Loop,	Complete. Loop with circular section. W: 41.56 mm; Th: 7.14 mm; Wt:17.24 g.	N	Y
210	(494)	SK 493	Key and loop	Incomplete, Fragmented. Slightly oval loop with circular section. Poorly preserved key with square section ending into a flat hook at the top. Loop: W: 35.93 mm; Th: 5.13 mm; Wt: 20.74; Key. L: 46.48 mm; Th: 8.09 mm; Wt: 14.95 g. Need to confirm.	Y	Y
215	(494)	SK 493	Key	Incomplete, Fragmented. Straight stem with square section tapering into a flat hook at the top and possibly bend at straight angle forming an open rectangular figure at the bottom. L: 92.26 mm; W: 17.18 mm; Th: 7.97 mm; Wt: 18.00 g. Need to check the rectangular hook after x-ray	N	Y
273	(692)	SK 691	Key	Incomplete, Fragmented. Straight shaft with rectangular section forming a flat broken hook at the top and bended into three angles to form an open sub-rectangular form at the bottom. L: 24.32 mm; W: 34.79 mm; Th: 4.93 mm; Wt: 37.12 g.	Y	Y
318	(773)	CR 772	Hobnails	Incomplete, Fragmented. About 60 dome headed hobnails with tapered stem with circular section (Manning Type 9). Wt: 110 g.	N	N
319	(773)	CR 772	Hobnails	Incomplete, Fragmented. About 50 dome headed hobnails with tapered stem with circular section (Manning Type 10). Wt: 88 g.	N	N
325	(692)	SK 691	Tweezers	Complete, Fragmented. Made from a narrow strip with slightly in-turned ends. L: 53.46 mm; W: 3.96 mm; Th: 1.59 mm; Wt: 3.42 g.	Y	Y
330	(333); Samp. 32		Hobnails	Incomplete, Fragmented. Thirteen dome headed hobnails (Manning Type 10). Wt: 13.50 g.	N	N

Small Find	Context	Skeleton	Object	Description	Illust.	X-Ray
344	(958)		Hob-nails	Incomplete, Fragmented. Sixty-two small dome headed hobnails with tapered and circular section stem and bend tip. Found at the base of Roman casket given their dimensions they may well belong to shoes rather than to casket (Manning Type 9). L: 11.37 mm; W: 9.84; Th: 3.34 mm. Total Wt: 80.07 g.	N	N
390	(1093)	SK 1092	Key (?)	Incomplete, Fragmented. Heavily encrusted. Fragments of circular loop with circular section (Diam: 4.74 mm). Straight fairly flat stem with rectangular section forming a hook at the top and bend at the bottom. L: 119.69 mm; W: 11.72 mm; Th: 4.42 mm; Wt: 40.58 g. Really needs x-ray; it could be a different object.	N	Y
397	(333);; Samp. 32	CR 295	Hob-nails	Incomplete. Thirty-two small dome headed hobnails with tapered and circular section stem and bend tip. WT: 33.42 g.	N	N
399	(501); Samp. 104		Hob-nails	Incomplete, Fragmented. Thirty-four poorly preserved hobnails with domed head and tapered stem. WT: 18.82 g.	N	N
403	(235); Samp. 19		Hob-nails	Incomplete, Fragmented. Hundred and nine dome headed hobnails with tapered stem and circular section (Manning Type 10). Wt: 239 g.	N	N
405	(262); Samp. 44		Hob-nails	Incomplete, Fragmented. Seventy-eight dome headed hobnails and circular tapered stem (Manning Type 10). Wt: 56.75 g.	N	N
425	(1117)	SK 1116	Keys and loop	Incomplete, Fragmented. Poorly preserved and Fragmented loop with circular section (Diam: 5.68 mm). Two Fragments of key are encrusted together. One of these object may be a pair of shears Need to identify both of them	N	Y
449	(1203)	SK 1202	Key and loop	Complete, Fragmented. Circular loop with circular section, heavily wear on the broken side (loop Diam: 53.52 mm). Long shaft with square section forming a hook at the top and bend through two straight angles forming a figure of an open rectangular figure at the bottom. L: 193.46 mm; W: 56.19 mm; Th: 8.77 mm; Wt: 48.29 g.	Y	Y
495	(1263)	SK 1264	Hob-nails/Studs	Incomplete. Five domed head hobnails or studs. W: 10.65 mm; Th: 5.55 mm; total Wt: 2.26 g.	N	N
496	(1263)	SK 1264	Hob-nails	Incomplete. Twenty-four dome headed hobnails collected from the feet end of the burial. Wt: 18.04 g.	N	N
511	(1304)	SK 1303	Loop	Incomplete, Fragmented. Oval loop with circular section. A truncated rectangular bar with sub-circular expanded end is encrusted with the loop. Loop, L: 66.77; W: 62.11.34 mm; Th: 7.12 mm. Bar, L: 53.21 mm; W: 26.51 mm; Th: 6.77 mm; Wt: 44.27 g.	Y	Y
529	(1329)	SK 1326	Key and loop	Complete, Fragmented. Large loop with circular section (Diam: 12.43 mm). Loop W: 89.08 mm. The key has a square section shaft tapering into a flat hook at the top and bend through two straight angles forming an open rectangular figure at the bottom. L: 155.27 mm; W: 43.18 mm; Th: 13.16 mm; Wt:112 g.	Y	Y

Small Find	Context	Skeleton	Object	Description	Illust.	X-Ray
557	(494)	SK 493	Annular Brooch (?)	Complete. Circular loop with circular section. Tongue is still attached to the loop. W: 47.49 mm; Th: 4.83 mm Wt: 20.09 g. It may be a buckle, need and position.	Y	Y
558	(494)	SK 493	Loop	Incomplete, Fragmented. Circular loop with circular section. W: 59.16 mm; Th: 4.75; Wt: 13.98 g.	N	N
564	(1304)	SK 1303	Loop	Incomplete, Fragmented. Circular loop with circular section. W: 52.82; Th: 5.13; Wt: 11.04 g.	N	N
566	(692)	SK 691	Key	Complete, Fragmented. Slightly bended shaft with rectangular section forming a hook at the top and bend into three angles forming an open rectangular figure at the bottom. L: 159.38 mm; W: 27.61 mm; Th: 5.47 mm; Wt: 26.73 g.	Y	Y
567	(692)	SK 691	Key	Incomplete, Fragmented. Broken straight shaft with quadrangular section bend into three angles to form an open rectangular figure at the bottom. Top end missing. L: 199.12 mm; W: 31.68 mm; Th: 6.95 mm; Wt: 31.96 g.	Y	Y
568	(692)	SK 691	Key	Incomplete, Fragmented. Straight shank with rectangular section bend into three angles forming an open rectangular figure at the bottom. Part of the shaft and the top end missing. L: 98.34 mm; W: 23.70 mm; Th: 6.68 mm; Wt: 14.72 g.	Y	Y
569	(692)	SK 691	Key	Incomplete, Fragmented. Quadrangular section shaft bend into three angles to form an open rectangular figure at one side. Most of the shank and the top end missing. CuA sub-triangular buckle plate encrusted with the key related to SF 570. L: 69.33 mm; W: 31.09 mm; Th: 6.65 mm; Wt: 15.23 g.	Y	Y

Table 40: Iron dress accessories

Knives

B.4.14 A total of 49 knives was recovered from the site (detailed in Table 41). Notably, knife SF86 (Sk 259) does not really fit in Evison's typology: it appears derivative of Type 5 but without the angled back. SF 561 and SF 188 (Sk 422) are very similar to SF86.

Small Find	Skeleton	Context	Description	Illust.	X-Ray
2	SK 205	206	Complete, fragmented. Straight, tapered tang with rectangular section (L: 28.40 mm) gradually splaying into blade. Curved back and cutting edge (Evison Type 1). L: 117.47 mm; W: 18.09 mm; Th: 3.96 mm; 15.83 g.	N	N
7	SK 209	210	Complete. Tapered tang with rectangular section gradually splaying into blade (L: 50.21 mm). Angled Back and straight cutting edge (Evison Type5). L: 144.57 mm; W: 2023 mm; Th: 5.56 mm; Wt: 32.35 g.	N	N
15	SK 220	222	Complete. Long tapered tang with rectangular section (L: 36.32 mm) gradually splaying into blade. Curved back and cutting edge (Evison Type 1). L: 100.45 mm; W: 14.18 mm; Th: 3.81 mm; Wt: 15.08 g.	N	N
24	SK 226	227	Incomplete. Long tapered tang with rectangular section (L: 45.66 mm) stepped into the blade. Straight back and possibly curved cutting edge, the tip is missing (possibly Evison Type 2). L: 109.51; W: 26.73 mm; Th: 10.36 mm; Wt: 20.51 g.	N	N

Small Find	Skeleton	Context	Description	Illust.	X-Ray
33	SK 225	227	Incomplete. Broken, tapered tang with rectangular section gradually splaying into the blade. Straight back and curved cutting edge (Evison Type 2). The remains of a loop, possibly from a buckle is encrusted on the blade. L: 85.93 mm; W: 16.06 mm; Th: 5.78 mm; Wt: 27.28 g.	N	N
35	SK 225	227	Incomplete. Part of blade missing tang and tip. L: 43.86 mm; W: 16.53; 3.98 mm; Th: 8.99 g.	N	N
54	SK 228	227	Complete. Very tapered tang with rectangular section (L;33.92 mm) stepped into the blade. Straight back and curved cutting edge (Evison Type 2). L: 98.63; W: 21.34 mm; Th: 9.78 mm; Wt: 12.41 g.	N	N
65	SK 241	242	Complete. Straight, stepped tapered rectangular section tang (L: 34.15 mm). Heavily encrusted, possibly curved back and cutting edge (Evison Type 1). L: 98.82 mm; W: 14.52 mm; Th: 5.15 mm; Wt: 17.46 g.	N	N
82	SK 256	257	Complete, fragmented. Tapered tang with rectangular section gradually splaying to the blade and expanding at the end (L: 43.86 mm). Angled back and curved cutting edge (Evison Type 3). L: 130.11; W: 25.81 mm; Th: 5.02 mm; Wt: 38.37 g.	Y	Y
86	SK 259	260	Complete, fragmented. straight, stepped, tapered tang with rectangular section (L: 25.94 mm). straight back with straight cutting edge joining the back. L: 104.62 mm; W: 14.19 mm; Th: 5.30 mm; Wt: 17.19 g.	Y	Y
105	SK 274	275	Complete. Long, tapering tang with rectangular section splaying into blade (L: 55.11 mm). Straight back and curved cutting edge (Evison Type 2). L: 153.13 mm; W: 20.46 mm; Th: 5.66; Wt: 33.73 g.	Y	Y
128	SK 294	295	Complete. Heavily encrusted. Long tapering tang (L: 47.65 mm). Need x-ray to identify. L: 1-3.73 mm; W: 17.14; Th: 5.32; Wt: 16.81 g.	N	Y
139	SK 325	326	Incomplete, fragmented. Tang splaying gradually into blade. Angled back and slightly curved cutting edge (Evison Type 3). L: 118.93 mm; W: 19.01 mm; Th: 5.25 mm; Wt: 26.76 g.	N	N
163	SK 373	374	Complete. Straight, stepped rectangular section tang (L: 52.73 mm). Curved back and cutting edge (Evison Type 1). L: 149.76 mm; W: 19.89 mm; Th: 4.55 mm; Wt: 40.06 g.	N	N
183	(Pit **265**)	267	Incomplete. Only tip preserved. Straight back and slightly curved cutting edge tip (possibly Evison Type 2 or 3). L: 37.91 mm; W: 18.05 mm; Th: 3.71 mm; Wt: 8.68 g.	N	N
188	SK 422	423	Complete, fragmented. Long, tapered tang (L: 50.94 mm) with rectangular section. Straight back and curved cutting edge (Evison Type 2). L: 115.94; W: 15.67 mm; Th: 5.00; Wt: 19.70 g.	Y	Y
216	SK 493	494	Complete, fragmented. Rectangular tang with rectangular section (L: 31.30 mm) splaying into blade. Curved back and cutting edge. The tip is rounded (Evison Type 1). L: 102.94 mm; W: 12.00 mm; Th: 3.81 mm; Wt: 17.39 g.	Y	N
226	SK 526	527	Incomplete. Tapered, broken tang with rectangular section (L: 24.15 mm). Angled back and curved cutting edge (Evison Type 3). L: 122.04 mm; W: 21.30 mm; Th: 4.72 mm; 32.46 g.	N	N
233	SK 557	558	Complete. Straight, long, stepped rectangular section tang (L: 31.33 mm). Angled back and straight cutting edge. (Evison Type 5). L: 126.87 mm; W: 16.91 mm; Th: 4.96; Wt: 25.84 g.	Y	N

Small Find	Skeleton	Context	Description	Illust.	X-Ray
240	SK 559	487	Complete. Tapering, stepped, rectangular, section tang (L: 18.95 mm). Curved back and cutting edge (Evison Type 1). L: 58.40 mm; W: 12.72 mm: Th: 4.73 mm; Wt: 7.44 g.	N	N
243	SK 554	555	Complete, fragmented. Long tapered tang with rectangular section (L: 39.20 mm). Angled back and curved cutting edge (Evison Type 3). L: 84.48 mm; W: 11.41 mm; Th: 3.49 mm; Wt: 7.95 g.	N	N
258	SK 640	641	Complete, fragmented. Long tapering, stepped, rectangular tang (L: 44.32 mm). Curved back and cutting edge (Evison Type 1). L: 115.63 mm; W: 19.36 mm; Th: 3.61; Wt: 23.38 g.	N	N
266	(Pit/Grave **478**)	480	Fragment Small part of blade with straight back. L: 29.32; mm; W:29.09 mm; Th: 2.91 mm; Wt: 5.68 g.	N	N
267	(Pit/Grave **478**)	480	Fragment Rectangular section tang (L: 25:49 mm) gradually splaying to back. Only base of the blade is preserved (possibly Evison Type 1). L:38.29 mm; W: 15.77 mm; Th: 3.72 mm; Wt: 4.93 g.	N	N
283	SK 691	692	Complete. Long tapered tang with rectangular section (L: 39.77 mm) gradually splaying into blade. Curved back and cutting edge (Evison Type 1). L: 124.59 mm; W: 19.26 mm; Th: 4.53 mm; 25.22 g.	N	N
285	SK 634	635	Incomplete. Tapering, stepped, rectangular section tang (L: 8.70 mm). The tip of the blade is missing but the blade has curved back and cutting edge (Evison Type 1). L: 65.78; W: 13.82; Th: 4.60; Wt: 8.72 g.	N	N
291	SK 705	706	Complete. Rectangular section tang (L: 44.32 mm) gradually splaying into cutting edge-blade. Straight back and curved cutting edge (Evison Type 2). L: 125.27; W: 17.71; Th: 6.30 mm; Wt: 27.72 g.	Y	Y
314	(Pit **723**)	730	Incomplete, fragmented. Straight back and curved cutting edge (Evison Type 2). L: 82.10; W: 15.71 mm; Th: 6.56 mm; Wt: 27.57 g.	N	N
327	SK 353	354	Complete. Rectangular section tang (L: 33.05 mm) continuing straight into Back-blade. Curved cutting edge (Evison Type 1 or 3 Need x-ray to confirm). L: 122.50 mm; W: 19.93 mm; Th: 11.05; Wt:19.52 g.	Y	Y
335	SK 856	857	Complete. Rectangular section tang (L: 25.42 mm) slightly stepping into blade. Curved back and cutting edge (Evison Type 1). L: 102.48 mm; W: 11.44 mm; Th: 4.81 mm; Wt: 18.28 g.	N	N
362	SK 999	1000	Complete, fragmented. Rectangular slightly tapered tang with rectangular section (L:22.89 mm) stepping into curved back and cutting edge (Evison Type 1). L: 112.41 mm; W: 15.24 mm; Th: 3.31 mm; Wt: 18.90 g.	Y	Y
370	SK 1036	1037	Complete. Tapered tang with rectangular section (L: 28.15 mm) stepped into the blade. Angled back and curved cutting edge (Evison Type 3). L: 102.18 mm; W: 17.20 mm; Th: 5.10 mm; Wt: 22.27 g.	N	N
378	SK 1051	1052	Complete. Rectangular tapering section tang (L: 30.41 mm) stepping into blade. Angle back and straight cutting edge (Evison Type 5 Need x-ray to confirm). L: 83.38 mm; W: 11.12; Th: 4.11; Wt: 10.66.	Y	Y
409	SK 1202	1203	Incomplete. Tapered tang with rectangular section (L: 41.20 mm) gradually splaying into blade. Tip missing. Straight back and curved cutting edge (Evison Type 2). L: 117.82 mm; W: 16.98 mm; Th: 4.10 mm; Wt; 25.36 g.	N	N

Small Find	Skeleton	Context	Description	Illust.	X-Ray
424	SK 1138	1117	Complete, fragmented. Rectangular section tang (L:23.42 mm) continuing into straight back-blade. Curved cutting edge (Evison Type 2). L: 89.64 mm; W: 13.26 mm; Th: 5.29; Wt: 13.94 g.	N	N
429	SK 1164	1166	Complete. Slightly bended upward, tapered tang with rectangular section (L: 37.37 mm). Central tang slaying into the blade. Curved back and cutting edge (Evison Type 1). L; 142.61 mm; W: 20.71 mm; Th: 4.99 mm; Wt: 33.15 g.	N	N
437	SK 1168	1169	Complete, fragmented. Long tapered tang with rectangular section (W; 35.78 mm). Straight back and curved cutting edge (Evison Type 2). L: 101.49 mm; W: 21.76 mm; Th: 13.77 mm; Wt: 12.58 g.	N	N
443	SK 1181	1182	Complete. Rectangular, tapered tang with rectangular section (L: 34.80 mm) Splaying into angled back and slightly stepped into curved cutting edge (Evison Type 3). L: 135.07 mm; W: 21.34 mm; Th: 4.72; Wt: 38.95 g.	N	N
492	SK 1261	1262	Complete. Tapered, long tang (L:38.59 mm) with rectangular section gradually slaying into blade. Very narrow blade with curved back and curved cutting edge (Evison Type 1) Need x-ray to confirm, could be type 2. L: 129.36 mm; W: 12.81 mm; Th: 3.91 mm; Wt: 23.92 g.	Y	Y
500	SK 1275	1276	Complete, fragmented. Tapered tang with rectangular section (L: 30.07 mm) splaying into blade. Straight back and curved cutting edge (Evison Type 2). L: 99.33 mm; W: 13.47 mm; Th: 3.91 mm; Wt: 9.59 g.	N	N
503	SK 1272	1273	Complete. Rectangular section tang (L.: 28.67 mm) continuing into straight back-blade. Curved cutting edge (Evison Type 2). L: 102.43 mm; W: 12.66 mm; Th: 5.18 mm; Wt 16.38 g.	N	N
517	SK 1311	1310	Complete. Long, narrow, rectangular tang with rectangular section (L;22.38 mm) stepped at the cutting edge and gradually splaying into the back of the blade. Angle back and straight cutting edge (Evison Type 5). Need x-ray to confirm. L: 68.41 mm; W: 13.00; Th: 3.62 mm; Wt: 8.31 g.	Y	Y
522	SK 1314	1315	Incomplete. Long and very tapered tang with rectangular section (L: 44.18 mm) gradually splaying into the back of the blade, but stepped into cutting edge. Straight back and curved cutting edge (Evison Type 2). The tip is missing. L: 97.22 mm; W: 14.34 mm; Th: 5.34 mm; Wt: 15.62 g.	N	N
532	SK 1319	1320	Incomplete. Broken tang with rectangular section gradually splaying into the blade. Curved back and cutting edge (Evison Type 1). L: 62.72 mm; W: 11.09 mm; Th: 4.41 mm; Wt: 7.12 g.	N	N
540	SK 1326	1329	Complete, heavily encrusted. Tapered tang (L: 38.29 mm) continuing into angled back. Curved cutting edge (Evison Type 3, Need x-ray to confirm). L: 109.61 mm; W: 20.97 mm; Th: 5.11 mm; Wt: 27.58 g.	Y	Y
546	SK 1159	1160	Complete. Short tapered tang with rectangular section (L: 22.40 mm) stepped into blade. Curved back and cutting edge (Evison Type 1). L: 76.38; W: 14.00 mm; Th: 3.98 mm; Wt: 9.90 g.	N	N
559	SK 1116	1117	Incomplete. Only tang and part of the blade survive. Long, tapering, narrow stepped tang (L: 32.03 mm). L: 74.25 mm; W: 17.49 mm; Th: 4.00 mm; Wt: 11.35 g.	N	N
561	SK 1092	1093	Complete, fragmented. Very tapered tang with rectangular section (L: 26.91 mm) splaying gradually into blade. Straight back and straight cutting edge. L: 79.27 mm; W: 15.26 mm; Th: 4.13 mm; 9.15 g.	Y	Y

Small Find	Skeleton	Context	Description	Illust.	X-Ray
563	SK 1303	1304	Incomplete, fragmented. Tapered tang with rectangular section (L: 26.66 mm) stepped into blade. Straight back and missing tip. L: 82.27 mm; W: 14.93 mm; Th: 3.55 mm; Wt: 12.75 g.	N	N
577	(Pit **619**)	620	Incomplete. Tang missing, curved back and cutting edge (Evison Type 1). L: 53.88 mm; W: 12.41 mm; Th: 3.71; Wt: 7.17 g.	N	N

Table 41: Iron knives

Catalogue – Weapons

Seax

B.4.15 Small find 353 is the only artefact that could be described as a seax (Table 42). However, it might also be described as a knife, and in this sense it is relatively unusual (Hines and Bayliss 2013: 190). Bearing in mind that such measurements are broadly arbitrary, Siegmund (1998, 87) established a blade length limit of 150 mm for Continental seaxes, while narrow Anglo-Saxon seaxes are defined as having blades between 170 and 259 mm in length and with widths of less than 30 mm (Hines and Bayliss 2013: 191). The blade from Hatherdene Close, being slightly shorter than the Hines and Bayliss's minimum length nevertheless has a fairly thick and wide blade. In addition, the presence of a small guard between the blade and the tang and the upstanding plate at the end of the tang to reinforce the grip (tangs shorter than 110 mm do not occur with pommels, Hines and Bayliss 2013, 191), suggest this blade was meant for heavier work than an ordinary knife might be. For the above reasons SF 353 has been described as a seax, though such an item may well have been multi-purpose.

Small Find	Skel-eton	Con-text	Description	Illust.	X-Ray
353	964	965	Complete. Long tang with rectangular section (L: 97.88 mm; W: 19.33 mm; Th: 13.79 mm) terminating with a small upstanding plate and stepping into the blade. A narrow oval guard separates the tang from the blade. Angled back and curved cutting edge (Evison Type 3; Hines and Bayliss Type SX 1.a). L: 243.23 mm; W: 30.08 mm; Th: 8.49 mm; Wt: 134.53 g.	Y	Y

Table 42: Seax

Spearheads and Ferrules

B.4.16 A total of 18 spearheads and three ferrules were recovered from the site.

B.4.17 Of the former, spearhead Type H (angular, concave blade, Swanton 1973, 103-114) is the most common form (Table 43). This type spans the range from the 160 to 220 mm of H1 to the larger 350-500 mm of H3. Type H is widespread in Cambridgeshire and Bedfordshire in the early Anglo-Saxon period. SF 427 and 220 have blade angles that are potentially quite worn through repeated sharpening. SF499 is a rare D3 (leaf-shaped blade with long stem) spearhead mostly documented in Kent. SF 225 is the socket of SF 206. SF 206 has signs of wear on the angles and tip.

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
21	SK 224	227	Spearhead	Complete. Split circular socket (Diam: 17.69 mm) tapering into solid circular stem widening into angular concave blade with lozengiform section (Swanton Type H2). L: 348.54 mm; W: 45.70; mm; 8.78 mm; Wt: 290.6 g.	Y	Y

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
22	Associated with SKs 224, 225, 226, 228	227	Spearhead	Complete. Bent, split socket (Diam: 19.61 mm) tapering into circular solid stem widening into an angular, concave blade with lozengiform section (Swanton H2). L: 243.34 mm; W: 37.41 mm; Th: 12.14 mm; 204 g.	N	N
57	SK 241	242	Spearhead	Complete. Round, split socket (Diam: 15.27 mm) tapering into a solid circular stem widening into a worn possibly angular blade with lozengiform section (Swanton E1 or C1). L: 195.25 mm; W: 30.43 mm; Th: 9.65 mm; Wt: 147 g.	N	N
206	SK 526	474	Spearhead	Incomplete. Part of SF 225. Broken oval split socket tapering into a solid circular stem widening into a slender angular, concave blade with lozengiform section. Angles and tip are very worn (Swanton Type H1). L: 168.18 mm; 30.23 mm; Th: 8.50 mm; Wt: 113 g.	N	N
207	SK 559	487	Spearhead	Incomplete. Damaged split socket (Diam: 12.93 mm) tapering into a circular solid stem widening into a slender angular, concave blade with lozengiform section (Swanton Type H2). L: 229.51; W: 29.76 mm; 8.90 mm; Wt: 136 g.	N	N
220	SK 506	557	Spearhead	Complete. Round, split socket (Diam: 19.15 mm) tapering into solid circular stem widening into a slender angular, concave blade with lozengiform section (Swanton H2) L: 256.21 mm; W: 29.20 mm; 7.80 mm; Wt:148 g.	N	N
225	SK 526	527	Spearhead socket	Incomplete. Only oval in section, split socket (Diam: 13.66 mm) remain. L: 71.50 mm; Wt: 45.73 g.	N	N
241	Associated with SK 1138, refits 421	1117	Spearhead	Complete. Bended, split socket (Diam: 12.95 mm) tapering into a circular and solid stem widening into a slender angular, concave blade with lozengiform section (Swanton Type H1). L: 164.57 mm; W: 26.98 mm; Th: 7.85 mm; Wt: 83 g.	N	N
256	SK 640	641	Spearhead	Complete. Round, split socket (Diam: 17.84 mm), tapering into solid circular short stem widening into slender angular, concave blade with lozengiform section (Swanton Type H1, late 5th-first half of the 6th century). L: 197.10 mm; W:25.06; Th:8.75; Wt: 98.03 g.	N	N
290	SK 705	706	Spearhead	Complete. Split circular socket (Diam: 13.22 mm) tapering into a solid circular stem widening into a narrow angled blade with lozengiform section (Swanton Type E1). L: 142.58 mm; W: 24.69 mm; Th: 7.97; Wt: 74.43 g.	N	N
333	SK 856	857	Spearhead	Incomplete. Split circular socket (Diam: 12.40 mm) tapering into solid circular stem widening into a narrow angular, concave blade with lozengiform section (Swanton H1), L: 137.05; W: 26.31 mm	N	N
368	SK 1036	1037	Spearhead	Complete. Split circular socket (Diam: 19.25 mm) tapering into solid circular stem widening into a narrow angular, concave blade with lozengiform section (Swanton Type H2). L: 314.25 mm; W: 31.16 mm; Th: 8.41 mm; Wt: 218.24 g.	Y	Y

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
373	SK 1051	1052	Spearhead	Complete. Split circular socket (Diam: 10.14 mm) tapering into a solid, circular stem widening into a narrow angular, concave blade with lozengiform section (Swanton Type H1). L: 180.53 mm; W: 25.10 mm; Th: 7.11;	N	N
379	SK 1073	1074	Spearhead	Complete, fragmented. Split circular socket (Diam: 14.21 mm) tapering into a solid circular stem widening into a narrow angular, concave blade with lozengiform section (Swanton Type H1). L: 23.34 mm; W: 28.12 mm; Th: 9.37 mm; Wt: 100.14 g.	N	N
392	SK 1119	1120	Spearhead	Complete. Split circular socket (Diam: 11.74 mm) tapering into solid circular stem widening into a narrow angular, concave blade with lozengiform (Swanton Type H1, late 5th-first half of the 6th century). L: 178.56 mm; W: 29.27 mm;	Y	N
421	SK 1138	1117	Spearhead	Incomplete. Split circular socket (Diam: 12.08 mm) fragment. Refit with SF 241. L: 45.63; W: 19.65; Th: 3.24 mm; 23.98 g.	N	N
427	SK 1164	1166	Spearhead	Complete. Split circular socket (Diam: 14.40 mm) tapering into solid circular stem widening into a slender angular, concave blade with lozengiform section (Swanton Type H3). L: 444.26 mm; W: 40.51 mm; Th: 10.52 mm; 465 g.	Y	Y
441	SK 1181	1182	Spearhead	Complete. Split circular socket (Diam: 13.65 mm) tapering into solid circular stem widening into a narrow angular blade with lozengiform section (Swanton Type E1g). L: 171.45 mm; W: 20.62 mm; Th: 7.90; Wt: 80.83 g.	Y	Y
499	SK 1275	1276	Spearhead	Complete. Split circular socket (Diam: 12.46 mm) tapering into a long, solid, circular stem widening into a short leaf-shaped blade (L: 49.33 mm) with lentoid section (Swanton Type D3). L: 193.36 mm; W: 24.34 mm; 9.07 mm; 107 g.	Y	Y

Table 43: Spearheads

Small Find	Skeleton	Context	Description	Illust.	X-Ray
221	SK 506	557	Complete. Round, tapered split socket (Diam: 13.13 mm). L: 88.30 mm; W: 18.17 mm; Wt: 26.30 g.	N	N
380	SK 1073	1074	Complete. Split, tapering circular socket (Diam: 14.61 mm). L: 56.47 mm; W: 20.19 mm; Th: 2.57 mm; Wt: 22.80 g.	N	N
428	SK 1164	1166	Complete. Tapered, split circular socket (Diam: 15.77). L: 134.30 mm; W: 21.17 mm; Wt: 85 g.	Y	Y

Table 44: Ferrules

Shield bosses

B.4.18 An assemblage of six shield bosses was recovered.

B.4.19 With the exclusion of SF430 (a Dickinson and Härke Type 3 shield boss), the shield bosses are Type 1.1, which is a very common early Anglo-Saxon form (Table 45). Shield boss SF 257 appears to have a different construction technique, appearing to

have been made in two pieces and welded together. It also has an intentionally perforated wall.

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
58	SK 241	242	Shield boss and grip	Incomplete. Part of the flange W: 23.97 mm) missing. Three discoid rivets in the flange L: 20.82 mm; W: 18.83 mm; Th: 6.53 mm). Slightly sloping Ht: 17.30 mm) wall Overhanging carination and low, slightly convex cone (Dickinson and Härke Type 1.1). Intermediate apex Hines and Bayliss Type b). Diam. 165.82 mm.; Ht: 94.74 mm; Th: 2.63 mm; Wt: 447 g. The grip is a fragmented, incomplete flanged strip (Type I.b). Possibly there is a rivet but need x-ray to confirm. W: 28.02 mm; Th: 19.80 mm	Y	Y
257	SK 640	641	Shield boss and grip	Incomplete. Moderate Incomplete flange W: 26.21 mm) with four small discoid rivets W: 15.52 mm). Straight short wall Ht: 19.45 mm), overhanging carination and straight cone. (Dickinson and Härke Type 1.1). Very small intermediate apex (11.14 mm; Hines and Bayliss Type b). Diam: 141.82 mm; Ht: 79.64 mm; Th: 3.39 mm; Wt: 371 g. Complete, fragmented short grip with expanded ends (Dickinson and Härke Type I.a). L: 129.96 mm; W: 36.97 mm; 6.21 mm; Wt: 45 g.	Y	Y
334	SK 856	857	Shield boss and grip	Incomplete. Moderate Incomplete flange W: 23.61 mm) with two, possibly three discoid flat headed circular rivets W: 18.72 mm). Sloping wall Ht: 18.54 mm), overhanging carination and slightly convex cone Dickinson and Härke Type 1.1). Possibly intermediate apex Hines and Bayliss Type b). Diam: 175.20 mm; Ht: 87.74 mm; Th: 3.64 mm; Wt: 570 g. Collapsed short, straight grip encrusted in the cone (Dickinson and Härke Type I.b?).	Y	Y
372	SK 1051	1052	Shield boss and grip	Incomplete, fragmented. Broad flange W: 30.09 mm) with four over possibly five large, discoid flat headed rivets W: 25.63 mm). Concave short wall Ht: 21.56 mm), overhanging carination and straight cone Dickinson and Härke Type 1.1). Large circular apex Diam: 42.75 mm; (Hines and Bayliss Type c). Diam: 173.34 mm; Ht: 84.15 mm; 2.48 mm; Wt:583 g. Complete short grip with expanded ends and two discoid rivets (Dickinson and Härke Type I.a). L: 144.70 mm; 48.39 mm: Th: 4.02 mm; Wt: 77 g.	Y	Y
430	SK 1165	1166	Shield boss and grip	Complete. Moderate flange W: 20.60 mm) with five discoid flat headed rivets W: 20.16 mm; L: 18.54 mm; Th: 6.00 mm). Slightly concave wall Ht: 26.98 mm), overhanging carination and slightly convex cone Dickinson and Härke Type 3). Short possibly intermediate apex Diam: 20.71 mm; (Hines and Bayliss Type b). Diam. 161.20 mm; Ht: 74.53 mm; Th: 2.38 mm; 409 g. Fragmented, incomplete short flanged grip with sub-circular riveted and possibly bifurcated ends (Dickinson and Härke Type I.b/II.b). L: 165.33 mm; W: 34.46 mm; Th: 9.09 mm.	Y	Y
438	SK 1181	1182	Shield	Incomplete, fragmented. Moderate flange W; 24.21 mm) with five discoid, flat headed rivets W: 18.37 mm). straight wall Ht: 17.60 mm), overhanging carination and straight cone (Dickinson and Härke Type 1.1). Very small possibly intermediate apex W: 14.86 mm; (Hines and Bayliss Type b). Diam: 185.22 mm; Ht: 72.03 mm; 2.57 mm; Wt: 275 g.	Y	Y

Table 45: Shield bosses

Shield fittings

B.4.20 Five ferrous shield fittings were recovered from the site.

B.4.21 Small iron lozenge-shaped shield fittings (Table 46) have a mainly southern distribution in burials dating between the late 5th to the early 7th century. Their use is uncertain and it has been speculated that lozenge-shaped fittings may have either been purely decorative or functioned to stabilise the planks of shield board. Alternatively, they may have fastened repairs to the board or the leather board cover (Dickinson and Härke 1992, 27). Iron studs with flat or domed heads are the most frequent fittings documented in association with shields. They are often found in pairs at one end of the shield or near the boss. Their chronology spans the late 5th to the late 6th centuries with dome-headed studs continuing into the 7th century (Dickinson and Härke 1992, 27; Evison 1987, 32).

Small Find	Skeleton	Context	Object	Description	Draw	X-Ray
254	SK 640	641	Board studs	Incomplete. Pair of slightly domed, circular-headed studs with square somewhat bent and tapering stem (Dickinson and Härke Type a.1). L: 15.95 mm; 12.25 mm; W: 22.12 mm; 21.78 mm; Th: 4.55 mm; 3.65 mm; Wt: 5.47 g; 3.54 g.	Y	N
255	SK 640	641	Board fitting	complete. Lozengiform with two rivets at the ends (Dickinson and Härke Type b.3). L: 29.93 mm; W: 14.09 mm; Th: 2.63; Wt: 1.98 g.	Y	N
544	SK 640	641	Board-fitting	Incomplete. Lozengiform originally with two rivets but only one survives (Dickinson and Härke Type b.3). L: 24.06; W: 13.35 mm; Th: 2.25; Wt:1.60 g.	Y	N
545	SK 640	641	Board-fitting	Complete. Circular bend stem with circular, flat head (Dickinson and Härke Type a.1). L: 20.44; W: 26.92; Th: 8.37 mm; 5.09 g.	Y	N
260-61	SK 640	641	Board fitting	Complete, fragmented. Fish-tail shape with rivets missing. This shield fitting was broken into two fragments found approximately 24 cm from each other. L: 34.27 mm; W: 19.46 mm; Th: 2.32 mm; Wt: 2.29 g.	Y	Y

Table 46: Iron shield fittings

Arrowheads

B.4.22 Five arrowheads were found, all from a single grave (associated with Sk 640).

B.4.23 Arrowheads (Table 47) are uncommon finds in Anglo-Saxon graves and they have been mostly documented in the south and east of the country (Evison 1987, 30-31). Generally, they are found in groups of three to five in Frankish and Langobard cemeteries associated with other weapons (Ahumada Silva 2010). SF 554 has a very close comparison with an arrowhead from Bloodmoor Hill (Lucy *et al.* 2009, 276, No 405).

Small Find	Skeleton	Context	Description	Illust.	X-Ray
262	SK 640	641	Complete, fragmented. Split circular socket (Diam: 6.28 mm) tapering into circular stem and widening into a leaf shape blade with lentoid section. L: 119.02 mm; W: 23.36 mm; Th: 7.16; Wt: 24.45 g.	Y	N
553	SK 640	641	Complete. Split circular socket (Diam: 8.73 mm) tapering into a solid circular point. L: 55.53 mm; Th: 11.25 mm; Wt: 13.42 g.	Y	N
554	SK 640	641	Complete, fragmented. Split circular socket (Diam: 7.60 mm) tapering into a solid circular stem widening into a small angled blade with possibly lentoid section. L: 68.95; W: 13.53 mm; Th: 6.36 mm; Wt: 11.64 g.	Y	N
555	SK 640	641	Complete. Split circular socket (Diam: 7.17 mm) tampering into a solid circular point. L: 57.60 mm; Th: 8.92 mm; Wt: 9.58 g.	Y	N
556	SK 640	641	Complete. Split circular socket (Diam: 5.88 mm) tampering into a solid circular stem widening into a flat angled blade with lentoid section. L: 53.10 mm; W: 15.20 mm; Th: 5.57 mm; Wt: 9.62 g.	Y	N

Table 47: Iron arrowheads

Structural fittings

B.4.24 A variety of nails (x 19; Table 48) was collected, mostly identified as Manning Type 1, which are very common and versatile forms. It is likely that the majority of nails relate to coffins such as, for example, SF 493-94. Studs and fittings also represent the remains of possible furniture or structural elements (Table 49). A group of hinges, fittings, and a lock mechanism belong to a Roman casket associated with a burial (Table 50).

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
38	SK 223	227	Nail	Incomplete. Tapered quadrangular stem with flat doed head (Manning Type 1.b). L: 32.62 mm; W: 23.26 mm; Th: 12.51 mm; Wt: 3.41 g.	N	N
45		232	Nail	Incomplete. Square section slightly bended, straight tapering stem. L: 44.04 mm; Th: 7.89 mm; 4.90 g.	N	N
46		232	Nail	Incomplete. Square section straight stem with flat circular head (Manning Type 1). L: 38.89 mm; W: 15.03; Th: 4.71; Wt: 6.87 g.	N	N
47		232	Nail	Incomplete, fragmented. Square section straight tapered stem with possible round head. L:45.24 mm; Th; 7.09 mm; Wt: 4.33 g.	N	N
51		232	Nail	Incomplete. Square section straight tapering stem. L: 29.46 mm; Th: 6.20;	N	N
52		232	Nail	Incomplete. Square section straight tapering stem. L: 32.32 mm; Th: 5.57; Wt: 3.30 g.	N	N
64		237	Nail	Incomplete. Square section straight stem with possible rounded flat head (Manning Type 1). L: 56.78 mm; W: 14.62 mm; Th: 6.34; Wt: 9.49 g.	N	N
218		502. Samp 102	Nail	Incomplete. Square section and bended tapered stem with circular flat head (Manning Type 2)	N	N

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
293		693	Nail	Incomplete. Square section slightly bended stem with sub-circular head. L: 21.86; W: 15.76; Th: 5.73 mm; Wt: 3.23 g.	N	N
317	Cremation 772	773	Nails	Complete. Five dome headed nails with square tapered stem (Manning Type 1). L: 21.98 mm; W: 14.01 mm; Th: 5.38 mm; Total Wt: 7.71 g.	N	N
324		609	Nail	Incomplete. Square section, straight slightly bended stem with sub-circular head (Manning Type 1). The tip is missing. L: 27.20 mm; 11.35 mm; Th:5.96 mm; Wt: 3.66 g.	N	N
346	Cremation 945	958	Nails	Incomplete, fragmented. Two square section, straight stem with flat square head nails (Manning Type 1). One nail measure L: 47.18 mm; W: 13.52 mm; Th: 7.97 mm; Wt: 7.84 g.	N	N
412		571	Nail	Incomplete. Square section, straight stem with circular, flat head (Manning Type 1). The tip is missing. L: 56.21 mm: W: 10.38 mm; Th: 4.68; Wt: 7.42 g.	N	N
422		1117	Nails	Incomplete. Three square section tapered nails with flat head (Manning Type 1b). L: 36.76 mm; W: 15.73 mm; Th 7.64 mm; total Wt: 19.69 g.	N	N
493	SK 1264	1263	Nails	Incomplete, fragmented. Twelve square section, tampered stem nails with flat circular head (Manning Type 1.b). Total Wt: 77 g.	N	N
494	SK 1264	1263	Nails	Incomplete, fragmented. Six square section, tapered steam nails with circular flat head (Manning Type 1.b). L: 58.98 mm; W: 16.24 mm; Th: 8.79 mm; Total Wt: 61.06 g.	N	N
548	SK 1264	1263	Nail	Incomplete. Heavily encrusted possibly square section nail with domed head. L: 52.10 mm; W: 9.42 mm; Th: 6.18 mm; Wt: 6.64 g.	N	N
571	Cremation 945	946	Nail	Complete. Square tapered short stem with slightly dome head (Manning Type 10). T: 16.67 mm; W: 8.39 mm; Th: 3.38 mm; Wt: 0.49 g.	N	N
572	Cremation 945	946	Studs/ hobnails	Incomplete, fragmented. Eleven dome headed with tapered bended stem. W: 9.35; Wt: 7.61 g.	N	N

Table 48: Iron nails

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
175	SK 241	242	Stud	Incomplete. Circular domed head stud possibly related to stud on 175. W: 13.34 mm; Th: 6.81 mm; Wt: 1.53 g.	N	N
265	Pit 478	480	Fitting	fragment. Rectangular plate forming an angle at one end. Traces of a rivet are visible at one corner. Unknown function but it may well be part of a possible furniture or casket fitting. L: 34.79 mm; W: 34.12 mm; Th: 3.19 mm; Wt: 8.18 g.	N	N
298	Pit 478	710	Fitting	Incomplete. Triangular with curved long side flat plate, with pin. L: 20.70 mm; W: 29.11 mm; Th: 2.42 mm; Wt: 2.91 g.	Y	N
299	Pit 478	710	Fitting	Incomplete. Small fragment of irregular flat fitting with pin. L: 21.26 mm; W: 15.53 mm; 3.20 mm; Wt: 1.79 g.	N	N
301	Pit 478	710	Fitting	Incomplete. Sub-triangular flat foil with possibly a pin. L: 25.12; W: 20.11; Th: 2.57; Wt: 2.75 g.	Y	N
302	Pit 478	710	Stud	Incomplete. Flat, possibly lozengiform head with pin. L: 24.43 mm; W: 17.09 mm; Th: 2.01 mm; Wt: 2.05 g.	Y	N
306	Pit 478	710	Fitting	Incomplete. Small fragment of irregular, flat fitting with pin. L: 22.46 mm; W: 14.57 mm; Th: 2.44 mm; Wt: 1.48 g.	N	N
342	Cremation 945	946	Fastener	Incomplete. Circular stem with two circular flat head at the ends. L: 21.73 mm; W: 15.36 mm; Th: 8.61 mm; Wt: 5.28 g.	N	N

Table 49: Iron furniture fittings

Small Find	Cremation	Context	Object	Description	Illust.	X-Ray
338	945	946	Hinge	incomplete, fragmented. Triangular folded strap with central pin. Large, tapered tongue with rivet anchored to the plate. L: 49.45 mm; W: 37.53 mm; Th: 8.72 mm; Wt: 48.61 g.	Y	N
339	945	946	Hinge	incomplete. Triangular folded strap Large tapered tongue anchored to the strap with copper alloy rivet (L: 16.56 mm; W: 8.60 mm) with circular flat head. L: 51.64 mm; W: 35.21 mm; Th: 6.46 mm; Wt: 44.47 g.	Y	Y
341	945	946	Hinge	incomplete. Rectangular bar, possibly two or three rivets. Truncated tongue (L: 45.27 mm) and anchorage at one end. L: 75.59 mm; W: 26.90 mm; Th: 5.04 mm; Wt: 49.57 g.	Y	Y
348	945	958	Hinge	incomplete. Rectangular bar with possibly two or three rivets and burned bone remain encrusted. Long (L: 53.23 mm) tongue and anchorage at one end. Need x-ray to improve description. L: 78.38 mm; W: 25.17 mm; Th: 2.82 mm; Wt: 50.31 g.	Y	Y
573 (ex SF337)	945	946	Bar	incomplete. Rectangular with two rivets. L: 79.70 mm; W: 13.79 mm; Th: 2.39; Wt: 9.30 g.	N	N
574 (ex SF337)	945	946	Bar	incomplete. Rectangular with one at one rivet end. L: 58.73 mm; W: 22.36 mm; Th: 5.42 mm; Wt: 9.30 g.	N	N
575 ex SF337	945	946	Lock mechanism	incomplete. Circular plate with central pin surrounded by two vertical bars. L: 35.34 mm; W: 16.51 mm; Th: 2.71 mm; 12.23 g.	Y	Y
576	945	946	Lock mechanism rear plate	incomplete. Rectangular plate with three rivets. L: 87.82 mm; W: 45.52 mm; Th: 2.77 mm; Wt: 50.44 g.	Y	Y

Table 50: Iron fittings from casket in Cremation 945

Miscellaneous

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
SF 104		267	Unidentified object	Incomplete. Sub-circular heavily encrusted artefact, possibly a buckle or a ring. Need x-ray to identify.	N	Y
SF 176	SK 241	242	Bar	Incomplete. Flat rectangular fragment with attached circular, dome headed stud (W: 13.49 mm). Uncertain function. L: 34.16 mm; W: 24.13 mm; Th: 3.26 mm; Wt: 6.56 g.	N	N
SF 186	SK 417	418	Unidentified object	Incomplete. Heavily encrusted object. L: 55.45; W: 25.53 mm; Th: 16.89 mm; Wt: 40.29 g. Possibly a buckle (?) need x-ray to identify	N	Y

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
SF 208	SK 493	479	Bar	Incomplete. Flat rectangular strip with two rivets in situ. Short upward sides. Function uncertain. L: 51.50 mm; W: 20.10 mm; Th: 4.05 mm; 11.38 g.	Y	Y
SF 209		479	Strip	Incomplete, Fragment of flat strip. Function uncertain. L: 25.38; W: 16.77; Th: 1.75 mm; 1.83 g.	Y	Y
SF 253	SK 634	635	Loop	Incomplete, fragmented. Possibly circular loop with circular section. W: 49.04 mm; Th: 7.58 mm; Wt: 12.16 g.	N	N
SF 264		480	Unidentified object	Incomplete, fragmented. Possibly part of a rectangular plate. Each fragment present remains of a pin. T: 1.91.	N	N
SF 284		693	Unidentified object	Incomplete. Irregular fragment of foil possibly with a rivet. L: 24.52 mm; W: 22.29 mm; Th: 1.88 mm; Wt: 3.28 g.	N	N
SF 287		693	Unidentified object	Incomplete. Flat, thin fragment of foil with discoid rivet. L: 18.31 mm; 18.01 mm; Th: 2.21 mm; Wt: 1.67 g.	N	N
SF 297		710	Unidentified object	Incomplete. Flat irregular foil. L: 14.94 mm; W: 18.99 mm; Th: 2.68 mm. Wt: 0.90 g.	N	N
SF 300		710	Unidentified object	Incomplete. Irregular fragment of metal. L: 14.64 mm; W:8.76 mm; Th: 2.75 mm; Wt: 0.52 g.	N	N
SF 303		710	Unidentified object	Incomplete. Flat rectangular bar expanded at one end. L: 33.81 mm; W: 25.22 mm; Th: 2.72 mm; Wt: 4.90 g.	N	N
SF 304		710	Unidentified object	Incomplete. Flat irregular coating. L: 32.96 mm; W: 16.03 mm; Th: 1.68 mm; 4.56 g.	N	N
SF 305		710	Unidentified object	Incomplete. Flat irregular bar. L: 31.42 mm; W: 17.18 mm; Th: 4.10 mm; Wt: 3.89 g.	N	N
SF 307		710	Unidentified object	Incomplete, fragmented. Flat irregular foil. L: 20.83 mm; W: 16.68 mm; Th: 2.16 mm; Wt: 2.42 g.	N	N
SF 308		710	Unidentified object	Incomplete. Irregular plate angled on one side.	N	N
SF 314		731	Unidentified object	Incomplete. Flat with slightly curved, possibly circular plate. L: 45.47 mm; W: 34.59 mm; Th: 5.90 mm; Wt: 15.69 g. Maybe it is part of a shield flange?	N	N
SF 343		929	Unidentified object	Incomplete. Irregular small lump. Wt: 3.65	N	N
SF 477		1249	Unidentified object	Complete. Tapered stem with square section, thick circular flat head. Possibly a nail and ring. L: 62.79 mm; W: 23.67 mm; Th: 9.91 mm; 31.91 g.	Y	Y

Small Find	Skeleton	Context	Object	Description	Illust.	X-Ray
SF 552	SK 559	487	Unidentified object	Incomplete, fragmented. Slightly bended stem with circular section (Diam: 5.16 mm) truncated on one end and widening into a slightly concave sub-triangular plate on the other end. L: 58.14 mm; W: 30.28 mm; Th: 2.80 mm; Wt: 10.46 g.	Y	Y
SF 56		239	Unidentified object	Incomplete. Irregular small fragment of iron	N	N
SF 59	SK 241	242	Unidentified object	Incomplete. Narrow irregular flat strip with preserved rivet. Function uncertain, but it may have been a decorative fitting for a casket or furniture. L: 34.14 mm; W: 15.94 mm; Th: 2.87 mm; Wt: 3.12 g.	N	N

Table 51: Miscellaneous iron artefacts

Small Find	Context	SK	Artefact	Illust.	X-ray	Small Find	Context	SK	Artefact	Illust.	X-ray
5	206	205	Buckle	Y	Y	341	946	/	Hinge	Y	Y
21	227	224	Spear-head	Y	Y	347	958	/	Buckle	Y	Y
58	242	241	Shield	Y	Y	348	958	/	Hinge	Y	Y
68	253	252	Buckle	Y	Y	353	965	964	Seax	Y	Y
82	257	256	Knife	Y	Y	362	1000	999	Knife	Y	Y
83	257	256	Tweezers	Y	Y	368	1037	1036	Spear-head	Y	Y
86	260	259	Knife	Y	Y	372	1052	1051	Shield	Y	Y
104	267	/	Artefact		Y	378	1052	1051	Knife	Y	Y
105	275	256	Knife	Y	Y	384	1096	1095	Buckle	Y	Y
106	275	274	Buckle	Y	Y	390	1093	1092	Key?		Y
117	286	285	Hair pin?	Y	Y	392	1120	1119	Spear-head	Y	Y
128	295	294	Knife		Y	394	1135	1134	Buckle	Y	Y
130	295	294	Ring	Y	Y	415	1117	1116	Buckle	Y	Y
132	295	294	Hair pin	Y	Y	425	1117	1116	Key and Loop		Y
141	326	325	Buckle	Y	Y	427	1166	1164	Spear-head	Y	Y
162	354	353	Key?		Y	428	1166	1164	Ferrule	Y	Y
170	374	373	Buckle	Y	Y	430	1166	1165	Shield	Y	Y
172	233	231	Belt-plate	Y	Y	434	1166	1164	Buckle	Y	Y
177	326	325	Loop		Y	438	1182	1181	Shield	Y	Y
186	418	417	Artefact		Y	441	1182	1181	Spear-head	Y	Y
188	423	411	Knife	Y	Y	442	1182	1181	Buckle	Y	Y
194	444	443	Buckle	Y	Y	449	1203	1202	Key and loop	Y	Y
195	444	443	Buckle	Y	Y	477	1249	/	Artefact	Y	Y
208	479	493	Artefact	Y	Y	492	1262	1261	Knife	Y	Y
209	479	/	Artefact	Y		499	1276	1275	Spear-head	Y	Y
210	494	493	Key and loop	Y	Y	501	1276	1275	Buckle		Y
215	494	493	Key		Y	504	1273	1272	Buckle	Y	Y
216	494	493	Knife	Y		505	1273	1272	Buckle	Y	Y
216	494	493	Knife	Y		511	1304	1303	Loop	Y	Y
227	527	526	Buckle	Y	Y	517	1310	1311	Knife	Y	Y
233	558	557	Knife	Y		520	1315	1314	Buckle	Y	Y
254	641	640	Shield fitting	Y		529	1329	1326	Key and loop	Y	Y
255	641	640	Shield fitting	Y		540	1329	1326	Knife	Y	Y
257	641	640	Shield	Y	Y	544	641	640	Shield fitting	Y	
260-61	641	640	Shield fitting	Y		545	641	640	Shield fitting	Y	
262	641	640	Arrow head	Y		552	487	559	Artefact	Y	
263	641	640	Buckle	Y	Y	553	641	640	Arrow head	Y	
273	692	691	Key	Y	Y	554	641	640	Arrow Head	Y	
290	706	705	Spear-head	Y		555	641	640	Arrow head	Y	
291	706	705	Knife	Y	Y	556	641	640	Arrow head	Y	
296	718	716	Buckle	Y	Y	557	494	493	Annular brooch?	Y	Y
298	710	/	Fitting	Y		561	1093	1092	Knife	Y	Y
301	710	/	Fitting	Y		565	227	225	Buckle	Y	Y
302	710	/	Fitting	Y		566	692	691	Key	Y	Y
325	692	691	Tweezers	Y	Y	567	692	691	Key	Y	Y
327	354	353	Knife	Y	Y	568	692	691	Key	Y	Y
334	857	856	Shield	Y	Y	569	692	691	Key	Y	Y
338	946	/	Hinge	Y	Y	575	946	/	Lock mechanism	Y	Y
339	946	/	Hinge	Y	Y	576	946	/	Lock rear plate	Y	Y

Table 52: Summary of iron artefacts for illustration and/or x-ray

B.5 Jet Pin

By Denis Sami

Summary

B.5.1 A jet pin (SF217) was found in a heavily robbed probable grave (**478**) of Middle Roman date. Although incomplete, it is in good condition. It presents a globular/sub-oval head and a slightly tapered shaft. The pin from Hatherdene Close is an example of Crummy's Type 1 (Crummy 1983, 27) based on the specimens uncovered in Colchester. Roman jet hair pins have a strong gender association and are generally connected with female portable objects (Allison 2013).

Statement of Potential

B.5.1 The jet pin may have belonged to the deceased or it may have been deposited as a devotional object by a family member. As a result of its gender associations, the pin offers the opportunity to explore the presence and role of women within the local community, but also has the potential to inform about the religious, local traditions and emotion involved in the funerary ritual.

Recommendation

B.5.1 The pin needs professional cleaning to remove the residual soil still attached to the artefact prior to illustration/photography. It is however in good condition, recovered dry without delamination. Stable torage in crystal box will suffice for long term conservation.

B.5.2 A report for the archive and publication is required.

Catalogue

Pin, SF217, grave **478**, fill 479, incomplete. Tapered, circular in cross-section stem with sub-oval head (Crummy 1983 Type 1). L: 51.6 mm; 5.1 mm; Wt: 1.90g.

B.6 Glass and Amber Beads

By Mary Andrews

Summary

B.6.1 A total of 1,217 beads were retrieved from 39 inhumations; 484 of amber, 613 of glass and 116 of miscellaneous material (Table 53). Only 58 (10%) of the glass beads were polychrome, and these fell into 24 distinct style variations. Eighteen (31%) of these beads carried the style pattern W1 (yellow and green waves on a red-brown base) making this the most dominant variant. In total, 213 (44%) of the amber beads are in the barrel form, while disc and wedge-shaped beads are notably frequent. Faience is the next most common material (110 beads, though all but one of these come from the same grave) while there are only two crystal beads and two of carved bone. There is one occurrence of a natural pebble being used as a bead or pendant (Sk 1202), while a single natural chalk bead was found (Sk 1116).

Skeleton	Amber	Mono Glass	Poly Glass	Faience	Stone	Bone	Crystal	Chalk	SK Total
220	30	17							47
221	16	5							21
225	40	3							43
228	41	6							47
285	1	6	2						9
288		1	1						2
294	1	8	2						11
323	1								1
325	11								11
356	2	22	12	1					37
443	28	10	1						39
493		33	3						36
505			4						4
554	28	5	3						36
557	1		2						3
603		4	1						5
634	23	7	6				1		37
691	146	1							147
740		12							12
856						1			1
972		4							4
976	2								2
999			1						1
1013	1	5				1			7
1033		6							6
1059		8	3						11
1092	14	3							17
1095	4	2	1						7
1116	11	7	2					1	21
1127	1								1
1164	2								2
*1166**			1						1
1168	20	21							41
1202	31	33	4		1				69
1205	2	1	2						5
1229	1	3							4
1255		10							10
1272	2	15							17
1303	9	37	2						48
1326	15	260	5	109			1		390
Total	**484**	**555**	**58**	**110**	**1**	**2**	**2**	**1**	**1213**
*fill not identifiable to specific inhumation									

Table 53: Beads by material per inhumation

Methodology

B.6.2 Most of the beads are complete and in a good state of preservation. The exceptions to this are the faience cylinder beads which are in a degraded fragmentary state (only two appear in their complete form) and the chalk bead which is in several very corroded pieces. All the beads were cleaned with a 1:1 acetone and water solution applied by cotton buds, while fine needles and cocktail sticks were used to remove dirt from perforations. Most of the beads were then preserved with a 3% concentration of paraloid to acetone. Those that required no further action tended to be the best preserved monochrome glass beads. There is a small percentage of damaged beads. Examples with identifiable fragments were reconstructed with a 20% paraloid to acetone adhesive (B72). No further conservation action is required.

B.6.3 The beads have been classified using a system largely based on reports from the Anglo-Saxon cemetery sites of Castledyke South (Drinkall and Foreman 1998), Edix Hill (Malim and Hines 1998) and Saltwood Tunnel (Walton Rogers and Henig 2006). The Portable Antiquities Scheme (http://www.finds.org.uk) as well as reports from Cuxton (Blackmore 2006), Finglesham (Chadwick 1958) and Linton (Nevill 1854) were used to check comparable material from other Anglo-Saxon cemeteries.

B.6.4 The following bead classifications were represented (full data in archive).

Amber bead forms

- Bar: Barrel
- Tri Bar: Barrel, triangular in plan
- S Cy: Short cylinder
- Sq Cy: 4 sided cylinder
- Ob: Oblate
- Ft Ob: Flat oblate
- Wed: Wedge
- Ft Rec: Flat sub-rectangular
- Ft Bar: Flat barrel
- Bi: Biconical
- Irr: Irregular

Monochrome beads

- An: Annular (see table for colour)
- D An: Double annular (see table for colour)
- Ob: Oblate (see table for colour)
- Cy: Cylinder (see table for sub types)
- Mel: Melon (see table for sub types)
- Gad: Gadrooned (see table for sub types)
- Seg: Segmented (see table for sub types)
- Ob: Oblate (red-brown)
- Glob: Globular (red-brown)

Monochrome glass annular bead colours:

- B: Blue
- Db: Double annular blue

- Aq: Aqua
- Gr: Green
- Dkb: Dark blue
- Yel: Yellow
- Offw: Off-white
- Rd: Red-brown

Polychrome forms:

- S4 Cy: Short 4 sided cylinder
- S Cy: Short cylinder
- L Cy: Long cylinder
- Ob: Oblate

Polychrome patterns:

- W1: Yellow and green waves on a red-brown base
- W2: Red-brown waves with yellow and brown lines
- W3: Yellow and dark blue waves on a red-brown base
- W4: Yellow waves on a red-brown base
- W5: Yellow and red-brown waves on a green base
- L1: Yellow and green linear pattern on a red-brown base
- S1: Red-brown and dark blue swirls on an off-white base
- S2: Yellow and green swirls with red-brown horizontal bands on a red-brown base
- CW1: Blue crossed waves and spots on an off-white base
- CW2: Yellow crossed waves and spots on a very dark base
- CW3:Blue crossed waves on an off-white base
- CW4:Green crossed waves on a very dark blue base
- SP1: Red spots on a dark blue base
- SP2: Yellow spots on a red-brown base
- C1: Yellow circles with inner green dots on a red-brown base
- C2: Green circles on a red-brown base
- C3: Green circles with inner yellow dots on a red-brown base
- Z1: Off-white zigzag on a translucent blue base
- Z2: Yellow zigzag on a dark base
- SL1: White spiral on a translucent blue base
- SL2: Red-brown spiral on a green base
- SL3: Red-brown, white and blue overlapping spirals
- G1: Blue cylinder with gold leaf
- M1: Millefiori - translucent green and red opaque glass with white and red spots and 'leaf' pattern
- U: Unknown - pattern due to severe degradation of surface

Statement of Potential

B.6.5 Bead assemblages provide one of the most reliable and useful methods of dating Anglo-Saxon graves of the 5th and 6th centuries (Brugmann 2004a; 2004b see also Bayliss and Hines 2013, 203-9). They also have the potential to inform the

understanding of social status, sex and age within the population, as well as on issues such as trade and supply.

Recommendations

B.6.6 The bead assemblage requires full specialist analysis, including an analytical report and synthesis for publication, tackling issues such as gender, jewellery design, bead origin and trade. Analysis will also set the assemblage into its wider context locally, regionally and nationally.

B.6.7 The following beads are recommended for photographic and/or hand-drawn illustration. They are of interest considering their scarcity and their lack of sub types from the cemetery:

- Millefiori bead from Sk 557
- Polyhedral bone bead from Sk 1013
- Polychrome glass zigzag pattern beads from Sk 443 and Sk 285.

B.6.8 Furthermore, the entire bead assemblages from the following inhumations are worthy of photographic illustration:

- Sk 356, the largest assemblage of polychrome glass beads and single occurrence of a melon faience bead
- Sk 634, the largest occurrence of the W1 dominant polychrome glass pattern type and presence of a scarce crystal bead and 2 gadrooned beads
- Sk 691, a substantial amber bead assemblage
- Sk 1326, an exceptional assemblage of 390 beads, including the only occurrence of faience cylinder beads, a rare crystal bead as well as beads of amber and glass. Also contains a significant amount of miniature “seed” beads providing possible evidence of a beaded textile rather than an item of jewellery.

B.6.9 It would be useful to compare the number of beads to the sex and age of the skeletons to highlight any distinct patterns. For example, quantities and types of beads may have milestones in an individual’s life and reflected their social status. It would also be worth bearing in mind J.W. Huggett’s (1988) suggestion that individuals buried with remarkably larger quantities of amber beads may have influenced or controlled access to amber in their community.

B.6.10 In addition, there is a requirement to compare the positions of bead assemblages to the other grave goods within the burial to better understand how each bead assemblage was originally worn e.g. strung across two brooches or worn as necklaces and chatelaines.

B.6.11 Characterisation of the assemblages into Brugmann’s/Guido's bead groups would therefore be an essential step in constructing an internal sequence for the cemetery and relating this to an absolute chronology.

B.7 Glass Claw Beaker

By Denis Sami and Toby Martin

Introduction

B.7.1 A fragmented, near-complete glass claw-beaker (SF461) was recovered from grave **1228**, fill 1230, Sk 1229, a mature possible female. The beaker is fragmented into 66 pieces, of which the foot and ten claws are complete. As a result of the fragmentary nature the height of the vessel cannot be currently established. The beaker is in a clear brown glass, with ten surviving claws, indicating it is an Evison type 3C form dating to the 6th century (Evison 1982, 48). The glass is of a very high quality and the beaker is finely modelled without any distortion of the main body. It does not show the residual loop on top of the claws documented in several cases – a feature that is thought to derive from the dolphin's head beakers of Late Roman tradition (Evison 1982, 48). Very similar vessels are documented at Cambridge (Evison 1982, 67-68), Fairford (Gloucestershire) (Ashmolean Museum 3.1970), Great Chesterford (Essex) (Evison 1982, 67) and Snape (Suffolk) (Filmer-Sanky and Pestell 2001, 19).

Discussion

B.7.2 Glass claw-beakers were expensive and exclusive drinking vessels. Examples are often found in high-ranking burials such as at Snape, Sutton Hoo and Mucking, (Evison 1982). The vessel's discovery in Hatherdene Close, may indicate the presence of a well-connected local elite group who had access to high class items.

Recommendations

B.7.3 A full specialist report is required, together with a note for publication.

B.7.4 In order to fully understand the historical potential of this drinking vessel, it is paramount to contextualise the item within the finds assemblage of grave **1228** and the entire cemetery. It will also require consideration in relation to other examples from comparative sites.

B.7.5 Due to its fragmentation, full reconstruction and illustration is not recommended within this project.

Catalogue

Claw Beaker, SF 461, Grave **1228**, 1230, SK1229, near-complete, fragmented brown glass claw beaker. The glass is clear with fine bubbles within the fabric and of a uniform brown colour. It originally consisted of ten over-trail and notched, expanded lobes (claws) arranged into two rows of five. The rim and the upper body is decorated with a sequence of 33 horizontal rings, while the foot and lower part of the body is adorned with 17 rings. (Evison Type 3C, 6th century AD) (Evison 1982: 48-49. Rim diameter 50.3mm, foot diameter 42.5mm, weight 269.9g.

B.8 Late Iron Age and Roman Pottery

By Alice Lyons

Introduction

B.8.1 A total of total of 2,014 sherds, weighing 21,681g (19.18 EVE) of Late Iron Age, Early Roman and Romano-British pottery was recovered from the site. Most of the pottery was found in contemporary deposits, however, small amounts of pottery were intrusive in earlier deposits, or residual in later ones (Table 54).

Feature Period	Sherd Count	Weight (g)	EVE	Weight (%)
0 Undated	13	60	0.00	0.27
1.2 1st Century BC	2	72	0.00	0.33
2.1 1st Century AD	480	3954	3.08	18.05
2.2 Early RB	513	4492	3.52	20.52
2.3 RB	642	9371	8.23	42.80
2.4 Late RB	252	3456	4.35	15.79
3.1 Early Saxon	65	276	0.00	1.26
3.2 Middle Saxon	43	174	10	0.79
10 Modern	4	39	0	0.18
Total	**1967**	**21681**	**19.18**	**100.00**

Table 54: The Late Iron Age and Roman pottery assemblage by feature period

B.8.2 A minimum of 351 individual vessels were recorded many of which are fragmentary and found within Late Iron Age and Early Roman ditches and pits. However, this assemblage also includes later Roman funerary pottery including a number of complete accessory vessels (Table 55). In addition, two pottery kilns were also found, one of which contained a small pottery assemblage.

Feature	Sherd Count	Weight (g)	EVE	Weight (%)
Grave: cremation	446	8326	12.36	38.02
Ditch	792	6272	2.49	28.65
Pit	515	4189	3.86	19.13
Kiln (including demolition)	97	2064	0.07	9.43
Grave: inhumation	122	479	0.50	2.19
Well	3	282	0.00	1.29
Wheel ruts/plough scar/furrow	13	140	0.00	0.64
Solution hollow	9	56	0.00	0.26
Gully	8	28	0.00	0.13
Barrow wall	3	22	0.00	0.10
Pot	2	17	0.00	0.08
Buried soil/layer	2	11	0.00	0.06
Post hole	2	8	0.00	0.04
Total	**2014**	**21894**	**19.28**	**100.00**

Table 55: The Late Iron Age and Roman pottery from features

Methodology

B.8.3 The Roman pottery was analysed following the guidelines of the Study Group for Roman Pottery (Barclay *et al* 2016, 14-18). The fabrics and forms used within this report reference those published by the national fabric series (Tomber and Dore 1998), also Tyers (2006). The total assemblage was studied and a full catalogue was prepared (see archive). Where necessary sherds were examined using a hand lens (x10 magnification) and all were divided into fabric groups defined on the basis of inclusion types present. Vessel forms (jar, bowl) were recorded and vessel types cross-referenced and compared to other examples. The sherds were counted and weighed to the nearest whole gramme and recorded by context. Decoration, residues and abrasion were also noted.

Acknowledgements

B.8.4 Thanks to Stephen Wadeson (OA East) for identifying the stamped samian.

The Pottery

B.8.5 Within the assemblage, ten broad fabric families have been identified (Table 56).

Coarse wares

B.8.6 The earliest pottery within the assemblage comprises a small number of Late Iron Age hand- and wheel-made grey ware vessels, manufactured with the common addition of grog (1% of the assemblage by weight) (Lyons 2009). This fabric was used to produce a limited range of jar, bowl and storage jar vessels, which were occasionally decorated with fine combed lines.

B.8.7 The majority of the assemblage comprises reduced Sandy grey ware vessels (58% by weight), most of which are locally produced utilitarian jars found in a limited range of forms. Wide mouthed jars are common, often decorated either with a neck cordon (type 5.3) or a girth groove (type 5.4). Found in smaller quantities are narrow mouthed (type 2.1 and 2.2), as well as medium mouthed globular jars with rolled (type 4.5), or everted (type 4.13) rims, occasionally decorated with fine combed lines. Carinated bowls (type 6.3) and straight-sided dishes (type 6.18), frequently burnished, are also recorded. Single examples of a perforated vessel or sieve (type 9.1) and a lid (type 8.1) were also found. Although most of the SGW assemblage cannot be assigned to source, its fabric is typical of local production (Lyons 2012b) and it is likely some at least was produced on site (or close by) as eight pottery kilns have been so far been discovered in the vicinity (Lyons forthcoming A).

B.8.8 A small number of grey ware vessels, primarily those associated with the Period 2.3-2.4 cremations, are typical in fabric and form of Horningsea production an industry located only 6km to the north (Evans 1991).

B.8.9 Reduced Shelly wares were also found but in much smaller quantities than the sand tempered vessels as they only represent 0.6% of the assemblage by weight. This fabric is found in a limited range of jar/bowl globular jars (type 4.5), sometimes decorated with fine horizontal lines (rilled). The minor role of Shelly wares in early Roman deposits in Cherry Hinton has previously been noted (Lyons 2012a).

B.8.10 Oxidised coarse wares were found in a range of bowls (type 6.15) and jars (types 4.4, 4.5, 4.8), together with undiagnostic storage jars. Associated with Cremation 231, however, are three miniature cupped rim white ware flagons (type 1.9), all with a single handle and tempered with a fine red grog. Another oxidised fabric is Sandy red ware, found in much smaller quantities than SOW and possibly a mis-firing version of that fabric. This was also found in the form of undiagnostic flagons and a globular jar (type 4.5).

Fine wares

B.8.11 The earliest fine wares recorded within this assemblage are a small number of soapy grey wares found in the form of undiagnostic beaker and jar/bowl sherds and represent 0.5% of the assemblage by weight. This early Roman material was manufactured at a number of regional pottery centres between the Flavian period and the mid-2nd century AD.

B.8.12 Other finewares recovered during this excavation include samian, Nene Valley colour coat and Trier black slipped ware are all Middle to Late Roman in date and primarily associated with the funerary deposits within this assemblage.

B.8.13 Nene Valley colour coat is the most common fine ware within this assemblage (c. 7% by weight). NVCC is particularly well represented as several miniature beakers were used as accessory vessels in the Middle to Late Roman cremation burials. Indeed, four well-

preserved examples (all different) were placed in one cremation (M261: detailed below). In total 16 complete and fragmentary vessels were recovered which include a miniature plain rimmed beaker (type 3.1), a miniature slit and indented folded beaker (type 3.2), several miniature pentice-mouded beakers (type 3.4), and miniature bag-shaped beakers (type 3.7). Particularly worthy of note is a vessel that is yet to be paralleled in the published literature, which is a miniature square folded beaker with a slightly cupped rim (type 3.5), its fabric and form suggest it is an atypical Nene valley product from the late 3rd century (Stephen Upex pers. comm.) The closest parallels found to this vessel are manufactured in glass.

B.8.14 Samian was scarce within the non-funerary assemblage, and comprises only the fragmentary remains of a south Gaulish decorated bowl (Dr37) and a plain ware dish (Dr18). Several complete central Gaulish (Lezoux) vessels were used as accessory vessels with the Period 2.3-2.4 cremations. These include three platters (two Walters 79 and a Walter 79r) and a cup (Dr 33). The three Walters platters are stamped by their makers and are all different potters, and two of the stamps are legible which has allowed them to be closely dated to between AD 170-200 (see catalogue below for stamp details).

B.8.15 Another class of imported fine ware vessels are the Trier Black slipped miniature beakers that were recovered almost exclusively from funerary deposits. Two miniature beakers were recovered as accessory vessels within Grave 478 (type. 3.3 & 3.8), while another was found as an accessory vessel (type 3.3) within Cremation 945 (SF 350). A fourth vessel (type 3.6) was found in pit **943**, possibly disturbed from Cremation 945. These vessels were imported into Britain between the late 2nd and mid-3rd century AD.

B.8.16 It should be noted that none of the pottery assemblage was attributed to the fine ware kilns known to have been in production nearby (Evans 1990). These were in use during the early Roman era and the majority of finewares found during this project were associated with later Roman deposits.

Specialist wares

B.8.17 A single body sherd fragment from a Spanish globular olive oil amphora was recovered.

Fabric	Reference	Vessel Forms	Sherd Count	Weight (g)	EVE	Weight (%)
Sandy grey ware: SGW, SRW, SCW		Dish (type 6.3, 6.18), jar (type 2.1, 2.2, 4.5, 4.17, 5.3, 5.4), storage jar, sieve, lid (type 8.1)	1156	12707	5.11	58.04
Sandy oxidised ware: SOW, OW, WW		Flagon (type 1.9), beaker, bowl (type 6.15), jar (type 4.4, 4.5, 4.8), storage jar	544	5216	4.34	23.82
Nene Valley colour coat: NVCC	Tomber and Dore 1998, 118; Tyers 1996, 173-175	Beaker (type 3.1, 3.2, 3.4, 3.5, 3.7), flagon/jug, jar	163	1613	4.66	7.37
Samian: SAM	Webster 1996, 13-14	Bowl (Dr37), Cup (Dr33), Dish (Walters 79(r)), platter (Dr18)	31	1608	2.79	7.34
Grey ware with common grog inclusions: GW(GROG)		Bowl, jar, storage jar	23	220	0.00	1.00
Trier black slipped ware: TRIER BSW	Tyers 1996, 138-139	Beaker, (type 3.3, 3.6, 3.8)	21	157	2.19	0.72
Shelly ware: STW		Bowl, jar (type 4.5)	24	129	0.10	0.62
Grey ware: GW, GW(FINE)	Tyers 1996, 170-171	Beaker, jar/bowl	33	122	0.00	0.53
Sandy red ware: SREDW		Flagon, jar (type 4.5)	18	77	0.09	0.35
Spanish Amphora: BAT AM	Tyers 1996, 87-89	Amphora (DR20)	1	45	0.00	0.21
Total			**2014**	**21894**	**19.28**	**100.00**

Table 56: The Roman pottery fabrics

Type Series

B.8.18 Flagon
1.9. Cupped-rim flagon, plain rim (Perrin 1996, 159)

B.8.19 Narrow mouthed jar
2.1. Narrow-mouthed jar with rolled everted rim, rounded body and various cordons, with decoration on the neck, body and base of the vessel (Perrin 1996, 132; 222; 416)

B.8.20 Beaker
3.1. Miniature plain rimmed beaker (Perrin 1999, fig. 60, 116; Howe et al 1980, fig 5, no 45).
3.2. Miniature slit and indented funnel necked beaker (Howe et al. 1980. fig 5, no 52).
3.3. Miniature slit-folded beaker (Tyers 1996, fig 149, no 5. Howe et al 1980, fig. 5, no 53).
3.4. Miniature pentice-moulded beaker (Howe et al 1980, fig. 5, 54-57. Perrin 1999, fig. 5 (Chesterton kilns)).
3.5. Miniature square folded beaker, with a slightly folded rim. No ceramic parallel found. Similar to glass example: https://medusa-art.com/roman-blown-glass-beaker.html
3.6. Miniature funnel necked plain globular beaker (Tyers 1996. Fig. 149, no 1)
3.7. Bag-shaped beakers with cornice rims (Perrin 1996, 233; Perrin 1999, 115-150)
3.8. Undiagnostic folded beaker (Perrin 1999, 160-164).
3.9. Butt beaker (Stead and Rigby 1986, 339).

B.8.21 Medium mouthed jar
4.4. Jar with short angular neck, lid-seated or flattened rim (Perrin 1996, 387)
4.5. Medium-mouthed jar, short neck, rolled and generally undercut rim and globular body (Perrin 1999, 36)
4.8. Medium-mouthed jar, everted rim that is hollowed or with projection underneath (bifid), globular body (Perrin 1996, 592; 583)
4.13. Medium-mouthed jar, rounded body and simple everted rim (Perrin 1999, 47-48)
4.17. Classic Horningsea-type storage jar with an out-sized, out-turned rim (Evans 1991, fig. 2, nos 1-9; Perrin 1996, Fig. 68, nos 383–85)

B.8.22 Wide mouthed jar
5.3: rounded jar with a reverse 'S' profile and a cordon on the neck (Perrin 1999, 46).
5.4: rounded jar, reverse 'S' profile, one or two grooves mid body (Perrin 1999, 52).

B.8.23 Dish/Bowl
6.3: Carinated bowl with a flattish out-turned rim.
6.15: Flanged rim bowl with curving sides, out-turned rim and foot-ring base (Perrin 1999, 244).
6.18: Dish, straight-sided, flat-based, thickened everted 'triangular' rim (Perrin 1996, 417; 426; 449; 453; 455. Perrin 1999, 253-254).

B.8.24 Lid
8.1. Lid - standard type to fit cooking/storage pot, in-turned or out-turned, can have terminal grip (Perrin 1996, 57; 58; 59)

B.8.25 Sieve
9.1: Dish/bowl with pre-fired holes in the base (Perrin 1999, 423)

B.8.26 Samian (Tyers 1996, 105-116)
Dr18r. Dish
Dr33. Cup
Dr 37. Deep bowl
Walters 79 & 79r. Platter

B.8.27 Amphora (Tyers 1996, 88-105)
DR20: large globular form (principally olive oil containers) with two handles and thickened, rounded or angular rim, concave internally. Manufactured in Baetica in southern Spain.

Pottery from Features

Period 2.2 – The Kilns

Kiln **581**. Pot date: Mid to late 1st century AD

B.8.28 A total of 93 sherds, weighing 2038g of early Roman pottery was found in deposits associated with kiln 581.

B.8.29 Of this material, 39 sherds (weighing 442g) were recovered from potential 'use' deposits. However, this pottery consists entirely of SGW jar/bowl fragments with an average sherd weight of only 11g and are therefore unlikely to be products of the kiln – rather re-deposited abraded material.

B.8.30 The remainder of the assemblage consists of pottery recovered from demolition deposits, also comprises grey ware jar/bowl and storage jar (type 2.1) fragments, as well as a SOW flagon fragment. This material is in much better condition with an average sherd weight of 29.5g. No wasters were recovered. In addition, this material shows signs of use (one fragment has a large post-firing hole in its vessel wall). As a result, it cannot be proven that any of this pottery was produced within the kiln.

Kiln **721**. Pot Date: Mid to Late 1st century AD

B.8.31 Only four pottery sherds, weighing 26g, were recovered from a single deposit (722). The pottery comprised GW(GROG) and SGW jar/bowl pieces. This material is severely abraded with an average sherd weight of only 6.5g, suggesting it is re-deposited and not a product of the kiln.

Pottery associated with funerary deposits

The Inhumations

B.8.32 A total of 121 sherds, weighing 461g and representing 2% of the total assemblage by weight were recovered from inhumation burials of Roman and Anglo-Saxon date (Table 57). This pottery is generally fragmentary and severely abraded, with an average sherd weight of c. 4g, consistent with its residuality within Early Saxon grave fills. Only one grave contained a large assemblage of pottery (**478**: described below).

Grave	Period	Fabric and Form	Sherd Count	Weight (g)
200	3.1	SGW	1	5
204	3.1	SRW	1	3
208	3.1	SGW	1	4
240	3.1	SGW	2	6
258	3.1	SGW	2	18
273	3.1	SOW	2	4
281	3.1	SOW	1	17
299	3.1	SGW	1	4
421	3.1	SGW	2	20
456	3.1	SGW	21	16
467	3.1	SGW, SOW	3	16
478	2.3	NVCC (type 3.4, 3.7), TRIER BSW (type 3.3, 3.8), SGW, SOW	40	165
504	3.1	SGW, SOW	2	4
739	3.1	SGW, SOW	6	13
855	3.1	SGW, SOW	4	29
963	3.1	SGW	1	1
998	3.1	SGW, SREDW	2	3
1032	3.1	SGW, SOW	5	14
1050	3.1	SGW	2	4
1097	3.1	SGW, SOW	2	4
1126	3.1	SGW, SOW	3	26
1150	3.1	SGW (type 5.3)	12	74
1163	3.1	SGW	1	4
1177	3.1	SOW	2	4
1180	3.1	SGW	2	3
Total			**121**	**461**

Table 57: The Roman pottery from inhumation burials

Period 2.3 Grave 478. Pot date late 3rd century AD

B.8.33 Grave **478** contained three deposits (479, 480, 693) from which 40 sherds, weighing 165g (2.19EVE) were recovered. This pottery consists of the fragmentary remains of (at least) three fine ware beakers, and other coarseware vessels, similar in character to the

vessels associated with the cremations (listed below). The disturbed and fragmented nature of the pottery, with an average sherd weight of only 7.5g, may indicate that this inhumation had disturbed a late 3rd century AD cremation, although post-depositional disturbance could also account for its poor survival.

Catalogue (not recommended for illustration).

B.8.34 Vessels 478.1 & 478.2– possibly the same beaker
478. 1. NVCC. Beaker, undecorated and rouletted body sherds (6 sherds, 13g). (693), **478**.
478. 2. NVCC. Bag-shaped beaker (type 3.7), rim, undecorated body sherds and base (11 sherds, 25g. 6 cm diameter, 0.16 EVE). (479), **478**.

B.8.35 Vessels 478.3 & 478.4 – possibly the same beaker
478. 3. TRIER BSW. Beaker, Funnel neck, possibly indented. (5 sherds, 10g. 5 cm diameter, 0.24 EVE). (479), **478**.
478. 4. TRIER BSW. Beaker, indented body sherd. (1 piece, 1g). (693), **478**

B.8.36 Vessels 478.5 & 478.6 – possibly the same beaker
478.5. NVCC. Pentice-moulded beaker; rim, undecorated and decorated body sherds. (5 sherds, 22g. 10cm diameter, 0.10 EVE). (480), **478**.
478.6. NVCC. Pentice-moulded beaker; rim, rouletted body sherds. (8 pieces, 79g). (479), **478**.
478.7. SGW. Jar/bowl. Undecorated body sherds (2 pieces, 7g). (479), **478**.
478.8. SOW. Beaker. Rouletted body sherd. (1 piece, 1g). (480), **478**.
478.9. SGW – Horningsea ware type. Storage jar. (1 sherd, 7g). (693), **478**.

The Cremations

B.8.37 A total of 446 sherds, weighing 8326g and representing 38% of the total assemblage by weight were recovered as cinerary urns and accessory vessels within seven cremation burials (Table 58). The pottery within these features has generally survived well with many complete, or near complete, vessels with an average sherd weight of 19g. These vessels are catalogued by cremation group below.

Cremation	Fabric and Form	Sherd Count	Weight (g)
229	NVCC, SGW	21	132
231	SAM (Walters 79, Walters 79r), SGW (type 5.4), SOW (type 1.9)	60	3556
261	NVCC (type 3.1, 3.2, 3.4), SGW(type 4.17)	128	2900
500	NVCC, SGW, SOW	58	359
534	SOW (type 4.8)	81	730
772	NVCC, SGW	92	412
945	NVCC (type 3.5), SAM (Dr33), SGW, TRIER BSW (type 3.3)	6	237
Total		**446**	**8326**

Table 58: The Roman pottery from cremations

B.8.38 The cremation burials found during this project are an adaptation of a Late Iron Age rite which introduced accompanied cremation burial throughout south-east Britain in the Late Iron Age and Early Roman eras. This practice continued to be used for some time after the Roman conquest (Cunliffe 2005, 559).

B.8.39 The seven cremation burials are all slightly different, however, the human remains were all neatly contained within a cinerary container suggesting the ashes had been transported to the site from the pyre. The earliest burial used a wooden box for this purpose (**945**), five used ceramic urns (**231**, **500**, **534**, **261**, **772**) and one burial (**229**) was too badly preserved to ascertain whether a cinerary urn was used. Only one cinerary container was unaccompanied by additional vessels (**534**). The remainder had up to six accessory vessels (Table 54). Cremation **231** was the richest – or best

appointed – with the cinerary urn accompanied by six other vessels comprising three miniature SOW flagons (SF 39, 40, 41) and three SAM (CG) dishes (SF 42, 43 and 44).

B.8.40 Within this assemblage the accessory vessels consist of various vessel combinations of samian platters, a samian cup, miniature white ware flagons and miniature fine ware beakers (from both Nene Valley and Trier factories). All of the cremation groups with accessory vessels contain either beakers or cups, sometimes including flagons associated with the consumption of wine – it has previously been suggested that this combination of vessels may have been used for a libation ritual during the burial ceremony (Lyons forthcoming B). Another ritual behaviour can be seen where several of the vessel have been deliberately damaged by 'rim clipping' (**945**; SF 349, 350); this destructive act was common in the Roman funerary ritual and serves the purpose of providing a 'dead pot for a dead person', perhaps also with the more prosaic result that it makes these pots useless for re-use and there less likely to be exhumed by grave robbers. Although some of the pottery selected as accessory vessels has been used and is slightly worn, several are in pristine condition and may have been deliberately curated for funerary use.

B.8.41 The cremations found here are relatively late in the known chronology of cremation burial within the region, as the practice had generally fallen from common-place use by the mid-2nd century AD. Certain pockets of cremators such as here and at Rectory Farm, Godmanchester (Lyons forthcoming B), continued to bury their dead in this way well into the 3rd and even 4th centuries AD. This may indicate that Christianity (which encouraged inhumation) was not adopted in these areas, although other cultural influences (such as tribal or family traditions) may also have taken precedence.

Phase	Cremation	Cinerary Urn	Accessory vessels					
			1	2	3	4	5	6
2.2 (C1-2)	**945**	Wooden box	SF. 345. SAM SG. Cup Dr33	SF. 349. NVCC. Miniature beaker (type 3.5)	SF. 350. TRIER BSW. Miniature beaker (type 3.3).	Vessel 945. 1. SGW. Jar/bowl		
2.3 (C2-3)	**229**		Vessel 229. 1. SGW. Jar	Vessel 229. 2. SGW. Jar	Vessel 229. 3. NVCC. Beaker			
2.3 (C2-3)	**231**	SF. 77. SGW, Horning-sea type. Wide mouthed jar (type 5.4)	SF. 39. SOW. Miniature flagon (type 1.9).	SF. 40 SOW. Miniature flagon (type 1.9	SF 41. SOW. Miniature flagon (type 1.9	SF. 42. SAM (CG), Lezoux. Dish (Walters 79).	SF. 43. SAM (CG), Lezoux. Dish (Walters 79r).	SF. 44. SAM (CG), Lezoux. Dish (Walters 79).
2.3 (C2-3)	**500**	SF. 218. SGW, Horning-sea type. Jar	Vessel SF 219. SGW. Jar	Vessel 500.1. SGW. Jar,	Vessel 500.2. SOW. Flagon	Vessel 500.3. SF214. NVCC. Beaker		
2.3 (C2-3)	**534**	SF. 229. SOW. Bi-fid jar (type 4.8).						
2.4 (C3-4)	**261**	SF. 97. SGW, Horning-sea type. Storage jar (type 4.17)	SF. 99. NVCC. Miniature beaker (type 3.2).	SF. 100. NVCC. Miniature beaker (type 3.4).	SF. 101. NVCC. Miniature beaker (type 3.1).	SF. 102. NVCC. Miniature beaker (type 3.4).		
2.4 (C3-4)	**772**	772. 1. SGW, Horning-sea type. Jar	772. 2. NVCC. Flagon or jug					

Table 59: The Roman cremation pottery assemblages, listed by period

Period 2.3 Boxed Cremation 945. Pot date: Late 2nd century AD

B.8.42 The human bone in Cremation **945** was probably originally interred within a wooden box of which the hinges and latch survive. This cinerary casket was accompanied by a second taller box which contained the samian cup (SF 345) and Sandy grey ware jar/bowl (Vessel 945.1). The two miniature beakers (SF 349 and SF 350) were positioned between these two boxes.

Catalogue (not recommended for illustration).

B.8.43 Vessel 945. 1. SGW. Jar/bowl, body sherd only. [1 sherd, 4g]. (946), **945**.

Illustration catalogue

B.8.44 Accessory Vessels
SF. 345. SAM SG. Cup Dr33. [1 sherd, 16g]. (958), **945**.
SF. 349. NVCC. Miniature square folded beaker, with a cupped rim (type 3.5). The rim has a 'V'-shaped nick taken from it. (Almost complete. 147g. 6cm diameter, 0.85 EVE). (958), **945**.
SF. 350. TRIER BSW. Miniature slit-folded beaker (type 3.3). The rim has a 'V'-shaped nick taken from it. (3 sherds, 147g. 4cm diameter, 0.95 EVE). (958), **945**.

Period 2.3. Cremation 229. Pot date: Late 2nd century AD

B.8.45 The fragmentary remains of three vessels were recovered from a single deposit within shallow cut [229] (Sample 47), comprising the bottom part of two grey ware jars and a single colour coated beaker fragment. This burial has suffered severe plough damage.

Catalogue (not recommended for illustration)

B.8.46 Vessel 229. 1. SGW. Jar, lower part only. [7 pieces, 111g]. (230), **229**.

B.8.47 Vessel 229. 2. SGW. Jar, lower part only. [13 fragments, 20g]. (230), **229**.

B.8.48 Vessel 229. 3. NVCC. Beaker. Rouletted fragment. [1 piece, 1g]. (230), **229**.3

Period 2.3. Cremation 231. Pot date AD170-190

Illustration catalogue

B.8.49 Cinerary Urn
SF. 77. SGW, of Horningsea type. Wide mouthed jar (type 5.4), top half of vessel black slipped. [36 pieces, 1170g, 24cm diameter. 0.64 EVE]. (232), **231**.

B.8.50 Accessory Vessels
SF. 39. SOW, with fine red grog. Miniature cupped rim flagon, with a single handle (type 1.9). [6 fragments, 358g, 4cm rim diameter. 1.00 EVE]. (232), **231**.
SF. 40. SOW, with fine red grog. Miniature cupped rim flagon, with a single handle (type 1.9). [perfect condition - complete, 358g, 3cm rim diameter. 1.00 EVE]. (232), **231**.
SF. 41. SOW, with fine red grog. Miniature cupped rim flagon, with a single handle. Rather wobbly line incised in base (type 1.9). [complete, 268g, 3cm rim diameter. 1.00 EVE]. (232), **231**.
SF. 42. SAM (CG), Lezoux. Dish (Walters 79). Worn. Stamped: SIICVNDINIM: Secundinus vi, Die 3a. (Ref. NoTS, Vol 6 pp209-211). Rim deliberately clipped. [8 pieces, 393g, 18cm diameter. 0.95 EVE]. (232), **231**. AD 170-190.
SF. 43. SAM (CG), Lezoux. Dish (Walters 79r). Worn. Stamped: NAMILIANI: Namilianus, Die 3b. (Ref. NoTS, Vol 8 pp153-54). [6 pieces, 559g, 24cm diameter, 0.85 EVE]. (232), **231**. AD170-200.
SF. 44. SAM (CG), Lezoux. Dish (Walters 79). Worn. Stamped: [ ]FE: ILLEGIBLE STAMP. [2 pieces, 560g, 24cm diameter. 0.75 EVE]. (232), **231**. AD 170-190.

Period 2.3. Cremation 500. Pot date mid-2nd to 3rd century AD.

Catalogue (not recommended for illustration).

B.8.51 Cinerary Urn
SF218. SGW, of Horningsea type. Jar, lower part only. [45 pieces, 262g]. (501), **500**.

B.8.52 Accessory Vessels
SF 219. SGW. Jar, body sherd only. [1 piece, 1g]. (501), **500**. Sample 103.
Vessel 500.1. SGW. Jar, body sherds only. [5 sherds, 21g]. (501), **500**. Sample 104.
Vessel 500.2. SOW. Flagon, body sherds only. [1 piece, 1g]. (501), **500**. Sample 104.
Vessel 500.3. SF214. NVCC. Beaker, body sherds only. [6 sherds, 74g]. (501), **500**. Sample 103.

Period 2.3. Cremation 534. Pot date 2nd to 3rd century AD

B.8.53 Cinerary Urn
SF. 229. SOW, orange fabric covered in a white slip. Bi-fid jar (type 4.8). [81 sherds, 730g. 16cm diameter, 0.52 EVE]. (535), **534**.

Period 2.4. Cremation 261. Pot date early 4th century AD

Illustration catalogue

B.8.54 Cinerary Urn
SF. 97. SGW, of Horningsea type. Storage jar (type 4.17), top half of vessel black slipped. [111 pieces, 2131g. 22cm diameter, 0.30EVE]. (262), **261**.

B.8.55 Accessory Vessels
SF. 99. NVCC. Miniature slit and indent funnel necked beaker (type 3.2). [13 sherds, 257g. 8cm diameter, 1.00 EVE]. (262), **261**.
SF. 100. NVCC. Miniature pentice-moulded beaker (type 3.4). Worn. [complete – 204g. 7cm diameter, 1.00 EVE]. (262), **261**.
SF. 101. NVCC. Miniature plain rimmed beaker, decorated with parallel incised lines and one rouletted one (type 3.1). [almost complete – 126g. 8cm diameter, 0.75 EVE]. (262), **261**.
SF. 102. NVCC. Miniature pentice-moulded beaker (type 3.4). Worn. [2 sherds, 204g. 6cm diameter, 1.00 EVE]. (262), **261**.

Period 2.4. Cremation 772. Pot date 4th century AD

B.8.56 This burial was accompanied by two sets of hobnails, still retaining their original shape.

Catalogue (not recommended for illustration)

B.8.57 Cinerary Urn
772. 1. SGW, of Horningsea type. Jar, body sherd only [1 piece, 8g]. (773), **772**.

B.8.58 Accessory Vessel
772. 2. NVCC. Flagon or jug (rim missing). [91 sherds, 404g]. (773), **772**.

Statement of Potential

B.8.59 This is a well excavated, recorded and stratified group of late Iron Age, early Roman and Romano-British pottery. The area of Cherry Hinton is located in a rich archaeological landscape (Evans *et al* 2008) notably including an Iron Age hillfort (Pickstone and Mortimer 2012) and a growing corpus of pottery kilns (Evans 1990; Lyons 2012).

B.8.60 This assemblage, when fully analysed and researched will make a valuable contribution the growing corpus of data with the potential to significantly contribute to the regional research agenda on both pottery production (the kilns) and Roman funerary behaviour (the cremation burials).

Further Work

B.8.61 It is recommended that this assemblage should be published within a regional journal, with a focus on the funerary assemblages. Further research could be undertaken on the cremation assemblages (fabric and form) and the combination of vessels chosen. It will also be interesting to relate the archaeological, ceramic and cremated human bone datasets to see how the method of burial and the sex and ages of the dead relate to the choices of ceramic accessory vessel made. This data should be firmly placed within its regional context so that the potential of the assemblage to contribute to understanding of Roman funerary behaviours fully realised. (5 days).

B.8.62 Selected funerary pottery should be also fully illustrated and presented with archaeological and other associated artefacts.

B.9 Anglo-Saxon Pottery

By Paul Blinkhorn

Period 3.1 Sherds from Graves and Accessory Vessels

B.9.1 A series of complete vessels or large sherds were placed as grave-goods in Anglo-Saxon inhumation burials. They are all of early/middle Anglo-Saxon (5th – 7th century) date, other than a fragment of what may be a Bronze Age accessory cup. This appears to have been deliberately placed in the grave rather than being a residual sherd in the back-fill. Its exact date will be determined during the analytical stage.

B.9.2 The following fabric types were noted:

- **F10**: Quartz. Moderate to dense sub-angular quartz up to 1mm, most 0.5mm or less. Some vessels have a "wet-hand" finish on both surfaces which masks the inclusions.
- **F11**: Granite. Sparse to moderate granite fragments up to 2mm, many free quartz grains.
- **F12**: Quartz and Sandstone. Sub-angular quartz up to 1mm, rare ferruginous sandstone up to 2mm, and rare calcareous material and/or flint up to 4mm.
- **F13**: Fine Shell. Moderate to dense shelly limestone fragments <1mm, rare sub-rounded quartz up to 1mm.
- **F14**: Chaff and Quartz. Sparse to moderate organic voids up to 5mm, moderate sub-round quartz up to 0.5mm, rare sandstone gains and calcareous material
- **F15**: Fine Quartz. Few visible inclusions other than moderate to dense fine quartz <0.1mm.

Form Catalogue

- **SF63**, (Empty Grave **236**): Fabric F14. Fifth century? Large fragment of a small jar with a sharp shoulder carination. Uniform black fabric. Myres (1977, 4) suggested that such forms may date to very early in the Anglo-Saxon period, and that a case could be made for describing them as "sub-Roman", as was the case with a vessel with a very similar shape from Westbere in Kent (*ibid*. Fig. 13 no. 1084). Some are known from the sixth century, however.
- **SF67**, SK 252. Fabric F12, 441g. Early/middle Anglo-Saxon (5th – 7th century). Complete open bowl form, dark grey fabric with browner surfaces. Upper part of interior heavily sooted, some sooting on the outer surface.
- **SF 111**, SK 279. Fabric F12, 31. Early/middle Saxon. Single small sherd.
- **SF112**, SK 282. Fabric F10, 501g. Early/middle Saxon. Near-complete, simple open bowl form with slight damage to rim. "Wet hand" finished surfaces. Dark grey fabric with brown patches on the surface. Inner surface has patches of soot/residue.
- **SF119**, SK 288: Fabric F15, 178g. Early/middle Saxon. Fairly large fragment of a small jar. Soft, dark grey fabric with brown outer surface, light sooting on the outer.
- **SF161**, Sk353. Fabric F11, 960g. Fifth century? Complete jar. Black fabric with browner outer surface. Vessels with this bi-conical and slightly hollow-necked form were regarded by Myres (1077, 3) as being quite early, but he also noted that sixth-century examples are known.
- **SF168**, Sk376: Fabric F12, 365g. Early/middle Saxon. Complete small bowl, uniform dark grey fabric. Sooting patches on both surfaces.
- **SF187**, Sk422: Fabric F12, 343g. Early/middle Saxon. 'Placed sherd'. Large fragment of the base of a fairly large jar. Black fabric with brown outer surface. Interior is fairly heavily sooted with patches of burnt black residue.
- **SF197**, Sk457: Fabric F12, 377g. First half of the sixth century (*ibid*. 44). Largely complete squat jar with horizontal cordons on the neck and combed long bosses on the lower body. Dark grey fabric with variegated dark brown and black outer surface.
- **SF247**, Sk634: Fabric F12, 99g. Early/middle Saxon. Small group of non-joining sherds from a single vessel. Dark grey fabric with light brown outer surface

- **SF292**, Sk705, Fabric F11, 208g. Early/middle Saxon. Large fragment of a small open bowl. Black fabric with browner surfaces, sooting patches on exterior, interior has a sharply defined line of sooting on the rim and upper body.
- **SF357**, Sk972: Fabric F12, 583g. Early/middle Saxon. Highly fragmented, partially complete globular jar. Black fabric with light brown areas on the outer surface. Sooting patches on both surfaces.
- **SF359**, Sk1002: Fabric F12, 336g. Early/middle Saxon. Near-complete, simple open bowl form with slight damage to rim. "Wet hand" finished surfaces. Dark grey fabric with brown patches on the surface.
- **SF363**, Sk1013: Fabric F11, 68g. Early/middle Saxon. Highly fragmented incomplete vessel. Dark grey fabric with dark greyish-brown outer surface and sooting patches.
- **SF439**, Sk1181: Fabric F12, 649g. Sixth century? Complete decorated shouldered jar. Grey fabric with browner surfaces. Decorated with three horizontal rows of stamps separated by cordons, with vertical combed lines running down the body. Myres (1977, 20) suggests that much of the pottery of this type is of sixth century date
- **SF458**, Sk1205: Fabric F12, 390g. Early/middle Saxon. Complete small jar. Black fabric with light brown outer surface. Inner surface evenly sooted above the base.
- **SF468**, Sk1255: Fabric F12, 249g. Sixth century. Near-complete but badly damaged small carinated jar with bosses, incised decoration and stamping. Uniform grey fabric. Much of the top of the vessel has disintegrated, and areas of the upper body are distorted and vitrified, suggesting it was subjected to intense heat at some point in its use-life. The form and decoration of the vessels such as this were seen by Myres (1977, 42) as being largely of sixth century date.
- **SF491**, Sk1261: Fabric F12, 274g. Early/middle Saxon. Single 'placed' sherd from shoulder of a large jar. Grey fabric with brown surfaces, fairly extensive sooting on the outer.
- **SF507**, Sk1296: Fabric F12, 331g. Early/middle Saxon. Partially complete pot. Black fabric with light brown outer surface, light sooting on outer rim and lower base and body. Pot is under-fired and the fabric is somewhat friable.
- **SF515**, Sk1308: Fabric F12, 459g. Early/middle Saxon. Fragment of a very crude 'dog dish'. It is somewhat under-fired and has partially disintegrated, but is no more than c 30% complete and appears to be a 'placed sherd' rather than a whole vessel. Uniform grey fabric with sooting on the outer surface.
- **SF516**, Sk1311: Fabric F13, 230g. Early/middle Saxon. Partially complete small jar. Uniform black fabric. The vessel is very low-fired, and had disintegrated to a degree that it was not possible to reconstruct it, although the surviving rimsherds suggest that about 70% of the vessel is present.
- **SF519**, Sk1314: 214g. Bronze Age accessory cup fragment? The fabric is very similar to F12, with sparse angular flint.
- **SF521**, SK1319: Fabric F12, 554g. Sixth century. Partially complete jar with stamped and incised decoration. Grey fabric with slightly browner surfaces. The stamped pendant triangle decoration and globular form are very typical of the sixth century (ibid. 53).
- **SF523**, Sk1326. Fabric F12, 615g. Fifth century? Complete carinated jar with a sharply-defined waist. Uniform dark grey fabric with very smooth, wet-hand finished outer surface. Similar to SF161, and likely to be of fifth-century date, although such vessels are known from the sixth century.

B.9.3 The vessels are fairly typical of the early/middle Anglo-Saxon pottery tradition in the region. The presence of a possible prehistoric sherd utilised as a grave-good is very unusual. Objects such as prehistoric flint tools are known from Anglo-Saxon graves, such as the axe from Grave 29 at Edix Hill in Cambridgeshire (Malim and Hines 1998, 57), but prehistoric pottery is less common. However, Edix Hill did yield two Anglo-Saxon graves in which large sherds of Iron Age pottery had been deliberately placed in the fill, Grave 40 (ibid. 60) and Grave 108 (ibid. 86). The former was the grave of a teenager, the latter, of an infant. This will be discussed in more detail and more parallels sought at the report stage. The vessels will also be compared with those from other cemeteries in the region.

Pottery from Other Features

B.9.4 The pottery assemblage from non-funerary contexts comprises 32 sherds with a total weight of 399g. The same fabric codes were used for the Early/Middle Saxon wares as for the funerary pottery. The following fabric types were noted:

- **Period 3.1**
  - **F10**: Quartz. 2 sherds, 10g.
  - **F11**: Granite. 1 sherd, 19g.
  - **F12**: Quartz and Sandstone. 3 sherds, 39g.
  - **F14**: Chaff and Quartz. 1 sherd, 2g.
- **Period 3.2**
  - **F95**: Ipswich Ware Group 1 fabric, AD720-850 (Blinkhorn 2012). 3 sherds, 68g.
  - **F96**: Ipswich Ware Group 2 fabric, AD720-850 (ibid.). 7 sherds, 156g.
- **Period 4**
  - **F100**: St Neots Ware type T1(2), AD1000-1150 (Denham 1985). 11 sherds, 86g./

B.9.5 The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 55. Each date should be regarded as a *terminus post quem*. The range of fabrics is typical of sites in the region. All the post-Roman material is in good condition, and appears reliably stratified. It consists of mostly plain bodysherds, other than two Ipswich Ware rimsherds, both from small jars. These are typical of the tradition.

Context	Cut	Feature	Period 3.1								Period 3.2				Period 4		Spot Date
			F10		F11		F12		F14		F95		F96		F100		
			No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
624	619	619											2	25			MSAX
625	619	619					1	24					2	73			MSAX
629	628	628									1	6					MSAX
642	628	628					1	12									E/MSAX
731	723	723							1	2							E/MSAX
853	852	852											3	58			MSAX
857	855	855					1	3									E/MSAX
865	865	305	1	1													E/MSAX
885	852	852									1	31					MSAX
1024	1022	1022									1	31					MSAX
1037	1035	1035			1	19											E/MSAX
1049	1048	719	1	9													E/MSAX
1125	1121	1121													11	86	11thC
Total			**2**	**10**	**1**	**19**	**3**	**39**	**1**	**2**	**3**	**68**	**7**	**156**	**11**	**86**	

Table 60: Anglo-Saxon Pottery from non-funerary Saxon contexts

Statement of Potential

B.9.6 This group of pottery is a useful addition to that from other cemeteries in the Cambridge region.

Recommendation

B.9.7 The pottery has been fully catalogued.

B.9.8 In preparation for publication, the pottery requires discussion in its local and regional context, particularly with regard to pottery from other cemeteries in the region (Time required: 1 day).

B.10 Stone and Ceramic Building Material (Concrete/Mortar/Plaster)

By Simon Timberlake

Introduction

B.10.1 A total of 13.1 kg (20 pieces) of stone and CBM (mortar/plaster) were examined from this excavation. The stone assemblage consisted of broken-up rough walling stone (3.31 kg), faced walling stone (6.2 kg) and architectural stone (1.62 kg), most of which appeared to be Roman in date, though re-used/re-deposited within an Early Anglo-Saxon context. The mortar and plaster (total weight 1.98 kg) consisted of samples of Roman floor mortar/ concrete screed (12.59 kg), coarse screed plaster (0.28 kg) plus a basal layer of un-surfaced *opus signinum* (0.11 kg). Once again, most of these pieces came from an Early Saxon context (the secondary fill of the barrow mound).

Methodology

B.10.2 The stone was looked at using an illuminated x10 magnifying lens. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of carbonate.

Description of stone

B.10.3 The detailed identification and description of these 12 stone pieces (11.13 kg) is provided in Table 61. *Rough walling stone* is stone that can either be identified or else presumed to be from its crude shaping or adherence of mortar to have been used within the foundations or else superstructure of a wall or building. *Faced walling stone* is stone that has been worked and thus shaped and which possesses at least one flat external surface. Commonly this is an unjointed stone which can be cut in any direction (a freestone). *Architectural stone* is a worked building stone which shows evidence of moulded decoration – such as for a column, arch, or a door or window facing.

Context	Small Find no.	Nos. pieces	Weight (kg)	Dimensions (mm)	Geology	Origin	Traces of working	Category	Notes
sub-soil *	160	1	2.51	125x130x120	Upper Carbonif quartzitic sstn	glacial erratic		rough walling	with fossil Stigmaria
263 *	156	1	0.793	125x100x60	Lower Lincs. Limestone: Ketton Stone	Northants		rough walling	oolite
263 *	147	6	2.012	30-170 (largest 170x130x80)	tufa limestone (Pleist/ Holoc?)	local?	cut + squared	faced walling	spring tufa deposit
263 *	153	1	0.916	160x110x70	tufa limestone	local?	mortar	faced walling	
263	159	1	1.934	145x130x95	tufa limestone	local?	squared block + mortar	faced walling	
359 *	171	1	1.338	180x100x90	tufa limestone	local?	poorly cut	faced walling	bone and petrified plant

Context	Small Find no.	Nos. pieces	Weight (kg)	Dimensions (mm)	Geology	Origin	Traces of working	Category	Notes
479	310	1	1.621	150x105x90	Lower Lincs. Limestone: Barnack Stone	Barnack, North Cambs.	rounded vertical fluting	architect stone	door/win moulding (Roman or post-Roman?)
									* = suitable for disposal

Table 61: Catalogue of stone finds

Description of CBM

B.10.4 The detailed description and interpretation of this material is provided in Table 62. All of the Roman concrete/mortar and mortared plaster screed samples looked at may loosely be described as *opus caementicum*, with the exception of one piece from the base of the floor surface preparation that includes crushed tile, and which is commonly referred to as *opus signinum*. In fact all of these samples most likely represent layers of floor make-up; the basal layer consisting of a mortar-type concrete containing flint gravel (aggregate), the middle layer a mortar containing much chalk and a sandy flint grit, with only the top layer containing a mixture of chalk with crushed tile (*opus signinum*). The concentration of crushed tile is usually highest on the surface, imparting a hard finish which can then be sanded down and finished by polishing.

Context	Small Find no.	Nos. pieces	Weight (kg)	Dimensions (mm)	Inclusions	Category	Comments
263 *	151	1	0.061	55x30x30	chalk+flint gravel	floor concrete/ mortar	
263 *	155	3	0.537	70-120	coarse sandy lime with chalk (3-6mm), flint gravel (<25mm) and crushed flint (4-20mm)	floor concrete/ mortar	
263 *	154	1	0.727	130x95x80	ditto	floor concrete/ mortar	
263 *	150	2	0.186	70x60x50	ditto	floor concrete/ mortar	x2 re-fit pieces
263 *	157	1	0.078	60x45x40	ditto	floor concrete/ mortar	
263	152	1	0.146	85x60x50	dominantly chalky inclusions with grit and sand (little flint)	coarse plaster screed	
263 *	149	1	0.131	75x50x30	with fresh flint + angular gravel	coarse plaster screed	
263	145	1	0.11	75x60x40	flat rough surface with small crushed tile frags + v little gravel (10-25mm)	opus signinum	basal layer only
							* = suitable for disposal

Table 62: Catalogue of CBM (concrete/mortar/plaster)

Discussion

B.10.5 Clearly significant within this assemblage is the amount of broken-up Roman building stone and mortared flooring material which has been scavenged for re-use/ re-deposition within a number of the Early Saxon contexts, most of which appear to be associated with a grave barrow mound.

B.10.6 Such material suggests the presence nearby of a relatively high status late Roman building, given the incidence of worked wall facing stone and architectural stone (some of which has been imported from known Roman quarry sources such as Barnack near Stamford and Kettering in Northants.) alongside pieces of mortar and plaster taken from the floor make-up layers within the the room(s) of a Roman villa. The condition of this material suggests that both the walls and floors of this villa, though undoubtedly ruined, would have been extant and exposed at the time for this to have been used as a quarry for mound construction.

B.10.7 The re-use and sometimes curation of Roman stone and other objects is not uncommon at Early Saxon sites. For example, local to Cambridge we see some evidence for the re-use of quern (e.g. Addenbrooke's Water Main (Timberlake 2007 & Evans *et al*. 2008) and Trumpington Meadows (Evans *et al.* 2018 *forthcoming*).

B.10.8 Fragments of worked Barnack Stone have been recovered in recent years from Roman excavations in Cambridge (i.e. North-West Cambridge (Cessford & Evans 2014) and recently from Northstowe), although this stone is much less common from villa sites than the generally ubiquitous Collyweston Slate. Ketton Stone (or similar), though rarer, has recently been identified within a Roman building stone assemblage at Kettle's Yard in Cambridge, and there are also records for its use within earlier Cambridgeshire excavations such as at the Comberton Roman villa (Fox 1923).

B.10.9 Of more local interest perhaps is the evidence for the use of tufa, no doubt a rock formed locally at spring sites on the chalk, or else upon the gravel terraces overlying the chalk. The author has witnessed numerous deposits above the 2nd terrace gravels in and around the city of Cambridge, some such as on excavations within the CB1 development being up to 25 cms thick and formed in lenticular layers. However, this is the first example noted of the (quarried) tufa having been used in blocks of cut and faced building stone (up to 70-90mm thick), the latter's use (and re-use) clearly evident from the adhering mortar to some of the sides. This is probably the first record of the quarrying and use of this as a local building stone within a Roman villa, and as such this may be worthy of a published note.

Further work

B.10.10 Little in the way of further work is required. However, illustration is suggested of the moulded Barnack Stone plus perhaps the best example of the cut and faced tufa (S.F. 147 or S.F. 159) – the latter perhaps on account of its unusual use.

Disposal

B.10.11 Almost all of the stone/CBM assemblage may be disposed of, although it may be prudent to keep a few of the stones such as the worked Barnack (S.F.310) and an example of the tufa (S.F.159), alongside two of the samples of the CBM (including the *opus signinum*)

B.10.12 The erratic quartzite cobble with the Coal Measures Stigmaria (*Lepidodendron*) fossil is of no archaeological importance, yet it is relatively rare to find this within the exotic erratic gravel load.

B.11 Ceramic Building Material (Brick/Tile)

By Ted Levermore

Introduction

B.11.1 The archaeological excavation produced a small assemblage of ceramic building material (CBM); 13 fragments (380g). The assemblage is fragmentary and abraded and ranges in date from Roman to post-medieval.

Methodology

B.11.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gramme. Fabrics were examined using a x20 hand lens and were described by main inclusions present. Width, length and thickness were recorded where possible. Woodforde (1976) and McComish (2015) form the basis of reference material for identification and dating.

B.11.3 The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. A summary of the catalogue can be found in Table 63.

Cut	Context	Feature	Date	Brick/Tile		Tile		Undiagnostic		Total Count	Total W (g)
				Count	W (g)	Count	W (g)	Count	W (g)		
309	310	Furrow	?Roman			2	4			2	4
309	310	Furrow	Med - Post Med					1	12	1	12
309	310	Furrow	Post Med			3	18			3	18
570	571	Furrow	Med - Post Med			1	32			1	32
726	726	Pit	Roman	1	270					1	270
955	957	Grave Back-fill	?Roman			1	39			1	39
1035	1037	Grave Back-fill	Post Med - Modern					4	5	4	5
Totals				**1**	**270**	**7**	**93**	**5**	**17**	**13**	**380**

Table 63: Ceramic Building Material Catalogue Summary

Assessment

B.11.4 This assemblage consists of brick and tile fragments from five contexts. The majority of the CBM assemblage comprised small abraded fragments of tile, with a few undiagnostic fragments.

B.11.5 Furrow **309** produced a range of CBM mostly medieval to post-medieval flat tile and a possible Roman tile. A Roman brick/tile was recovered from Pit **726**. Graves **955** and **1035** had CBM associated with their backfill which is probably residual, either in the backfill in the case of the possible Roman tile but it is most probable that these fragments are associated with the interface between the subsoil and these features.

Statement of Potential

B.11.6 The CBM recovered here is related to the discard of building material and subsequent dispersal through the landscape. It represents little more than background noise within the modern landscape.

Recommendations and Further Work

B.11.1 The assemblage has been fully recorded and described. There are no fragments that require illustration or photography. Other than the Roman material, all fragments should be considered for de-selection.

B.11.2 The Roman fragments should be analysed in conjunction with the fired clay.

B.12 Fired Clay and Kiln Furniture

By Ted Levermore and Alice Lyons

Introduction

B.12.1 Archaeological work produced a relatively large assemblage of fired clay (126 fragments, 3521g). The assemblage comprised both amorphous and structural fragments (18, 112g and 108, 3409g respectively). The structural fragments comprised largely of portable and integral kiln furniture. The assemblage was collected from at least two disturbed kilns and other features that truncated or lay close to these kilns.

B.12.2 Kiln **581** also contained fragments of hewn clunch or chalky stone that were recorded as 'plinths'. These were probably kiln bricks used in supporting the kiln floor.

Methodology and Fabric

B.12.3 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gramme. Fabrics were examined using a x20 hand lens and were described by main inclusions present. Swan (1984) was used as reference for kiln furniture identification and terminology.

B.12.4 The fired clay was attributed to nine fabrics, three of which are subsets of a single fabric group. They consist mostly of a silty or chalky clay matrix with a range of tempers including grit, clay or ironstone pellets. Although the exact source of the clay or inclusions has not been proven for this assemblage these are likely to have been naturally occurring in the local clay. The poor sorting of the inclusions suggests minimal paste preparation, although organic matter (chaff?) may have been added to some of the clay recipes. A single fabric has crushed stone temper, probably intended to bolster the strength of the fired clay objects.

B.12.5 The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. Summaries of the catalogue can be found in Tables 64, 65 and 66.

Assessment and Discussion

B.12.6 Forty-three contexts from across the site produced this assemblage. These are described briefly below.

Amorphous Fragments

B.12.7 Eight contexts produced amorphous fired clay which could be attributed to a fabric group but very little else. As such, they have been tabulated separately (Table 64). Amorphous fragments from contexts with structural material are likely to have originated from the same objects as the latter.

Master Number	Cut	Context	Count	Weight
200	200	202	1	20
478	478	479	2	1
619	619	625	5	8
719	794	763	1	17
723	723	730	1	7
852	852	853	5	30
1041	719	1049	2	19
1081	1081	1082	1	10
		Grand Total	**18**	**112**

Table 64: Amorphous fired clay summary catalogue

Structural Fragments and Kiln Furniture

B.12.8 The majority of the fired clay recovered from the site can be characterised as structural (108 fragments, 3409g). Most of these fragments are diagnostic pieces of portable kiln furniture, including incomplete thin dome plates with characteristic organic impressions, fragments of thicker clay slabs, evidence of perforated plates, hand-squeezed props and spacers and other miscellaneous clay objects. A single fragment of an incomplete rectangular fired clay object, made in the fabric with crushed stone temper, may be the only kiln bar present. These are summarised and described below in Tables 65 and 66.

B.12.9 Kiln **581** appears to have been a late phase Late Iron Age/Early Romano-British pottery kiln. It was circular/hour-glass shaped and had remains of a clay lining applied to a set of integral pedestals/pilaster, that probably supported a raised floor. This raised floor was probably constructed using the clay slabs with supporting clay or stone kiln bricks and a clay or stone central support. Small stone 'plinths' were recorded which appear to be fragments of burnt hewn clunch or chalk; probably used in a stack as a support for the raised clay floor. It would appear that the kiln furniture was found *in situ* but in a very disturbed state. Indeed, the structural fired clay recovered from across the site in features not related to the kiln(s) are related in form and fabric to those diagnostic objects recorded from kiln **581**.

Statement of Potential

B.12.10 The amorphous fragments provide little information beyond indicating the historic presence of kilns, ovens or hearths in the area. However, the evidence of at least one kiln with kiln furniture, possible kiln-like features elsewhere on site, and the abundance of diagnostic clay object identifies this site as the area used for pottery manufacture. This assemblage pertains to pottery manufacture during the later phase of local manufacture before the larger Roman industries developed.

Recommendation

B.12.11 The assemblage has been fully catalogued.

B.12.12 Further work will be required to research it more completely, for the analytical report and publication. Whilst the material is not in prime condition, further details can be ascertained during analysis. The fabric types, forms and kiln structures will need to be researched and compared to other examples in this period and area. It would be interesting to know if it is typical of the period, area or region. Some of the objects will be worth illustration and photography for inclusion in the analytical report.

B.12.13 This assemblage should be reported to the online database of Romano-British kilns.

Master Number	Cut	Context	Feature Type	Structural type	Object Class	Object Form	Count	Weight (g)
268	996	997	ditch	fs	?	?	3	19
	996	997	ditch	fs/hf	Kiln Furniture	?floor slab	1	53
	996	997	ditch	fs/hf	Kiln Furniture	kiln plate	6	56
	996	997	ditch	hf/c	Kiln Furniture	?	1	18
478	478	693	grave	fs	?	?	1	5
529	529	539	ditch	fs	?	(blank)	2	39
	994	995	(blank)	fs	Kiln Furniture	kiln plate	5	13
581	581	654	kiln	fs/c/hf	Kiln Furniture	floor slab	1	534
	581	656	kiln	fs	?	(blank)	3	34
	581	656	kiln	fs	Kiln Furniture	?floor slab	2	96
	581	656	kiln	fs	Kiln Furniture	kiln plates	13	153
	581	656	kiln	fs	Kiln Furniture	misc. plates/frags	5	67
	581	656	kiln	fs/hf	Kiln Furniture	floor slab	4	589
	581	656	kiln	hf	Kiln Furniture	central perforation	1	17
619	619	625	pit	fs/hf	Kiln Furniture	prop/spacer	1	24
	619	625	pit	fs/w	Kiln Furniture	kiln ss?	2	20
719	794	763	ditch	fs	Kiln Furniture	kiln plate	1	12
	794	763	ditch	fs/hf	Kiln Furniture	kiln furniture	2	31
742	742	750	ditch	fs/hf	?Kiln Furniture	kiln bar/slab	1	193
	742	751	ditch	fs/c/hf	?Kiln Furniture	?	2	23
743	743	752	ditch	fs/hf	?Kiln Furniture	?	1	19
744	1210	1212	ditch	fs	Kiln Furniture	?plate/?slab	2	36
765	-	765	Wheel Rut/Plough Scar	fs	Kiln Furniture	kiln plate	7	72
	-	765	Wheel Rut/Plough Scar	hf	Kiln Furniture	?kiln bar	1	27
852	852	885	pit	fs	Kiln Furniture	kiln plate	11	14
880	880	883	pit	fs	?	?	1	8
1018	1008	1009	pit	fs	Kiln Furniture	?	1	27
	1008	1009	pit	fs/hf	Kiln Furniture	?floor slab	1	43
	1018	1019	ditch	fs/hf	Kiln Furniture	?floor slab	1	368
1041	719	1049	ditch	fs	Kiln Furniture	?	3	27
	719	1049	ditch	fs/hf	Kiln Furniture	?floor slab	8	132
	719	1049	ditch	fs/hf	Kiln Furniture	floor slab	1	408
	719	1049	ditch	fs/hf	Kiln Furniture	Kiln bar?	12	197
	719	1049	ditch	fs/hf	Kiln Furniture	object	1	35
						Grand Total	**108**	**3409**
fs=flattened surface, c=corner, hf=hand forming								

Table 65: Structural Fired Clay Summary Catalogue

Context	Object Form	Notes
479	-	unidentifiable abraded fragments
539	-	two fragments with a flattened surface each
625	kiln ss?	fragments with flattened face and wattle/linear impressions opposite
	prop/spacer	small hand formed object with a flattened based and domed upper. Upper face has thumb/finger pressed dips. Overall look of hand squeezed prop or spacer.
654	floor slab	Incomplete probable kiln floor slab. A triangular fragment of fired clay. The apex of the triangle is the original corner of the object. Its upper and lower faces are parallel and joined at one end by a rounded face. Perpendicular to this rounded face is a flatter face. So that in profile this object has parallel sides with an arched end. Kiln floor slab? Pedestal cap? Fragment measurements recorded.
656	?floor slab	Reduced version of the fabric. Probably fragments of a slab or larger object judging by size. Two fragments of a thick clay object with one surviving face each. No complete measurements.
	central perforation	Half fragment of a central perforation, probably from a slab rather than a thinner plate. Approx 20mm diameter.
	floor slab	Incomplete. Fragments of a circular clay object. Parallel faces with a rounded edge circumference. irregular thickness with possible large square impressions. Kiln floor slab? Pedestal cap?
	kiln plates	Fragments of thin kiln plates, at least 1. Linear organic impressions on at least one surface of each.
	misc. plates/frags	fragments of kiln furniture. Mostly fragments of mid thickness plates or flattened objects. Recorded together.
	-	Fragments with flattened surfaces, original object unknown
750	kiln bar/slab	Fragment of a rectangular clay object. Three faces remaining, two parallel and one joining these at right angles. One very smoothed surface the others are irregular. Occasional sub-linear organic impressions. A thumb squeeze print present. More squared than other objects on site and has different temper. Fragment measurements recorded.
751	?	Fragments of a clay object with flattened faces and a reduced core. Similar to other fragments of kiln furniture
752	?	Fragment of a clay object with a flattened, rounded surface. Fabric pastes appears to have quite a bit of organic material in - sub-linear voids etc.
763	kiln furniture	Fragment of kiln furniture - plate or bar.
	kiln plate	fragment of kiln plate
765	?kiln bar	Fragment of a clay object, hand formed into a flattened shape with rounded edge. Suggests it is part of a larger bar or slab
	kiln plate	Fragments of thin clay plates with organic impressions
885	kiln plate	fragments of a thin kiln plate. Abraded.
995	kiln plate	fragments of kiln plate made in the crushed stone tempered clay
997	?	Fragment of a clay object, it is the rounded corner/join between faces of a clay object. Could be part of a slab.
	?floor slab	Fragment of a thick clay object with remains of a flattened surface. Possibly part of a clay slab as seen in other contexts
	kiln plate	Fragments of at least two thin clay plates. Fresh breaks and similarities with other fragments from other contexts.
	kiln plate	Fragments of clay plate, but thicker than the standard thin ones from other contexts.
1009	?floor slab	Fragment of a slab/plate like object. Upper and lower faces part remaining. Suggesting it is a thicker plate, similar to the other slabs found on site. Fragment measurements recorded.
	-	Fragment of a thick clay object, one smoothed face remaining

Context	Object Form	Notes
1019	?floor slab	Fragment of a clay slab, probably kiln floor slab. Three faces particularly remaining, rounded joins but nevertheless quite a square/sub-rectangular object. Very similar in fabric, thickness and colouration to the slab from 1049 - the underside of this one is orange/buff. Could be part for the same object. Fragment measurements recorded.
1049	?	Fragments similar in fabric to slab form same context
	?floor slab	Fragments of a hand formed object with flattened/smoothed and/or rounded surfaces
	floor slab	Probable floor slab fragment. Large flattened hand formed clay object with a flat base/lower face. Possibly part of a large circular or sub-rectangular slab. Upper surfaces are irregular but smoothed, with evidence of hand squeezing and thumb/finger pressing. Thicker towards outer edge. Organic linear impressions on base - from drying process. Has the same appearance, brownish surfaces, buff/orange core and thickness, as clay object from 1019 - fragments of the same object? Fragment measurements recorded.
	Kiln bar?	Fragments of a hand formed object with flattened and/or rounded surfaces. Reduced core. Possible refits suggest an oblong form, kiln bar?
	object	Fragment of a rectangular hand formed object. Edge fragment of a squared object, three faces remaining. Upper and lower faces and adjoining vertical face. Upper face is smoothed and has a lip along the outer edge. Probably the end of a kiln bar or square plate. Three fragments glued back together. Fragments of the same fabric in the same context are probably from the same object. Fragment measurements recorded.
1212	?plate/?slab	Two fragments that join to form remnant slab or plate; thinner than most slabs found but much thicker than the 'plates'. Fresh breaks and similarities with other fragments from other contexts.

Table 66: Fired Clay Object Catalogue Descriptions

B.13 Worked bone

By Denis Sami

B.13.1 The worked bone assemblage comprises five artefacts, including three bone combs (represented by 67 fragments) recovered from three features (pit **723**, grave **963**, pit **1029**), and two pin beaters (represented by 6 fragments) recovered from two features (pits **619** and **852**). Full details appear in Table 67.

B.13.2 Both single- and double-sided combs are present. SF 352 has a larger segment size (32 mm) than SF 366 (14.60 mm). Despite being highly fragmented it is possible to speculate that the double-sided comb SF352 was deposited broken. Remains of only one end tooth segment was identified. Deposited broken combs were possibly part of a funerary practice intended to connect the deceased with the mourners (Williams 2003; 2007).

B.13.3 Double-headed pin beaters were used in textile production. There are two common size ranges from 8-11cm and 13-16cm.

B.13.4 With the exception of combs SF 352 and SF 543, the bone artefacts all come from non-funerary features, currently thought to be of Middle Saxon (broadly 8th century) date. SF 352 is from an Early Saxon grave. SF 543 is from a large pit (**723**), containing Middle Saxon material close to the cemetery.

Statement of Potential

B.13.5 The bone artefact assemblage from Hatherdene Close has the potential to inform aspects such as weaving activity on or near the site as well as (in the case of the three combs) personal grooming and funerary practice.

B.13.6 All of the artefacts can be broadly dated to a period spanning from the late 5th to the 8th century.

Recommendations

B.13.7 The assemblage has been catalogued, but requires the compilation of reports for analysis and publication.

B.13.8 Small Finds 244, 332, 366, 543 should be drawn or photographed, as appropriate.

B.13.9 SF 352 is highly fragmented, however there is scope for a partial reconstruction of one end of the tooth segment that could be considered for future publication.

Small Find	Skeleton	Feature (Context)	Object	Description	Illustration
244	-	**619** (620)	Pin-beater	Complete, fragmented. Long stem with circular section (Diam: 7.72 mm) tapered at the two ends. L: 187.25 mm; Wt: 8.21 g.	Y
332	-	**852** (853)	Pin-beater	Complete, fragmented. Stem with circular section (Diam: 6.03 mm) heavily tapered at the two ends. L: 101.50 mm; Wt: 3.18 g.	Y
352	964	**963**	Comb	Incomplete, fragmented. Double-sided composite riveted comb. Highly fragmented. Part of pierced tooth segment end preserved although fragmented in two. Two iron rivets. Plates do not show any decoration. W: 45.43 mm; Wt: 20.38 g.	N
366	-	**1029** (1025)	Comb	Incomplete. Double-sided tooth comb segment. A rivet hole is partially preserved on one end. Signs of wear on both sides tooth. L: 13.32 mm; W: 40.68 mm; Th: 3.35 mm; Wt: 1.64 g.	Y
543	-	**723** (730)	Comb	Incomplete. Curved back, riveted single-sided comb plate largely from centre and one end of the comb. Three iron rivets fastened the comb. The plate is decorated with an articulate register consisting in a series of vertical lines starting from the end followed by two opposing triangles connected at the top and another series of vertical lines. Further vertical lines are visible near the central fracture. L: 85.80 mm; W: 21.11 mm; Th: 4.03 mm; Wt:6.68 g.	Y

Table 67: Worked bone objects

B.14 Finds' Spatial Data

By Duncan Sayer

Method Statement

B.14.1 A spatial statistical assessment of the Hatherdene Close cemetery will incorporate the site plan, the skeletal report and the artefactual data. Using spatial and statistical methods (supported by QGIS and R) this analysis will use Ripley's K function analysis to identify the physical point of clustering, meaning that kernel density estimates of

graves at that point of significance will be possible. Such analysis aids understanding of the organisation of a cemetery as part of its chronological and social development (Sayer and Weinhold 2013). This method is a stand-alone system of examining clusters, and explores the differences between single and plot-focused sites and will also complement the DNA and metric teeth assessment (Appendices C.4 and C.2).

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Human Skeletal Remains

By Natasha Dodwell

Method Statement

C.1.1 An early Anglo-Saxon inhumation cemetery, dating primarily to the 5th-6th century, comprising 126 individuals, many of them buried with grave goods, was identified in the south-eastern part of the site. In addition, a single undated crouched burial (probably prehistoric), seven Romano-British cremation burials and two Roman inhumation graves (one of which had been robbed/disturbed and contained the remains of two individuals) were also identified.

The Nature of the Assemblage

C.1.2 The single prehistoric crouched burial (Sk 249), which was first identified in the evaluation, was excavated in the western part of the site. It lay approximately 18m west of the Anglo-Saxon burials.

C.1.3 Five cremation burials dated to the 2nd/3rd century AD were identified. They were well spaced (c.25m between the furthest examples) and lay in a NW-SE alignment, with a 2nd/3rd century inhumation, Sk 1264 towards the northern end of the line. Two later (3rd/4th century) cremation burials were identified at the western end of this linear arrangement. The bone was contained in cinerary urns, a wooden casket and an organic container. Accompanying grave goods included samian platters, flagons and hobnail boots. A robbed grave (**478**) containing the disturbed elements of two individuals was surrounded by a square ditched enclosure (**305**).

C.1.4 The main funerary activity on the site was an early Anglo-Saxon inhumation cemetery, where the remains of 126 individuals, many of them accompanied by grave goods (e.g. spears, shield bosses or vessels) and with evidence of clothing or adornment (brooches, beads etc.) were excavated. A further five possible grave cuts, where the skeleton has not survived were also recorded. The dominant orientation of the grave cuts was SW-NE although there are a number that deviated from this alignment. There were a variety of burial types; the majority contained a single individual but there were others that contained two or more individuals buried side by side, as well as stacked burials, where bodies had been placed on top of each other. Two burials lay within small circular, ditched enclosures and were presumably placed under mounds.

	Total No.	female	?	male	
foetus	1				
neonate	4				
infant	20				
infant/juvenile	6				
juvenile	11				
juvenile/subadult	6				
subadult	4				
immature	3				
Total No. of Immature (<18yrs)					*55*
young adult	7	3	0	4	
young/middle adult	3	2	0	1	
middle adult	23	9	3	11	
middle/mature adult	6	4	0	2	
mature adult	21	12	1	8	
adult	7	1	3	3	
older subadult/adult	4	1	1	1	
Total No. of Adults (>18yrs)					*71*
Total No. of Individuals	***126***	***32***	***9***	***30***	

Table 68: Summary of feature groups by provisional period

Methodology

C.1.5 All of the human bone from the inhumations was washed and, once dry, was rapidly scanned to obtain details regarding completeness, preservation, basic demographic data and gross pathologies (Mays *et al* 2002, Brickley and McKinley 2009).

C.1.6 Adults were aged using the appearance of the pubic symphysis and auricular surfaces where they existed (methods summarised in Buikstra and Ubelaker 1994, 21-44) and, by the degree of epiphyseal union and the pattern of molar wear (Schaefer *et al*, 2009 and Brothwell 1981, 72 fig.3.9). Age of immature individuals was determined by the stage of dental development and eruption (Brown, 1985, Ubelaker 1989), metrical data and the degree of epiphyseal union (Schaefer *et al*, 2009).

C.1.7 Sex of adults was determined using the diagnostic traits on the skull and pelvis where they survived (methods summarised in Buikstra and Ubelaker 1994, 16-20). In keeping with current practice, no attempt was made to sex immature individuals.

C.1.8 The following broad age categories were used:

Neonate	<6months
Infant	0-4years
Juvenile	5-12years

Subadult	13-18years
Young adult	19-25years
Middle adult	26-44years
Mature adult	45 years

C.1.9 Overlaps in categories might occur or there might be broad categories such as 'adult' or 'immature' where the bone preservation is poor or insufficient data is available.

C.1.10 In the summary osteological table (Table 61) all individuals aged <18 years are classed as immature (I) and those older than 18 years (including older subadults/adults) are categorised here as adults (A). This is in addition to the age categories described above.

C.1.11 Bone surface preservation was recorded with reference to McKinley's classification (2004;16).

C.1.12 During excavation, samples were taken from around the skull and chest (for retrieval of loose teeth and beads) and around the hands and feet (for retrieval of small bones). In addition, small soil samples were taken from the pelvic area, close to the sacral bone for parasitic analysis together with control samples from the grave fills (Appendix C7)

C.1.13 Bone from three skeletons (SKs 259, 1098 and 1264) has already been submitted for radiocarbon dating (see Appendix C3).

C.1.14 In the cremation burials, where the bone was contained within a cinerary urn the vessel was excavated in the laboratory. If the vessel was of some depth then the contents were excavated in spits. For this assessment, all of the samples have been processed, the larger fraction (>10mm) was sorted and the smaller fractions scanned.

Preservation of Material

C.1.15 Which bones are present, how complete they are and the preservation of the cortical bone greatly affects the information that can be gleaned from a skeleton.

C.1.16 When scanning the assemblage for this assessment a note was made of the presence/absence of the skull, the pelvis and the dentition (as stated above, in adults the skull and pelvis are the primary elements used to attribute an age and sex to an individual and, in immature skeletons, the dentition is the most accurate aging tool). As it is expected that future analysis of this material will involve work on the stable isotopes of a sample of the skeletons, it was important during assessment to note the presence of adult dentition. Similarly, any aDNA research is likely to require the petrous part of the temporal bone, as well as teeth, meaning that the presence of this element was also recorded (Table 62).

	Skull	Pelvis	Stature	Dentition	Petrous
Prehistoric	0	1	0	0	1
Roman	0	0	0	0 (+1)	0 (+1)
Anglo-Saxon	65	59	40	66 (+43)	61 (+45)

Table 69: Number of adults with specific elements to record, sample and measure (no. of immature with petrous bones/dentition in parenthesis)

C.1.17 A total of 106 Anglo-Saxon individuals have at least one petrous bone that could be sampled for aDNA (61 adults and 45 immature individuals) and the dentition survives in over one hundred individuals. An estimate of adult living stature can be calculated using limb bone lengths and regression equations (Trotter and Gleser 1952,1958). A maximum of 40 adult skeletons had suitable bones that could be measured.

C.1.18 Cortical bone preservation varies across the site with the majority of skeletons graded between 2-4 (McKinley 2004, 16). These scores imply a degree of surface erosion, probably made by rootlets, and that – whilst the morphology of each element remains intact – the erosion on some areas of the skeleton might well mask possible pathologies.

C.1.19 Areas of green staining were recorded on many of the Anglo-Saxon skeletons and result from direct contact with copper alloy objects (such as brooches)

Results – Demography and Pathology

C.1.20 It should be stressed that the results presented here are based on a rapid scan of the skeletal material. A total of 130 individuals were positively identified, although this may increase when the disarticulated material is examined in more detail. Tables 63 and 64 group ?males and ?females into a male or female category.

	Total No.	female	? adult	male	Immature
Prehistoric	1	0	0	1	0
Roman	3	1	0	0	2

Table 70: The age/sex of non Anglo-Saxon inhumations

C.1.21 Of the 126 individuals identified in the Anglo-Saxon cemetery, 55 died before 18 years of age whilst 71 had reached adulthood before they died. As expected there is a peak in mortality amongst children below the age of 5 years old and more mature adults (Waldron 1994). Amongst the adults there is a near equal number of males and females.

	Total No.	female	?	male	
foetus	1				
neonate	4				
infant	20				
Infant/juvenile	6				
juvenile	11				
Juvenile/subadult	6				
subadult	4				
immature	3				
Total no, of immature (<18yrs)					*55*
Young adult	7	3	0	4	
Young/middle adult	3	2	0	1	
Middle adult	23	9	3	11	
Middle/mature adult	6	4	0	2	
Mature adult	21	12	1	8	
adult	7	1	3	3	
Older subadult/adult	4	1	2	1	
Total No. of adults (>18yrs)					*71*
Total No. of individuals	126	32	9	30	

Table 71: The age/sex of Anglo-Saxon inhumation burials

Empty Graves

C.1.22 Five grave-shaped cuts (**236**, **388**, **739**, **937** and **1053**) had no surviving bone. Bone preservation is generally good, even with immature skeletons but differences in the micro-environment/soil type across the site might account for the absence of bone, at least in some cases. Two of the grave cuts (**236** and **739**) whilst containing no skeleton or even scraps of bone *did* contain grave goods which are in the correct or expected position. It is difficult, if not impossible, to determine whether these grave-shaped cuts contained a skeleton that has not survived, or whether they represent robbed graves, or finally whether a body was never interred (i.e. the 'grave' cut was symbolic).

Robbed Graves

C.1.23 Evidence of robbing, ransacking or disturbance *not* apparently resulting from the re-use of grave plots was noted in at least seven graves. The large Roman grave within the square enclosure (**478**), contained disarticulated human bone representing two individuals, an ?adult female and a juvenile; several of the Anglo-Saxon skeletons had disturbed limbs which were still partially articulated suggesting that the body had been disturbed before ligaments and other soft tissues had decayed. Whilst relatively unusual, and not well understood, this practice is consistent with other cemeteries of the period (e.g. Klevnäs 2013 and Lucy *et al* 2009).

C.1.24 Several Anglo-Saxon skeletons (225, 282 & 300) and bone from the robbed Roman grave **478** exhibited ancient peri-mortem/post-mortem lesions (no evidence of healing) which may have occurred when a grave was disturbed for a later interment or when it was robbed. These were observed whilst scanning the bones and it is possible that more detailed examination will find further examples.

Disarticulated bone

C.1.25 Disarticulated human bone was recovered from 16 contexts. Some elements derive from furrows that have disturbed burials. It may prove possible to attribute these bones to specific skeletons. The majority of these contexts are grave fills where the bone derives from an earlier grave where the skeleton has been disturbed or truncated.

Cremation burials

C.1.26 All of the cremation burial samples have been processed but some still need to be sorted (Table 65). The cremation burials ranged in depth from 0.1m-0.45m; all of the cuts had been truncated to an unknown degree. The colour of the burnt bone ranged from white, fully calcined bone indicative of high temperatures on the pyre to elements that have been charred brown and black.

Cut No.	Grave goods	Colour	Age/Sex	Weight (g)
229				To sort
231	Flagons & plates	Mix, inc charred brown black humerus shaft	Subadult/adult	665 (more to sort)
261	Cinerary urn			To sort
500		Some blue/black. Predom white	adult	455
534				To sort

772	Hobnail boots in grave	Predom white	adult	250
954	Bone contained in a box	A mix of charred, blue/black & white	Adult, gracile	595 (more to sort)

Table 72: Summary of cremation burials

Pathologies and non-metric traits

C.1.27 In keeping with most archaeological assemblages the most commonly observed pathologies were dental (caries, calculus, abscesses, ante mortem tooth loss and enamel hypoplasias) and those affecting the joints (e.g. osteoarthritis and degenerative joint disease). In addition, healed fractures, infections (non-specific, osteomyelitis and possibly tuberculosis) and metabolic conditions (*cribra orbitalia* and *porotic hyperostosis*) were observed. A possible healed blade injury was noted on the skull of Sk 361, and the skull of the immature Sk 767 is excessively thickened with erosive lesions. A curious perforation on the distal end of the humerus of Sk 637 (seemingly drilled) needs to be investigated further.

Statement of Potential and Recommendations for further work

C.1.28 The skeletal material from Hatherdene Close offers a rare opportunity in South Cambridgeshire to study a near complete early Anglo-Saxon cemetery which is sufficiently large to make any results statistically significant. Its potential is enhanced given that the osteological data will be complimented by more scientific analyses (stable isotopes, parasite studies and aDNA) and, that comparisons can be made with the contemporary cemeteries recently excavated at Oakington and Ely (Sayer *et al* in prep.; Moan & Phillips forthcoming).

C.1.29 The material has only been scanned for this assessment, meaning that full recording of each skeleton (a catalogue of bones present, dentition, metrical data, descriptions of all visible pathologies) needs to be undertaken. The disarticulated bone recovered from multiple graves/intercutting graves/re-used plots needs to be attributed, where possible, to a specific skeleton. The processing of the cremated bone needs to be completed and reported on. Several of the male skulls are particularly robust and, depending on where and how the work is disseminated, 2D or 3D facial reconstruction may be considered, though this is beyond this project's resources.

C.1.30 Notes on further work needed:

- A full catalogue of all 130 skeletons & disarticulated material - 60 days
- Completion of processing of cremated bone – 2 days
- Selection of samples for aDNA and isotopic analysis – 3 days
- X-ray (a minimum of one, the immature skull, Sk 767)
- Photographs (pathologies)
- Full osteological report, including prevalence rates for dental disease and pathological conditions, stature and demographic analysis. Integration with archaeological data and comparison with contemporary sites, specifically Oakington and Ely - 15 days

- DNA for familial relationships. Looking at pathological conditions, at this stage (i.e. before full analysis), possible candidates include Sk **767** (an immature skeleton with thickened skull & erosive lesions) and Sk **964** (which has possible tuberculosis).

C.2 Human Teeth

By Duncan Sayer

C.2.1 Allison Stewart, a PhD student at UCLan, is developing a reliable method of using teeth metrics to explore biological distance (or relatedness) within cemetery populations. She has carried out a preliminary investigation of Oakington Anglo-Saxon cemeteries and has produced some exciting results. She is also investigating Poll Hill and Eastry (in Kent), and will extend her study to include Hatherdene Close. The study will involve taking non-destructive metric crown measurements from all of the adult teeth at the cemetery, and then will develop a statistical assessment of their familial similarity or difference.

C.3 Human Skeletal Remains – Radiocarbon Dating

By Stuart Ladd

Introduction

C.3.1 Three samples of human remains were submitted by Rachel Fosberry to the Scottish Universities Environmental Research Centre for radiocarbon dating. They were selected to cover a range of bone conditions and positions within the cemetery's stratigraphy.

Results

C.3.2 All three returned radiocarbon dates.

Skeleton	Stratigraphic Position	Bone tested	General Skeleton Condition	Calibrated Date Returned	Certificate Number	Period
Sk 1264	Suspected earlier than Period 2.3 Roman 'square barrow' ditch, but stratigraphy unclear.	R Femur	Poor (infant)	AD 85-254 (93.6%)	SUERC-71019	2.3
Sk 259	Later Period 3.1 (within barrow, ditch truncated earlier grave).	R Fibula	Moderate-good	AD 417-569 (95.4%)	SUERC-71018	3.1
Sk 1098	Uncertain (unusual S-N alignment)	R Fibula	Good	AD 404-549 (95.4%)	SUERC-71017	3.1

Table 73: Radiocarbon dating

Assessment

C.3.3 The radiocarbon dates have enabled accurate phasing of Sk 1264 to, probably, Period 2.2 (2nd-3rd century Roman), making it potentially slightly earlier than the cremations with which it is aligned (Period 2.3). Although successful, due to the flat radiocarbon calibration curve between c. AD 430 and AD 540 the dating of the Early Saxon (Period 3.1) skeletons has returned a broad date range, preventing clear differentiation within the period.

Statement of Potential

C.3.4 This small trial has demonstrated the potential to obtain radiocarbon dates from across the cemetery. It should be possible to differentiate between burials of suspected different periods, but it is unlikely that radiocarbon dating will enable finer resolution dating within each period.

C.3.5 Due to the relatively limited number of graves with grave goods and near-absence of grave stratigraphy, Bayesian targeting and analysis of radiocarbon dates is unlikely to be productive at this cemetery (Toby Martin and John Hines, pers. comm.). However, should resources be available in future, beyond this project, the assemblage could be integrated with wider regional data from excavations to refine dating estimates.

Recommendations

C.3.6 The undated prehistoric (Period 1.1) burial Sk 249 should be radiocarbon dated. Any suspected earlier or later Period 3.1 burials should be radiocarbon dated to confirm their phasing. The disarticulated remains from the possible Period 2.3 robbed grave (**478**) should also be dated.

C.4 Human Skeletal Remains – 'After the Plague' Project (Human DNA, Pathogen DNA, Isotopes)

By Sarah Inskip

Project Background

C.4.1 The 'After the Plague' project, taking place at the University of Cambridge, aims to assess the immediate and long term biological and social consequences of the 14th century outbreak of the plague (Black Death) on the medieval inhabitants of Cambridge and the surrounding hinterland. It seeks to achieve this through the analysis of data obtained from the analysis of human skeletal remains, which are a direct source of biological and social information about the past. In order to explore whether any changes/differences resulting from the plague were long term, it is important to place the skeletal data in a wider temporal time frame. Specifically, patterns observed in medieval skeletal data need to be compared to skeletal material from cemeteries that existed prior to and after the medieval period. The material from Hatherdene Close is important as it dates immediately before a medieval rural site (Church End, Cherry Hinton) that is also being examined, and its inclusion in the project will allow assessment of any changes that took place in the countryside as a result of the plague. In addition, it may permit us to address questions surrounding whether there were significant changes in the relationship between town and hinterland.

C.4.2 The project is highly interdisciplinary making use of multiple types of scientific and macroscopic analysis. This includes paleopathology, aDNA (pathogen and human), isotopes for diet and provenancing, biometrics and general osteoarchaeological analysis. For detailed scientific analysis, approximately 20 individuals will be assessed. Ideally these individuals will be complete, measurable, ageable and sexable. The team are keen to assess skeletons other than those taken by other research parties as this maximises information of the site and community. For general macroscopic analysis, the intention would be to study as many skeletons as time permits. The burials will be selected for sampling following completion of this post-excavation assessment.

C.4.3 The After the Plague project is external and not resourced by OA/the client.

Method Statement

C.4.4 Table 74 summarises the material needed for scientific research. A single tooth for aDNA analysis is required. Petrous bones will only be used when no other option is available and if the tooth sample fails. From this sample human and pathogen DNA will be assessed.

C.4.5 If there is a specific disease of interest a piece of bone from a lesion site, or area that is more appropriate, will be required for pathogen aDNA. This requirement depends on which disease is suspected. DNA data will be made publicly available after we have published our results (ENA http://www.ebi.ac.uk/ena).

C.4.6 Two further teeth are required for isotope analysis. These will be for the assessment of strontium and oxygen isotopes (used for provenancing). It is desirable to have PM2 and M2. Rib and femur samples (approximately 0.5 – 1g each) will be used for the analysis of stable carbon and nitrogen (assessment of diet).

Element	Data	Person
PM2 and M2	Isotopes Sr, O	A Rose
Rib	Isotopes C and N	A Rose
Femur fragment	Isotopes C and N	A Rose
1 tooth	Human DNA and pathogen screen	F Scheib
Bone fragment	Pathogen DNA specific	F Scheib/J Dittmar

Table 74: 'After the Plague' human bone needed for destructive analysis

C.4.7 Other non-destructive analysis that could be undertaken as part of this project includes:

- CT scans of tibia, fibula (possibly also humerus and clavicle) for biomechanics
- X-ray/scan of the femur and os coxae to assess for metastases
- General skeletal inventory and preservation
- Ageing
- Sexing (plus DNA sexing for those sampled)
- Non-metric traits
- Craniometrics
- Entheses
- Metrics
- Pathology
- Dental pathology

C.4.8 As an external project, delivery of results may not be incorporated in this project's report, unless available.

C.5 Human Skeletal Remains – (Human DNA Rarecoal and Pathogen DNA)

By Duncan Sayer

C.5.1 In 2016, Schiffels *et al* published a ground-breaking DNA paper including samples from the South Cambridgeshire excavations of Oakington, Hinxton and Linton, sites recently excavated by OAE and UCLAN. The paper was a first to use full genome DNA to explore the question of early Anglo-Saxon migration. It used an innovative method called rarecoal to approach the huge data sets produced by looking at the joint allele

frequency spectrum across multiple populations using rare alleles to identify fine-scale variation between extremely similar populations. It identified immigrants, 'indigenous' and mixed individuals at Oakington and immigrants from Hinxton. While important, this study was also very small-scale using just 10 samples. As the next stage of this investigation we are proposing to work with Stephan Schiffels to extend the project by analysing 12 samples from Hatherdene Close, six from a newly excavated 6th century cemetery in Ely and a further group of samples from the Oakington cemetery. Other cemeteries included in the study will be those at Eastry and Poll Hill in Kent, providing a parallel sample across the east coast of Britain. To ensure the best quality samples in this exercise, samples from the petrous bone will be used, which will increase the probability of extracting preserved aDNA.

C.5.2 This project is important because it will greatly increase the sample base of the Schiffels *et al* 2016 paper and focuses very much on the archaeological evidence for migration, as opposed to the biological evidence in modern populations. The work will be carried out by Stephan Schiffels who is based at the Max Planck institute for the Science of Human History at Jena, Germany.

C.5.3 Additionally the Max Planck team will investigate the genetic evidence for pathogens in multiple occupancy burials. Six graves including 12 samples will be taken from graves at Hatherdene Close and Oakington for this investigation.

C.5.4 Selection of individuals for further study will take place following osteo-archaeological analysis of the relevant material and giving consideration to other scientific analyses taking place.

C.5.5 The Rarecoal and Pathogen DNA project is external and not resourced by OA/the client. As an external project, delivery of results may not be incorporated in this project's report, unless available.

C.6 Animal Bone

By Zoe Ui Choileain

Introduction

C.6.1 A small assemblage of animal bone numbering 457 specimens (1,507g) was recovered during the excavation. Of the specimens, 230 are identifiable to species. Bone was recovered from features dating to five different periods; Late Iron Age/Early Romano-British (Period 2.1), Early Romano-British (Period 2.2), Mid to late 2nd to 3rd century (Period 2.3), Early Saxon (Period 3.1) and Middle Saxon (Period 3.2). The assemblage was almost entirely mammalian, however, only hand collected elements have been assessed.

Methodology

C.6.2 All identifiable elements were recorded using a version of the criteria described in Davis (1995). Identification of the assemblage was undertaken with the aid of Schmid (1972) with use of the OAE reference collection. Preservation condition was evaluated using the 0-5 scale devised by Brickley and McKinley (2004).

C.6.3 Basic taxonomic identification involved the separation of species into large mammal (cattle, equid, deer) and medium mammal (sheep, pig, dog). As environmental samples have not yet been examined remains from small mammals were not present. No bird or amphibian species were identified.

C.6.4 Where possible, obvious fresh breaks have been refitted in order to improve identification and accuracy of quantification.

C.6.5 All identifiable species contributed to the MNI (minimum number of individuals) for each period. Remains which could only be attributed to large or medium mammal were not included in MNI calculations. Clearly articulated elements were considered to represent a single animal whereas identical elements in the same context were considered to represent two examples from that species.

C.6.6 Potential for age at death is based on the level of epiphyseal fusion as well as mandibular wear and eruption (Payne 1973 and 1987; Halstead 1985). The potential for the recording of biometrics, butchery, gnawing and burning has been recorded where observed.

Assessment

C.6.7 On average preservation ranged from grade 2-4 on the Brickley and McKinley scale (2004, 11). Fragmentation levels were high with only a small amount of material holding potential for biometric measurements.

C.6.8 A high percentage of this assemblage was identifiable. The number of identifiable fragments for each period is recorded in Table 75.

Period	Number of identifiable fragments
0 (unphased)	13
2.1 (1st Century)	67
2.2 (Early Roman 1st-2nd Century)	32
2.3 (Roman 2nd-3rd Century)	22
3.1 Early Saxon (5th-6th Century)	27
3.2 Middle Saxon (8th Century-9th)	69

Table 75: Number of identifiable animal bone fragments by period

C.6.9 There is little change in the minimum number of individuals from Period 2.1 (Late Iron Age/early Romano British) to Period 3.1 (Middle Saxon). The numbers would suggest that there is a slight rise in the number of sheep present in in the area in the middle Saxon period.

Taxon	0 (unphased)	2.1 1st Century AD	2.2 Early Roman 1st-2nd Century	2.3 Roman 2nd-3rd Century	3.1 Early Saxon	3.2 Middle Saxon
Cattle		3	1	2	1	2
Sheep/goat	1	2	1	1	1	4
Equid	1	1	1	1		2
Pig	1	1	1	1	2	2
Dog	1	1		1	1	1
Bird					1	1
Roe Deer				1		
Total	**4**	**8**	**4**	**6**	**6**	**12**

Table 76: Animal bone minimum number of individuals by period

C.6.10 A total of 121 specimens from this assemblage could be aged, with only seven determined to be juvenile using epiphyseal fusion. Whereas the wear on cattle teeth suggests on average an older age for individuals, the wear on sheep teeth suggests most specimens were younger adults. This would be representative of a society where reliance on cattle was not just for meat but for secondary products such as milk or cheese. By contrast, it would seem that there was a much stronger reliance on sheep for meat throughout all periods.

C.6.11 Due to the poor condition of the bone only sixteen examples of butchery were observed within the assemblage. Both cut marks and chop marks were observed primarily on the cattle and sheep bone.

C.6.12 Only six examples of burning were observed during the assessment, implying that cooking was not taking place on site.

C.6.13 A single example of pathology was observed on a horse metacarpal from ditch **214** (Slot **1198**) from Period 2.2, Early Romano-British. Exostosis was present on the anterior and inferior surface of the proximal end of the bone. This represents a condition called spavin. Spavin is most commonly the ankylosis of the tarsal and metatarsal bones often resulting from osteoarthritis (Bartosiewicz 1997, 70-1). A deep v-shaped cut mark is also present on the inferior surface of the bone suggesting that this animal was slaughtered; possibly due to the lameness caused by spavin.

Statement of Potential

C.6.14 This is a small assemblage spread across a number of periods/phases with no specific period assemblage large enough to warrant further analysis. The bulk of the assemblage was retrieved from ditch fills where there is perhaps most potential for residuality.

C.6.15 Little evidence for birds and small mammals, and no examples of fish, were found within the assemblage. However, only hand-collected material has been examined thus far and material from environmental samples will be assessed and analysed where there is potential to add to the assessment already carried out.

C.6.16 All evidence suggests an entirely domestic usage for this assemblage with no evidence of any industrial activity such as tanning or glue manufacture.

Recommendation

C.6.17 No further analytical work is recommended, other than assessment of the sample residues for fish, bird and small mammal remains. This will lead to the updating of the current report, followed by production of a note for publication.

C.7 Parasites

By Piers Mitchell

Introduction

C.7.1 The analysis of archaeological material containing human faecal waste can provide evidence for intestinal infectious diseases such as parasites. The eggs of intestinal worms are resistant to decay in the soil, and can survive thousands of years. While ancient parasite analysis is most commonly performed using the sediments from excavated latrines and cesspools (Yeh *et al.* 2014; Yeh *et al.* 2015), the soil from the pelvic region of burials can also be studied as it contains decomposed human faeces (Anastasiou *et al* 2013; Mitchell *et al.* 2013). This study aims to determine the types of intestinal parasites that infected the Anglo-Saxon population of Cherry Hinton.

C.7.2 This research is not resourced by OA/the client.

Material

C.7.3 Once the body decomposes after burial, the remains of the intestines disintegrate and move with gravity to lie just anterior to the sacrum bone of the pelvis. Therefore, pelvic soil samples were taken at the time of excavation of the cemetery, along with control samples from the head and feet of each burial. About 90 samples are available for analysis.

Statement of Potential

C.7.1 This will be the first ever large-scale study to investigate the parasites of Anglo-Saxons in Britain, and therefore has the potential to deliver important results that will improve our understanding of health and disease at that time.

C.7.2 A full analytical report will be compiled, together with a synthesised report for publication.

Method Statement

C.7.3 Samples of the soil will be converted to a liquid suspension (disaggregation), passed through micro-sieves to concentrate the parasite eggs, and viewed under high power digital light microscopy (Anastasiou and Mitchell 2013). Any eggs present will be identified from their colour, shape, size and special characteristics, and the species of parasite worm determined.

C.7.4 This data will be used to answer the following questions:

- What species of intestinal parasite were present in the people of Anglo-Saxon Britain?
- What proportion of the population was infected with parasites?
- Are there differences in infection between children and adults, and between men and women?

C.7.5 As an external project, delivery of results may not be incorporated in this project's report, unless available.

C.8 Environmental Samples

By Rachel Fosberry

Introduction

C.8.1 Approximately 330 samples were taken during excavations at Hatherdene Close, predominantly from the fills of Anglo-Saxon graves (Table 70), but also from earlier cremations, Roman kilns, Anglo-Saxon pits and postholes.

C.8.2 The purpose of this assessment is to determine whether plant remains are present, their mode of preservation and whether they are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal.

Methodology

C.8.3 For this initial assessment, one bucket (approximately 10 litres) of a selection of the bulk samples and the total volume of all of the grave samples were processed by tank flotation using modified Siraff-type equipment for the recovery of charred plant remains, dating evidence and any other artefactual evidence (including human remains) that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 71. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers *et al.* 2006) and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Carbonised seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

C.8.4 For the purpose of this initial assessment, items such as seeds, cereal grains and legumes have been scanned and recorded qualitatively according to the following categories:
= 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens

C.8.5 Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance
+ = rare, ++ = moderate, +++ = abundant

Results

C.8.6 Preservation of plant remains is by carbonisation but is limited to certain features.

Cremations

C.8.7 Samples were taken from seven cremations (Table 77). The calcined bone and any artefacts have been retrieved from the dried residues. The flots need to be assessed for charcoal content as this relates to pyre material.

Cut	Context	Sample	Feature Type	Volume processed (L)
231	234	18	Cremation pit	5
231	235	19	Cremation pit	66
261	333	32	Cremation	15
261	262	44	Cremation pit	13
299	264	45	Cremation	3
299	230	47	Cremation	1
500	502	102	Cremation	1
500	501	104	Cremation pit	36
534	535	112	Cremation	27
772	773	170	Cremation	60
772	774	177	Cremation	2
772	774	178	Cremation	1
958	958	195	Cremation	48

Table 77: Cremation Samples

Grave Samples

C.8.8 Two-hundred and one samples were taken from 111 graves. These samples were taken primarily for the retrieval of any human remains that may have been missed during excavation. Flots were collected during the processing of the samples but only 10% have been assessed. Charred cereal grains occur frequently in the grave samples, usually as single specimens. They may represent waste grain that was blowing around the site and became incorporated into the deposit during the backfill process. Alternatively, they could be later intrusions.

Eggshell

C.8.9 Fragments of avian eggshell were found in pit **723** and also in grave **287** (sample taken from beneath a juvenile). In both cases the fragments probably total a whole egg.

C.8.10 Smaller quantities of avian eggshell were recovered from pits **607** (tentatively assigned to Period 2.3) and **619** (Period 3.1: Middle Saxon) and may indicate that these features were used for the disposal of midden waste.

Bulk samples

Kilns 581, 721

C.8.11 Sample 144, from the basal fill 656 of kiln **581**, produced an assemblage of cereal processing waste in the form of spelt (*Triticum spelta*) glume bases with numerous brome (*Bromus* sp.) seeds. Sample 145 (fill 722 of kiln **721**) produced a very similar assemblage and, since kiln **581** truncated kiln **721**, is possibly the same deposit. Spelt wheat is a hulled wheat in which the grain is tightly enclosed in a tough outer chaff. Once removed from the grain, this chaff acts as excellent kindling and was frequently used as fuel in Roman kilns/ovens/corn-driers (van der Veen 1989, 2). Brome seeds are frequently found in Roman spelt assemblages and are a type of grass that would have been growing amongst the cereal crop. The seeds are a similar size and shape to the cereal grains and would have been difficult to remove by sieving.

Ditches

C.8.12 Ten samples were taken from ditch slots and were mainly devoid of preserved plant remains other than occasional single specimens of charred grains or legumes that are likely to be wind-blown or later intrusions.

Pits

C.8.13 Seventeen pits were sampled. Charred cereal grains occur frequently but mostly as occasional specimens of wheat and barley. Single grains of rye (Secale cereale), were recovered from Anglo-Saxon pits **1121** and **1130**. Rye is a cereal that was commonly cultivated from the Anglo-Saxon period but rarely before.

C.8.14 The most productive pit was **723**; its lower fill (729) did not contain any preserved plant remains although avian eggshell was recovered from the residue. The second fill (730) was charcoal rich and produced frequent charred grains of barley (*Hordeum vulgare*) and free-threshing wheat (*Triticum aestivum/turgidum*). Legumes are relatively frequent in the sample and are probably peas (*Pisum* sp.). Several mineralised nodules were recovered from both the flot and the residue of this sample. Commonly referred to as phosphatic or calcium phosphate nodules, these enigmatic fossils are often found in cess samples and their origin has never been identified. Suggestions of tapeworm cysts and fungi have been proposed (Carruthers 1996), although the most recent thoughts are that they are formed as the result of a chemical process, possibly within voids within a deposit (Gill Campbell and Richard Macphail, pers. comm.). The residue of Sample 164 contained numerous ecofacts that suggest that this is a cess deposit such as fish bones, small mammal bones, egg shell and digested bone.

C.8.15 Pit **852** had samples taken from its basal fill (881) which contained occasional wheat and barley grains and its second fill (883), which yielded numerous wheat grains, most of which are poorly preserved.

C.8.16 Fill 1290 of undated pit **1288** (located in the southern enclosure) contained occasional charred hazelnut (*Coryllus avellana*) shell fragments. Hazelnuts have always been a collected wild food resource and are frequently found as charred shell fragments in prehistoric pits.

Well 1279

C.8.17 Fill 291 of possible Roman well **1279** did not contain any preserved remains. There is no evidence of waterlogging and no organic survival.

Post holes

C.8.18 Post holes **657** and **659** were located in the north-east of the site within a group of postholes associated with Middle Saxon (Period 3.2) settlement. A fragment of a legume (probably pea) was recovered from posthole **659**.

C.8.19 Post holes **806**, **818** and **836** are thought to have been an Early Saxon structure located adjacent to the main burial area in the south-eastern part of the site. The samples produced only sparse charcoal.

Cut	Fill	Sample	Type	Volume processed (L)	Flot Volume (ml)	Preservation	Cereals	Chaff	Legumes	Weed Seeds	Charcoal <2mm	Charcoal > 2mm
363	364	82	Ditch	15	5	none	0	0	0	0	0	0
404	405	85	Ditch	8	20	none	0	0	0	0	0	0
453	455	94	Ditch	6	10	charred	0	0	#f	0	+	0
644	645	266	Ditch	8	5	charred	0	0	0	0	+	0
742	749	270	Ditch	7	20	none	0	0	0	0	0	0
862	863	219	Ditch	9	20	none	0	0	0	0	0	0
1048	1049	283	Ditch	16	15	charred	#	0	0	0	+	+

Cut	Fill	Sample	Type	Volume processed (L)	Flot Volume (ml)	Preservation	Cereals	Chaff	Legumes	Weed Seeds	Charcoal <2mm	Charcoal >2mm
1061	1064	265	Ditch	10	40	charred	0	0	0	0	+	0
1219	1220	276	Ditch	7	10	charred	#	0	#	#	+	+
581	656	144	Kiln	10	40	charred	#	###	#	###	+++	+
721	722	145	Kiln	9	40	charred	#	##	0	##	++	0
265	267	49	Pit	8	5	none	0	0	0	0	0	0
265	266	48	Pit	10	15	charred	0	0	0	0	0	0
390	391	84	Pit	8	30	none	0	0	0	0	0	0
607	608	185	Pit	6	1	none	0	0	0	0	0	0
619	625	134	Pit	9	40	charred	#	0	0	0	+++	+++
628	643	141	Pit	10	5	charred	0	0	0	0	+	0
723	729	162	Pit	8	1	none	0	0	0	0	0	0
723	730	164	Pit	25	50	charred	####	0	##	#	++++	+++
852	885	184	Pit	9	30	charred	###	0	0	0	+++	+
874	874	181	Pit	7	1	none	0	0	0	0	0	0
880	883	182	Pit	7	40	charred	#	0	0	0	+	0
880	881	183	Pit	18	10	charred	#	0	0	0	0	0
949	953	189	Pit	7	25	charred	##	0	0	0	+++	+++
1005	1006	205	Pit	10	220	charred	0	0	0	0	+++++	+++++
1022	1023	210	Pit	8	5	charred	#	0	0	0	+	0
1043	1044	282	Pit	8	2	charred	#	0	#	0	+	0
1121	1122	230	Pit	13	50	charred	#	0	#	0	+	+
1130	1131	240	Pit	9	5	charred	#	0	0	0	+	+
1288	1290	292	Pit	10	15	charred	0	0	0	0	+	0
657	658	149	Posthole	8	2	none	0	0	0	0	0	0
659	660	148	Posthole	7	1	charred	#f	0	0	0	0	0
806	807	172	Posthole	8	25	none	0	0	0	0	0	0
818	819	173	Posthole	9	50	charred	0	0	0	0	+	0
1279	1282	291	Well	9	2	charred	0	0	0	0	+	0

Table 78: Samples selected for assessment

Sample	Context	Feature	Feature Type	Total No. buckets/bags	% context sampled	Related numbers
193	927	927	Barrow ring ditch	2	<10	
194	929	929	Barrow ring ditch	2	<10	
272	306	305	Ditch	2	<5	
271	449	448	Ditch	2	<5	
99	489	488	Ditch	1	<10	
109	522	521	Ditch	2	<10	
187	771	769	Ditch	2	<10	
263	1062	1061	Ditch	1 bag	<1	264, 265
264	1062	1061	Ditch	1	<5	263, 265
241	1084	1083	Ditch	2	<5	

Sample	Context	Feature	Feature Type	Total No. buckets/bags	% context sampled	Related numbers
242	1086	1085	Ditch	2	<5	
258	1189	1188	Ditch	2	<10	
259	1199	1198	Ditch	2	<5	
268	1208	1207	Ditch	2	<10	
116	571	570	Gully	2	<10	
142	601	581	Kiln	2	100	143, 144
143	654	581	Kiln	4	~75	142, 144
207	1009	1008	Kiln	2	<50	
146	?	?	Kiln	?	?	?
267	1080	1079	Natural?	2	<1	
93	446	445	Pit	1	50	
115	565	564	Pit	3	100	
130	608	607	Pit	2	<10	
140	627	623	Pit	2	10	
176	848	846	Pit	2	~50	
188	930	852	Pit	2	<10	184
186	869	868	Pit	2	<10	
190	951	949	Pit	2	<10	189
231	1125	1121	Pit	1	<10	230
273	1194	1193	Pit	2	~5	
281	1227	1226	Pit	2	20	
275	1242	1241	Pit	2	<10	
276	1249	1248	Pit	2	<10	
269	1211	1210	Pit/ditch	2	<10	
129	605	606	Posthole	1	50	
152	684	683	Posthole	?	50	
174	831	830	Posthole	1	100	172-175
289	1280	1279	Well	1	<1	290, 291
290	1281	1279	Well	1	<1	289, 291

Table 79: Unprocessed bulk samples

Statement of Potential

C.8.20 The initial assessment of a selection of bulk samples taken from the site indicates that there is the potential for recovery of charred plant remains. Productive features are the Roman kilns **581**/**721** and the Middle Saxon possible cess pit (**723**).

Recommendation

C.8.21 Further analysis of both of these features is recommended. Additional processing of the remaining soil from kiln **581** will produce a quantifiable assemblage of spelt processing waste that is of particular interest due to the high brome component. Many of the brome seeds are fragmented and further study may determine if this is accidental or due to grinding/pounding of brome-contaminated spelt spikelets.

C.8.22 Three of the six buckets of soil from fill 730 of pit **723** were processed for this initial assessment. It is recommended that the remaining three buckets be processed and the

residues scanned using the microscope to check for the presence of mineralised plant remains. The remaining bucket of soil from fill 731 should also be processed to ascertain whether this deposit really is sterile or whether there was bias in sampling.

C.8.23 Pollen assessment of both deposits is recommended. If the feature is a cess pit then pollen analysis has the potential to provide information on a range of plant-based foodstuffs consumed that would not be preserved by other means.

C.8.24 Three samples were taken from well **1279**, the lowest of which was assessed. Wells have the potential to provide information on the local environment through acting as a trap for pollen and wind-blown seeds. Unfortunately, these deposits have de-watered which has resulted in the total decomposition of any plant remains, though pollen may still have some potential for survival. However, as the feature is essentially undatable, and it is not known how close to the base the sampled fill was, pollen analysis is not recommended.

Timescales

C.8.25 Processing of five additional buckets of soil to include detailed sorting of flot and residues = 4 days

C.8.26 Tabulation and analysis report = 1 day

C.9 Organic Residue (Birch Bark Tar)

By Julie Dunne and Ian Bull (University of Bristol)

Introduction

C.9.1 The term organic residues is used widely in archaeology to describe a range of amorphous organic remains from diverse natural sources, associated with a wide variety of artefacts found at archaeological sites. Their amorphous nature means that they lack the clearly discernible morphological features that characterize other biological materials that survive in the archaeological record, such as bone, wood, leather, textiles and archaeological plant material such as seeds and pollen (Evershed, 2008). The amorphous, or invisible, nature of these residues means that their composition has to be determined through the use of analytical chemical methodologies. Modern techniques have allowed the effective recovery, detection and characterization of biomolecules and their decay products in archaeological materials, achieved through the application of what is known as the *archaeological biomarker* concept. The majority of organic residue analyses are carried out on absorbed organic residues from ceramic vessels but the technique can also be used to identify amorphous organic deposits, either preserved on artefact surfaces or as isolated aggregates (Evershed, 2008; Roffet-Salque et al., 2016).

C.9.2 Lipids, the organic solvent soluble components of living organisms, i.e. the fats, waxes and resins of the natural world, are the most frequently recovered compounds from archaeological contexts. They are resistant to decay and are likely to endure at their site of deposition, often for thousands of years, because of their inherent hydrophobicity, making them excellent candidates for use as biomarkers in archaeological research (Evershed, 1993, 2008). Lipids from natural products, not used for dietary purposes, have been found in both amorphous and absorbed ceramic residues. These lipids can originate from resins, tars and bitumen; waxes from beeswax have also been found to have been used for non-dietary purposes. These commodities may have been stored or processed in vessels, used in their manufacture as sealants or decoration, or for repair (adhesives). Typical lipids from these commodities include

di-, tri- and sesquiterpenoid biomarkers from resins. The distillation of such resins can produce biomarkers, such as methyl dehydroabietic acid, denoting the production of tars and pitches (e.g. Evershed et al., 1985; Charters et al., 1993; Dudd and Evershed, 1999; Brettell et al., 2015; Roffet-Salque et al., 2015; Roffet-Salque et al., 2016).

Aims and objectives

C.9.3 The objective of this investigation was to determine the origin of the amorphous brown/black 'lump' of material found in an Anglo-Saxon female child's burial (Figure 1; c. 8 years old, grave 293). The grave contained an assortment of brooches and beads on the chest and a variety of artefacts, including an iron knife, a copper alloy girdle hanger, an iron ring (possibly a small purse or bag ring) and the amorphous 'lump' of material, all likely contained in a bag hanging from her belt.

Material and methods

C.9.4 Lipid analysis and interpretations were performed using established protocols described in detail in earlier publications (e.g. Charters *et al.*, 1993). A small amount of material (*c*. 1g) was sectioned from the main lump of material and extracted *via* ultrasonication (10 min) with chloroform/methanol 2:1 *v/v*. After allowing the particulate matter to settle, the supernatant was decanted and evaporated under a stream of nitrogen. Aliquots of the TLE's were derivatised using 30 µl BSTFA + 1% TMCS, excess BSTFA was removed under a gentle stream of nitrogen and the derivatised TLE was dissolved in hexane prior to HT-GC and HT- GC/MS.

C.9.5 The GC analyses were carried out using an Agilent Industries 7890A GC system connected to a PC using Chemstation data acquisition software. Derivatised total lipid extracts (1.0 µl) dissolved in hexane were introduced by on-column injection. The analytical column was a 15 m x 0.32 mm DB-1 coated with dimethyl polysiloxane (film thickness, 0.10 µm). The temperature programming was from 50 to 350° at 25°C min^{-1}, following a 1 min isothermal hold at 50° C. At the end of the temperature ramp the GC oven was maintained at 350° C for 5 minutes.

C.9.6 Compound identification was accomplished using gas chromatography-mass spectrometry (GC-MS). The TLE was introduced (1.o µL) by autosampler onto a GC-MS fitted with a non-polar column (100% dimethyl polysiloxane stationary phase; 60 m x 0.25 mm i.d., 0·1 µm film thickness). The instrument was a ThermoScientific Trace 1300 GC attached via a heated (400°C) transfer line to an ISQ MS operating in EI mode (electron energy 70 eV, scan time of 1.3 s^{-1}). Samples were run in full scan mode (*m/z* 50–650) and the temperature programme comprised an isothermal hold at 50°C for 2 min, ramping to 300°C at 10°C min^{-1}. Data acquisition and processing were carried out using the HP Chemstation software (Rev. B.03.02 (341), Agilent Technologies). Peaks were identified on the basis of their mass spectra and gas chromatography (GC) retention times, by comparison with the NIST mass spectral library (version 2.0).

Results

C.9.7 GC analysis of the total lipid extract revealed a complex mixture. Lower molecular weight compounds included the $C_{16:0}$, $C_{16:1}$, C18:0 and $C_{18:1}$ fatty acids (hexadecenoic, hexadecanoic, octadecenoic and octadecanoic acid). Also present were the pentacyclic triterpenoid compounds betulin and lupeol with lupenone and betulone, known to be characteristic of birch bark (O'Connell et al., 1988; Hayek et al., 1989; Hayek et al., 1990; Cole et al., 1991; Hua et al., 1991). These were identified by their characteristic fragment ions, for example, *m/z* 586 which corresponds to the molecular ion (M^{+}.) of betulin *bis*-TMS ether (for full details see Charters et al., 1993). Significantly, other

compounds regarded as characteristic of the degradation reactions undergone by bark during the heating processes necessary to produce birth bark tar were present. For example, betulin is partially transformed into lupa-2,20(29)-dien-28-ol by dehydration and lupeol leads to the formation of lup-2,20(29)-diene (Illustration 1).

C.9.8 It should be noted that the presence of the higher molecular weight triterpenoid esters (Illustration 1), eluting between 26 and 30 minutes; e.g. lup-2,20(29)-dien-28-yl palmitate) is also indicative of heating as described by Dudd and Evershed (1999).

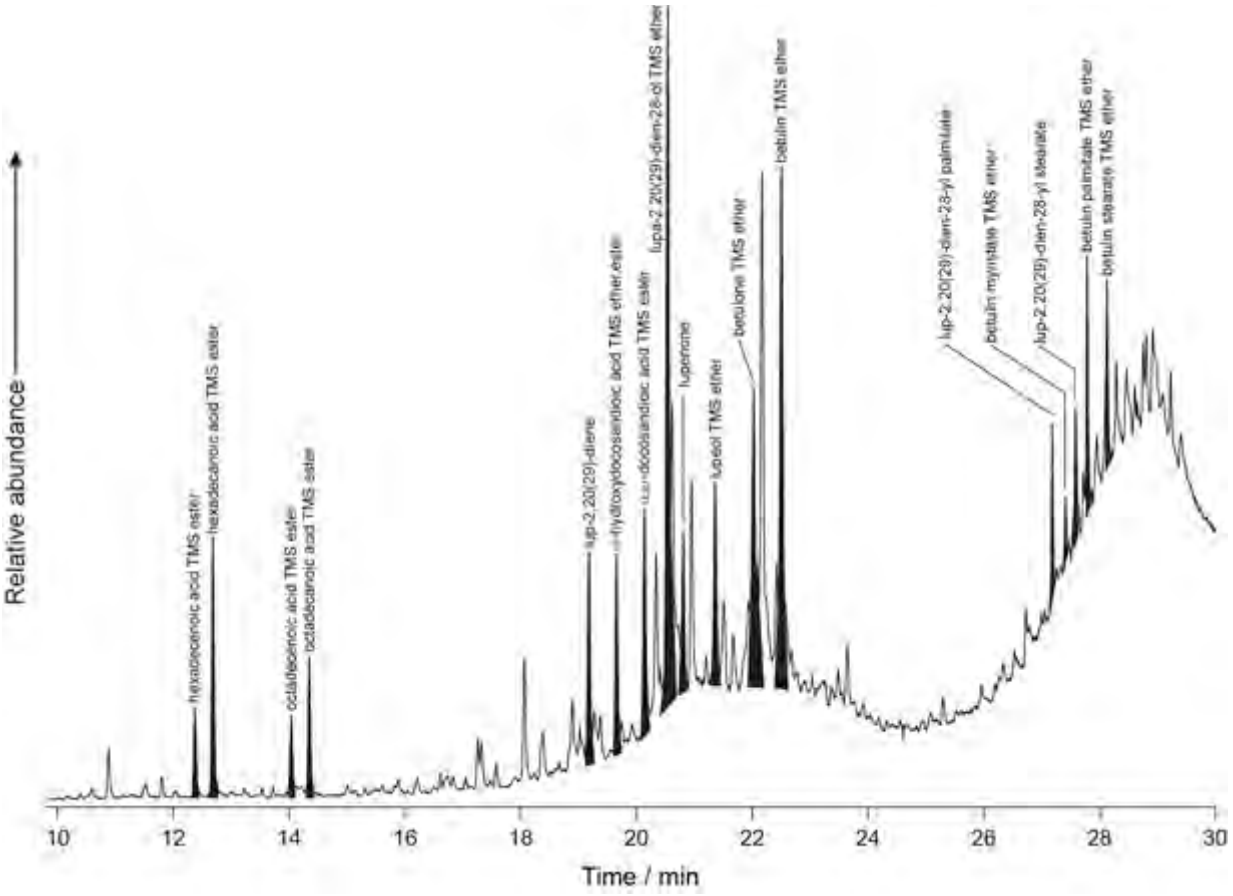

Illustration 1: Partial Gas chromatogram of trimethylsilylated TLE from the SF131.

Discussion and conclusion

C.9.9 The objective of this investigation was to determine the origin of the amorphous brown/black 'lump' of material found in an Anglo-Saxon female child's burial. Analysis by GC and HT-GC/MS show the presence of the triterpenoid compounds originating from birch bark (betulin, lupeol, lupenone and betulone) and products indicative of a thermal treatment (e.g. lupa-2,20(29)-dien-28-ol and lup-2,20(29)-diene), suggest a birch bark tar.

C.9.10 Tars, pitches and resins are found in many different contexts in the archaeological record e.g. having been used as waterproofing agents, adhesives, in medicinal preparations or perfumery and even as a type of chewing gum, possibly because small amounts of disinfectants are released from the tar during mastication (Heron et al., 1991; Charters et al., 1993). Consequently, it may be that the lump of birch bark tar found in the grave was kept for its medicinal/antiseptic properties.

C.9.11 Significantly, a high level of technology is involved in the production of tars and pitches (Evershed et al., 1985; Hayek et al., 1990; Dudd and Evershed, 1999; Regert et al., 2003; Stern et al., 2003; Regert, 2004). If bark or wood from resinous trees, such as pine, birch or fir, is heated in air, only a few small droplets of blackened resin are produced. However, if the materials are heated in the presence of limited, or no, oxygen, then large quantities of wood tar are generated by a process known as destructive distillation (or pyrolysis). Lucas (1931) defines this as 'the process of heating, out of contact with the air, a solid material in such a manner that its original composition is destroyed and new bodies are formed, some of which are volatile and are conducted away, the more liquefiable portions being condensed by cooling. This is the opposite of the more usual method of distillation, in which care is taken to avoid decomposition and only the separation of pre-existing bodies occurs'. In simple terms, if resin is heated at temperatures in excess of 300° C, a tar is produced. Further heating or distillation of the tar will then produce a thicker pitch (Robinson et al., 1987; Pollard and Heron, 2008).

C.9.12 Birch bark tar has a long history of use, with the earliest known identification being of two stone flakes in Early Palaeolithic levels at Campitello, Italy, partly covered with birch bark tar. GC-MS revealed the presence of triterpenoid biomarkers in the organic material covering the flakes, comprising betulin, betulone and lupeol, characteristic of tars produced from bark or wood of the *Betulaceae* family trees, which includes birch. The flakes were found in association with the bones of a young adult female *Elephas (Palaeoloxondon) antiquus* (the straight tusked elephant) and several micromammals. The geological context of the site and the co-occurrence of *Microtus arvalis, Arvicola cantianus* and *Microtus gr. multiplex-subterraneus* with the elephant and the stone tools suggests a late Middle Pleistocene age, probably during a cool stadial episode before isotope stage 6 (c. 185–135 ka) (Mazza et al., 2006).

C.9.13 Birch-hafted implements have also been identified, using GC-MS, in Europe at the Middle Paleolithic Königsaue site, Germany, c 49,000 to 44,000 BP, although it should be noted these are minimum age estimates only (Grünberg, 2002) and at Mesolithic Star Carr in England (Aveling and Heron, 1998). GC-MS was used to identify the glue used to haft flint arrowheads to wood arrows and a nearly pure copper axe attached to a yew handle that were found with 'Ötzi', the Tyrolean Iceman. Analysis showed the glue was a tar produced by the dry distillation of the bark of the family *Betulaceae*, possibly *Betula pendula* (Sauter et al., 2000).

Statement of Potential

C.9.14 The nature and method of production of the birch bark tar have been identified. No further analytical work is required.

Recommendation

C.9.15 Julie Dunne and Ian Bull propose to publish this result, potentially in the *Oxford Journal of Archaeology*. This is not funded by the client/OA and will be separate from a note and discussion incorporated in the Hatherdene Close publication.

Appendix D. Product Description

Product number: 1

Product title: Analysis and Publication

Purpose of the Product: To address the research aims and objectives

Composition: Published report (EAA)

Derived from: Analysis of site records, specialist reports and background research

Format and Presentation: EAA small monograph

Allocated to: SL, TM, RM/EP

Quality criteria and method: Checked and edited by EP

Person responsible for quality assurance: EP

Person responsible for approval: EP

Planned completion date: 2019

Product number: 2

Product title: Archive completion

Purpose of the Product: To collate all elements of the physical and paper archive and deposit with the appropriate body

Composition: Paper records, artefacts, ecofacts

Derived from: Original site records, artefacts and ecofacts collected on site

Format and Presentation: Appropriately packaged

Allocated to: LB

Planned completion date: 2019

Appendix E. Risk Log

Risk Number: 1

Description: Specialists unable to deliver analysis report due to over running work programmes/ ill health/other problems

Probability: Medium

Impact: Variable

Countermeasures: OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary.

Estimated time/cost: Variable

Owner: OA

Date entry last updated: May 2018

Risk Number: 2

Description: Non-delivery of full report due to field work pressures/ management pressure on Co-authors

Probability: Medium

Impact: Medium - High

Countermeasures: Liaise with OA Management team. Full metrical analysis of human skeletal remains has now been completed, with report writing remaining to be completed. The largest remaining task is the analysis of grave goods, to be undertaken by Toby Martin (Oxford University). A timetable of payment is being set up and he has time allocated to the project through the summer vacation.

Estimated time/cost: Variable

Owner: OA

Date entry last updated: May 2018

Risk Number: 3

Description: External academic projects unable to deliver analysis report due to over running work programmes/ ill health/other problems

Probability: Medium

Impact: Variable

Countermeasures: These projects' (After the Plague, and UCLan rarecoal and dental metric analysis and Cambridge University parasitology) results will only be included if available during the analysis stage. They are not resourced by OA/the client. Teams are aware of the project timetable.

DNA preservation has been confirmed by the UCLan DNA/pathogen project. Results anticipated by December 2018.

Dental metrics have been taken and analysis begun. Results anticipated September 2018.

Processing of parasite samples has started. Results anticipated by December 2018.

After the Plague results not anticipated within this project timetable.

Estimated time/cost: None

Owner: Respective external project teams.

Date entry last updated: May 2018

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Appendix G. Transfer of Title

oxfordarchaeology
15 Trafalgar Way, Bar Hill, Cambridgeshire, CB23 8SQ

Project name and Parish: **Land at Hatherdene Close, Cherry Hinton, Cambridge**
Identifying code: **ECB4258**

I/we, the landowner(s), confirm that I/we have undisputed title to the finds from this site, with full power to dispose of them and transfer such title to the museum or archive named below. The transfer is unconditional and excludes any finds declared by a Coroner's inquest to be Treasure.

Name:	Address:
Dawn Wylie (DIRECTOR)	WESTON HOMES PLC WESTON GROUP BUSINESS CENTRE PARSONAGE RD TAKELEY, ESSEX CM22 6PU
Signature:	Date: 25.06.18

Museum or Archive Details	
Name: Cambridgeshire County Council	Address: c/o HET, Growth and Economy, Cambridgeshire County Council, CC1008, Cambridge CB3 0AP
Email: arch.her@cambridgeshire.gov.uk	Telephone: 01223 728 569

APPENDIX H. OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3-275460		
Project Name	Late Iron Age and Roman Featuares, a Roman and Early Saxon Cemetery, and Middle Saxon Features,		
Project Dates (fieldwork) Start	01-07-2016	Finish	23-10-2016
Previous Work (by OA East)	Yes	Future Work	No

Project Reference Codes

Site Code	CAMHAT14	Planning App. No.	14/0028/OUT
HER No.	ECB4258	Related HER/OASIS No.	

Type of Project/Techniques Used

Prompt: National Planning Poicy Framework NPPF

Please select all techniques used:

☐ Field Observation (periodic visits)	☐ Part Excavation	☐ Salvage Record
☐ Full Excavation (100%)	☐ Part Survey	☐ Systematic Field Walking
☐ Full Survey	☐ Recorded Observation	☐ Systematic Metal Detector Survey
☐ Geophysical Survey	☐ Remote Operated Vehicle Survey	☐ Test Pit Survey
☒ Open-Area Excavation	☐ Salvage Excavation	☐ Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the NMR Monument Type Thesaurus and significant finds using the MDA Object type Thesaurus together with their respective periods. If no features/finds were found, please state “none”.

Monument	Period	Object	Period
Ditch	Iron Age -800 to 43		Select period...
Cremation	Roman 43 to 410		Select period...
Inhumation	Early Medieval 410 to 1066		Select period...

Project Location

County	Cambridgeshire	Site Address (including postcode if possible)	
District	Cambridge City	Land at Hatherdene Close, Cherry Hinton	
Parish	Cambridge City		
HER	Cambridgeshire		
Study Area	0.9ha	National Grid Reference	TL 4841 5761

Project Originators

Organisation	OA EAST
Project Brief Originator	Kasia Gdaniec (CCC HET)
Project Design Originator	Rob Wiseman & Richard Mortimer (OA EAST)
Project Manager	Richard Mortimer (OA EAST)
Supervisor	Stuart Ladd (OA EAST)

Project Archives

Physical Archive	Digital Archive	Paper Archive
CCC	OA East	CCC
ECB4258	ECB4258	ECB4258

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	☒	☐	☐
Ceramics	☒	☐	☐
Environmental	☒	☐	☐
Glass	☒	☐	☐
Human Bones	☒	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☒	☐	☐
Stratigraphic		☒	☒
Survey		☒	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☒	☐	☐
Worked Stone/Lithic	☒	☐	☐
None	☐	☐	☐
Other	☐	☐	☐

Digital Media	Paper Media
☒ Database	☐ Aerial Photos
☒ GIS	☒ Context Sheet
☒ Geophysics	☐ Correspondence
☒ Images	☐ Diary
☒ Illustrations	☒ Drawing
☐ Moving Image	☐ Manuscript
☒ Spreadsheets	☐ Map
☒ Survey	☐ Matrices
☒ Text	☐ Microfilm
☐ Virtual Reality	☐ Misc.
	☐ Research/Notes
	☐ Photos
	☒ Plans
	☒ Report
	☒ Sections
	☐ Survey

Notes:

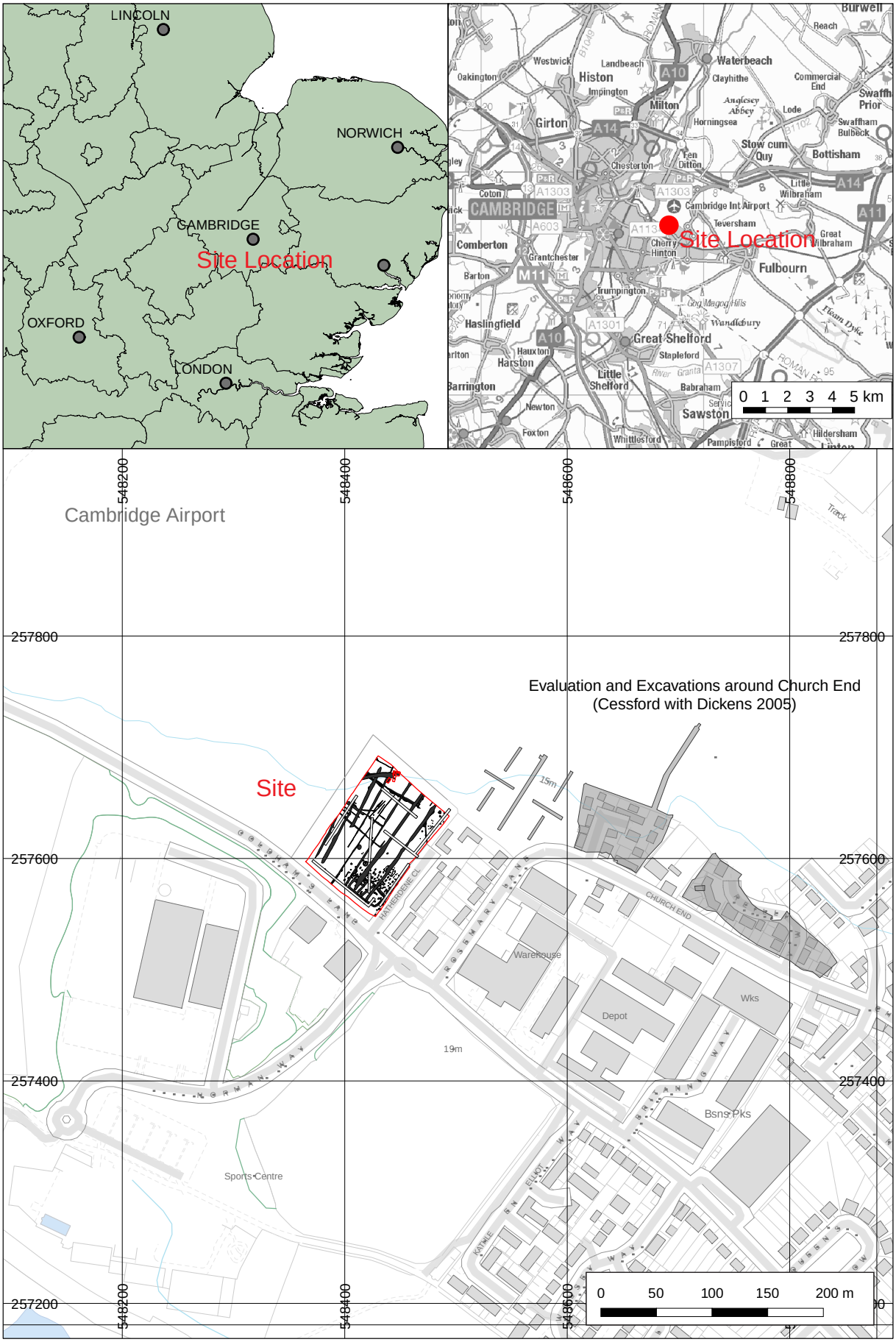

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Figure 1: Site location showing excavation area (red), evaluation trenches (white) and nearby excavations (grey)

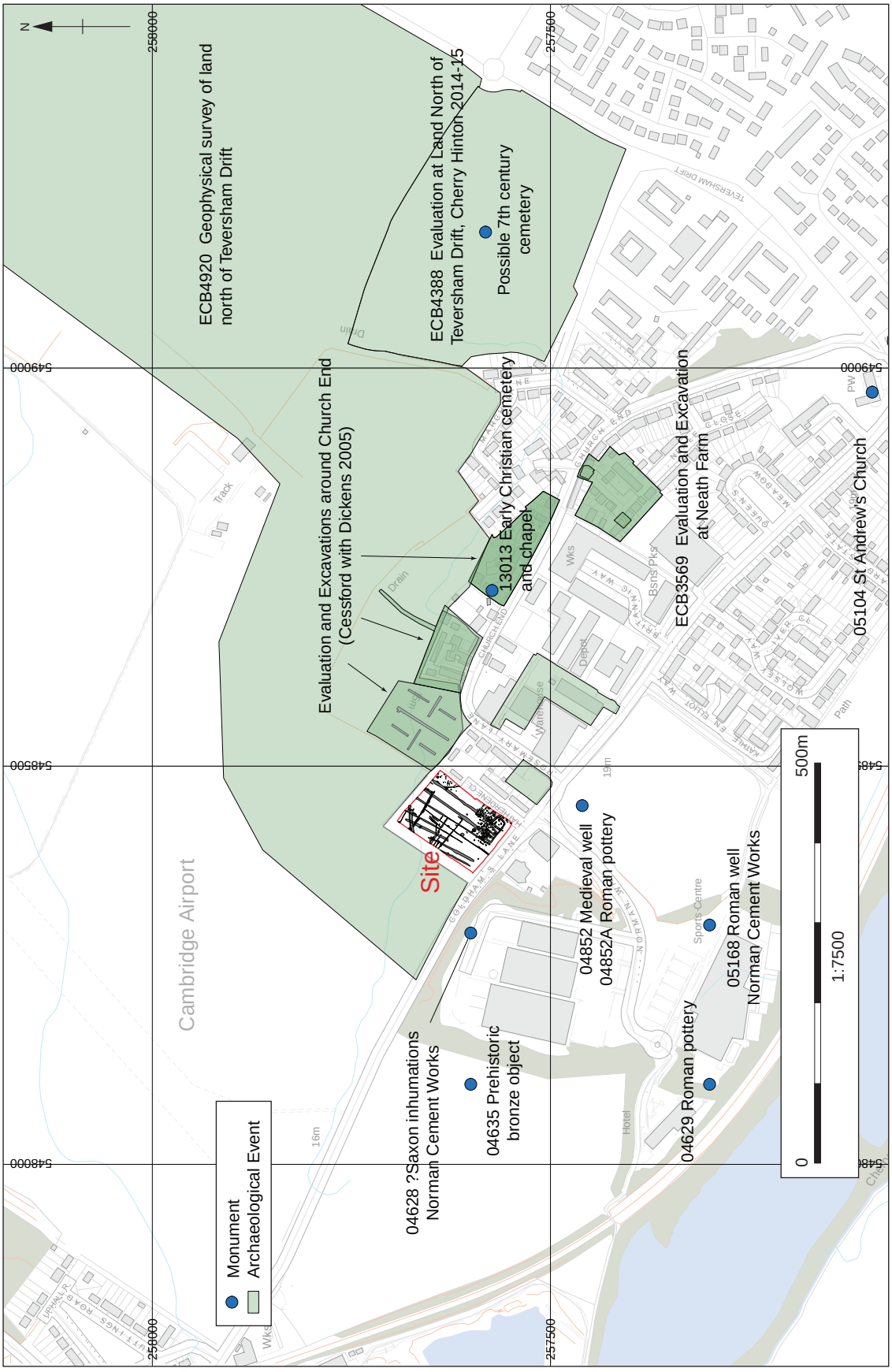

Figure 2: HER entries mentioned in the text

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Figure 3: All features and excavated slots.

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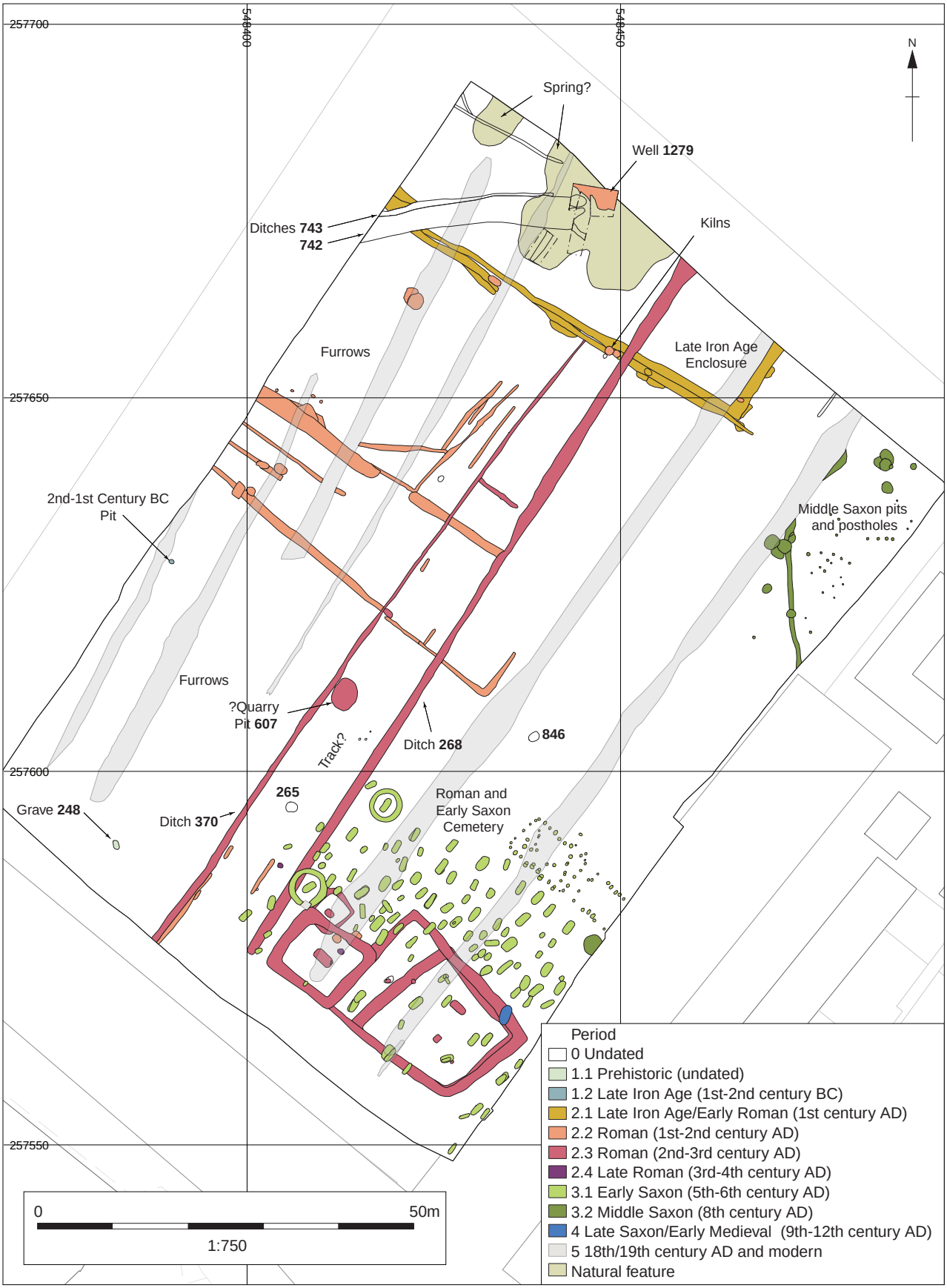

Figure 4: All features phased plan

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Figure 5: Phased plan of the cemetery showing key features mentioned in the text.

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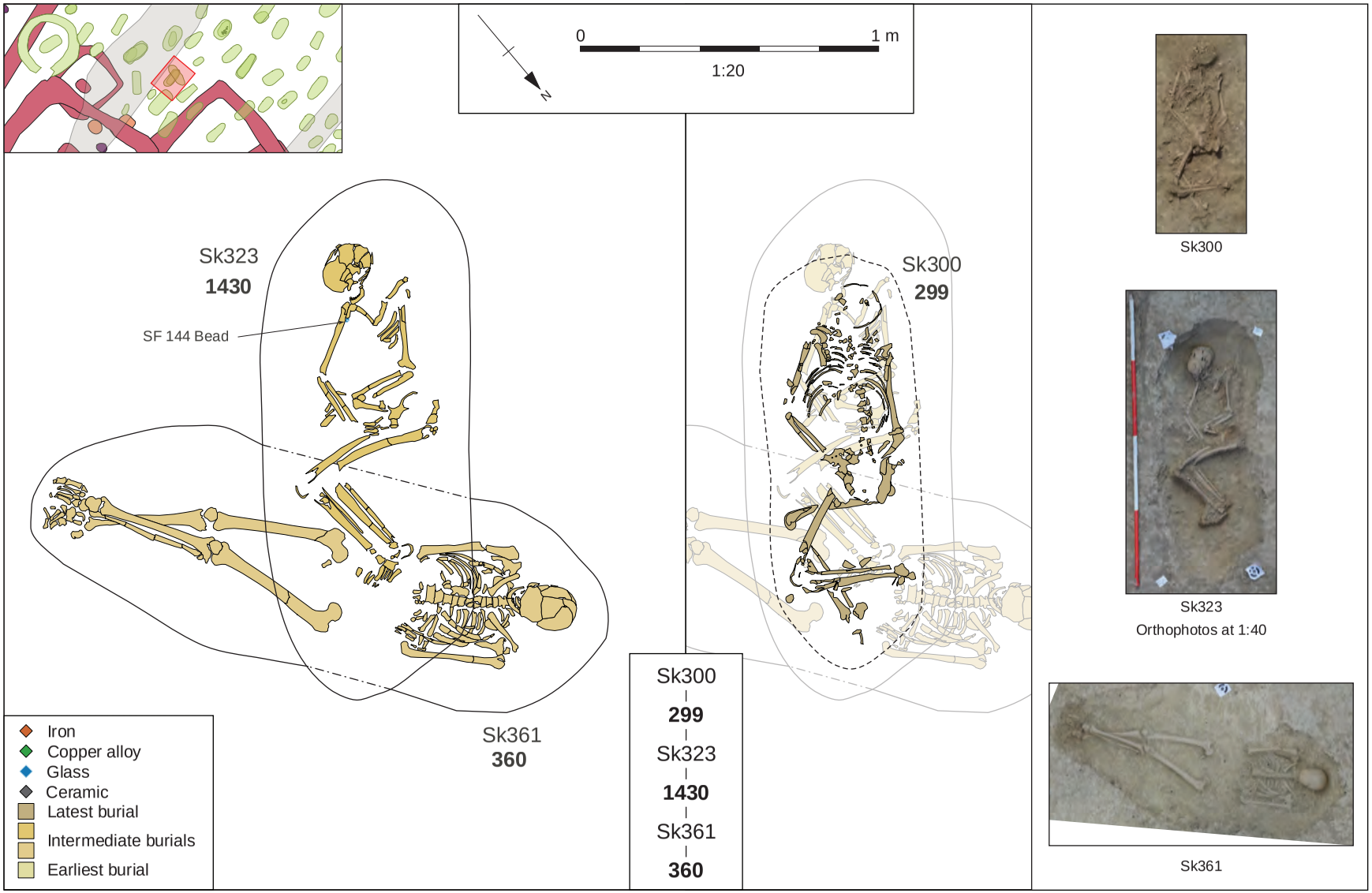

Figure 6: Graves **360**, **1430** and **299**, showing skeletons on different alignments Sk361, Sk323 and Sk300.

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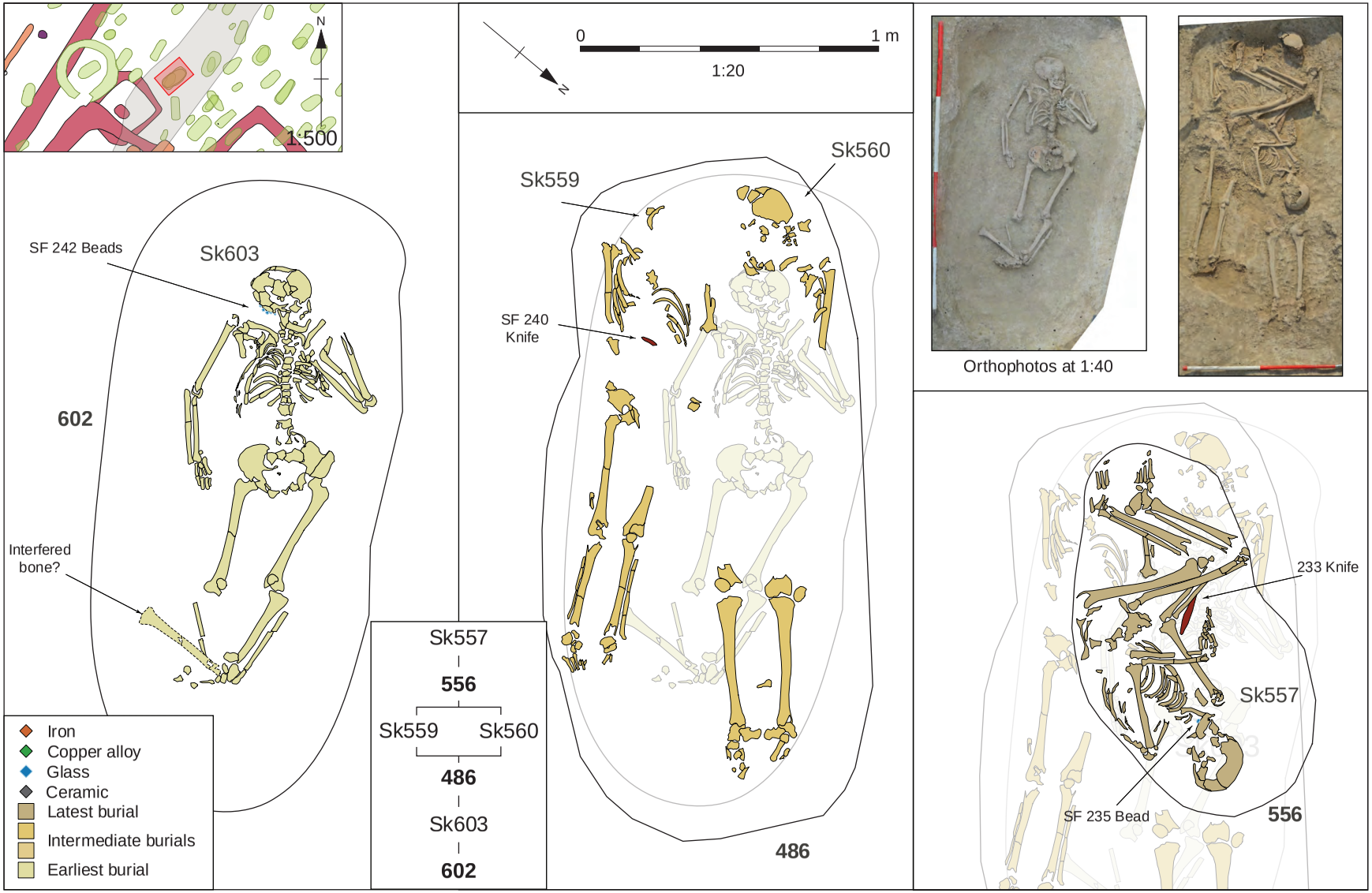

Figure 7: Graves **602**, **486** and **556** showing Skeletons Sk603, Sk559, Sk560 and Sk557.

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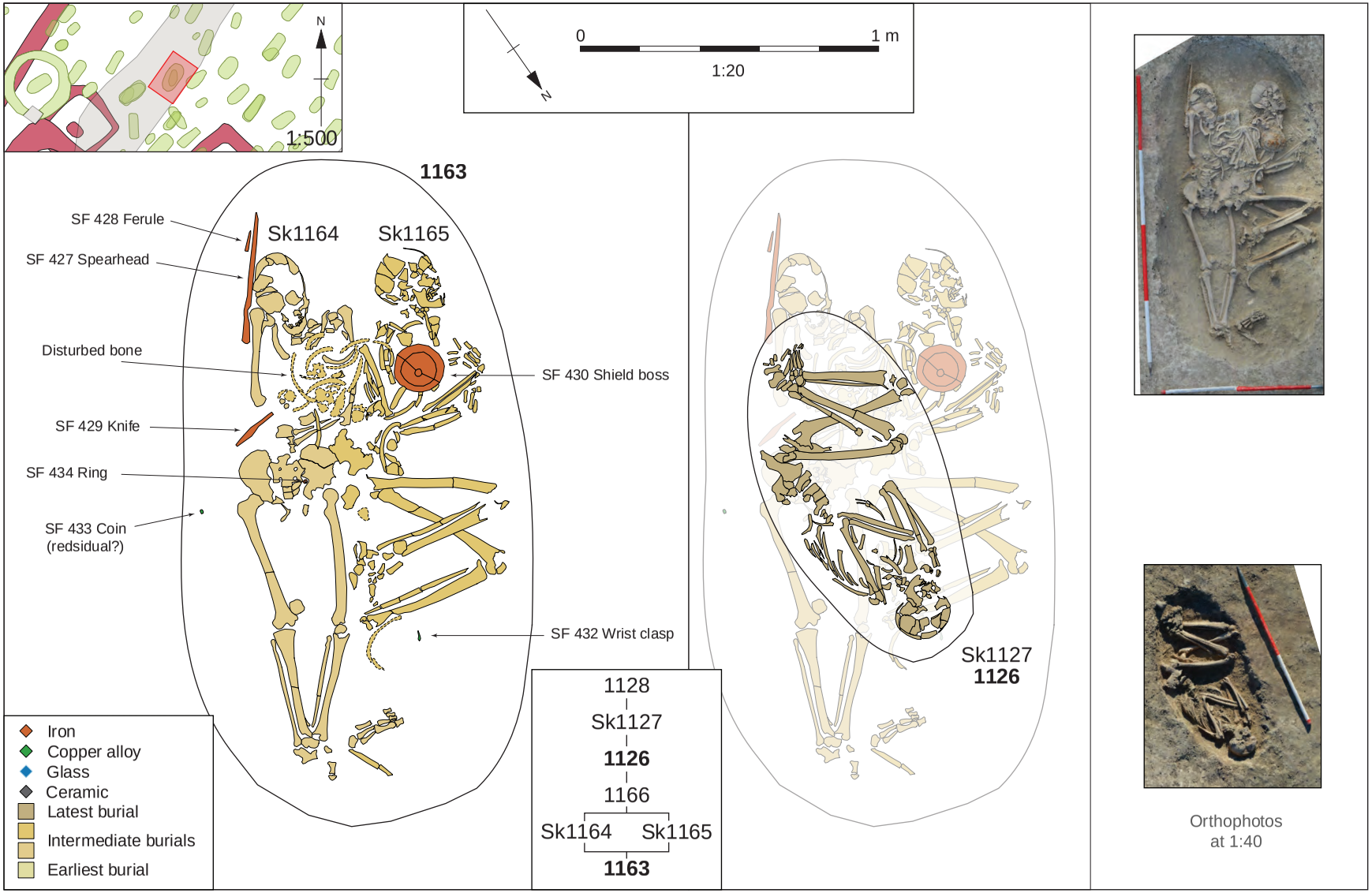

Figure 8: Graves **1163** and **1126** showing Skeletons Sk 1164, Sk 1165 and Sk1127.

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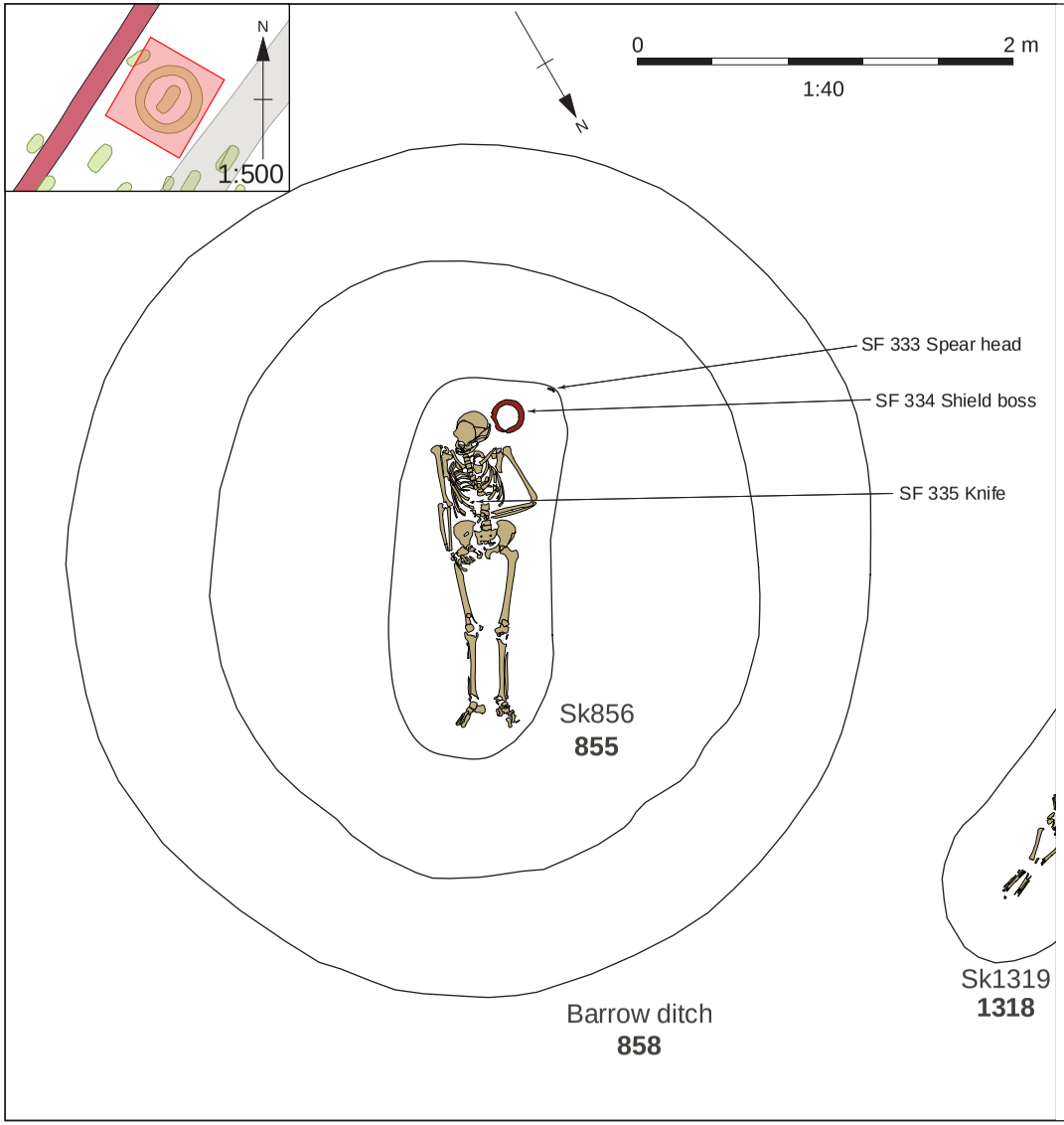

Composite orthophoto at 1:40

Sk856 showing SF 333 and SF 334

Figure 9: Barrow Burial **855**, showing skeleton Sk856 and Barrow Ditch **858.**

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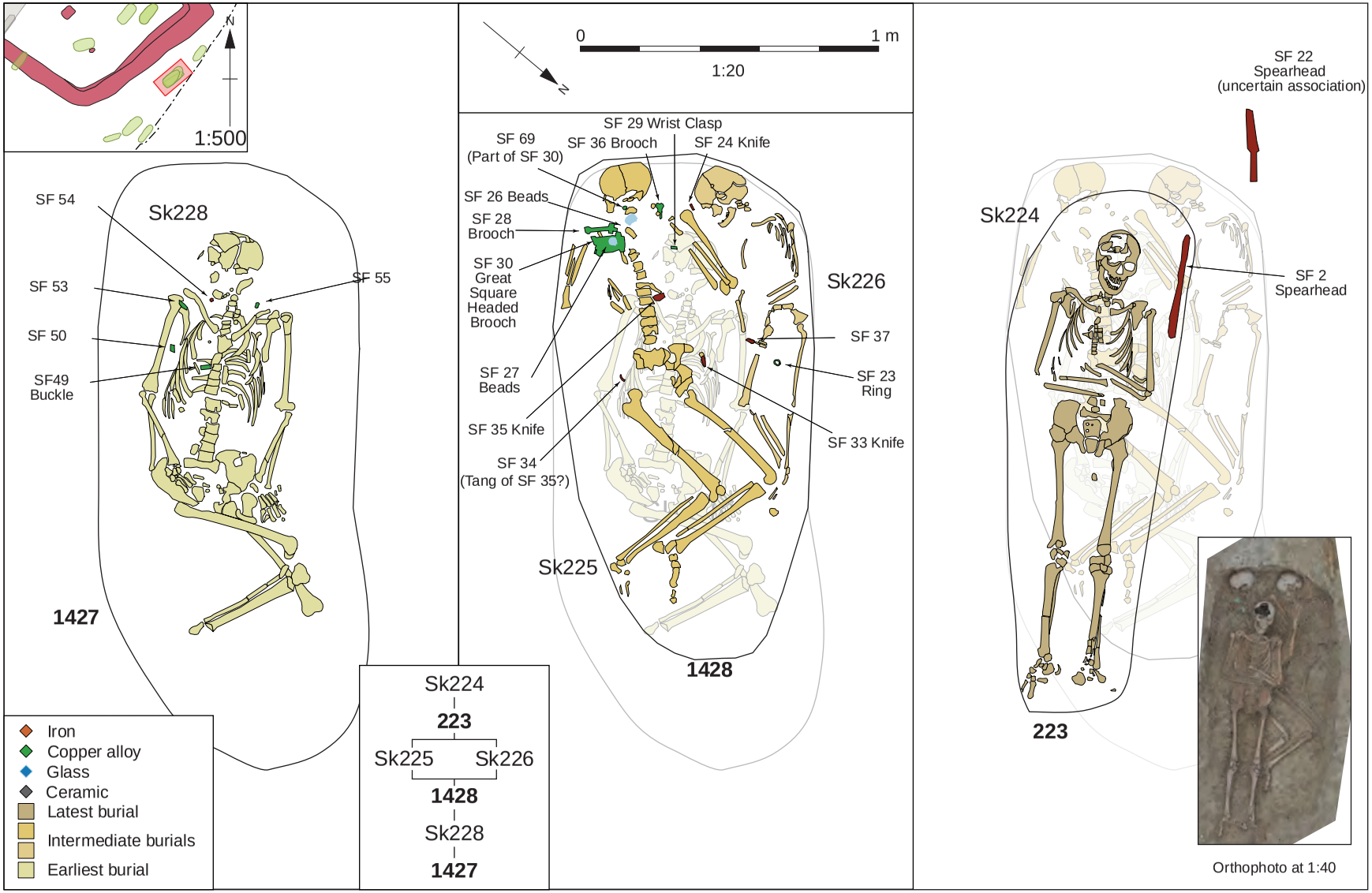

Figure 10: Graves **1427**, **1428** and **223**, showing skeletons Sk228, Sk225, Sk226 and Sk224.

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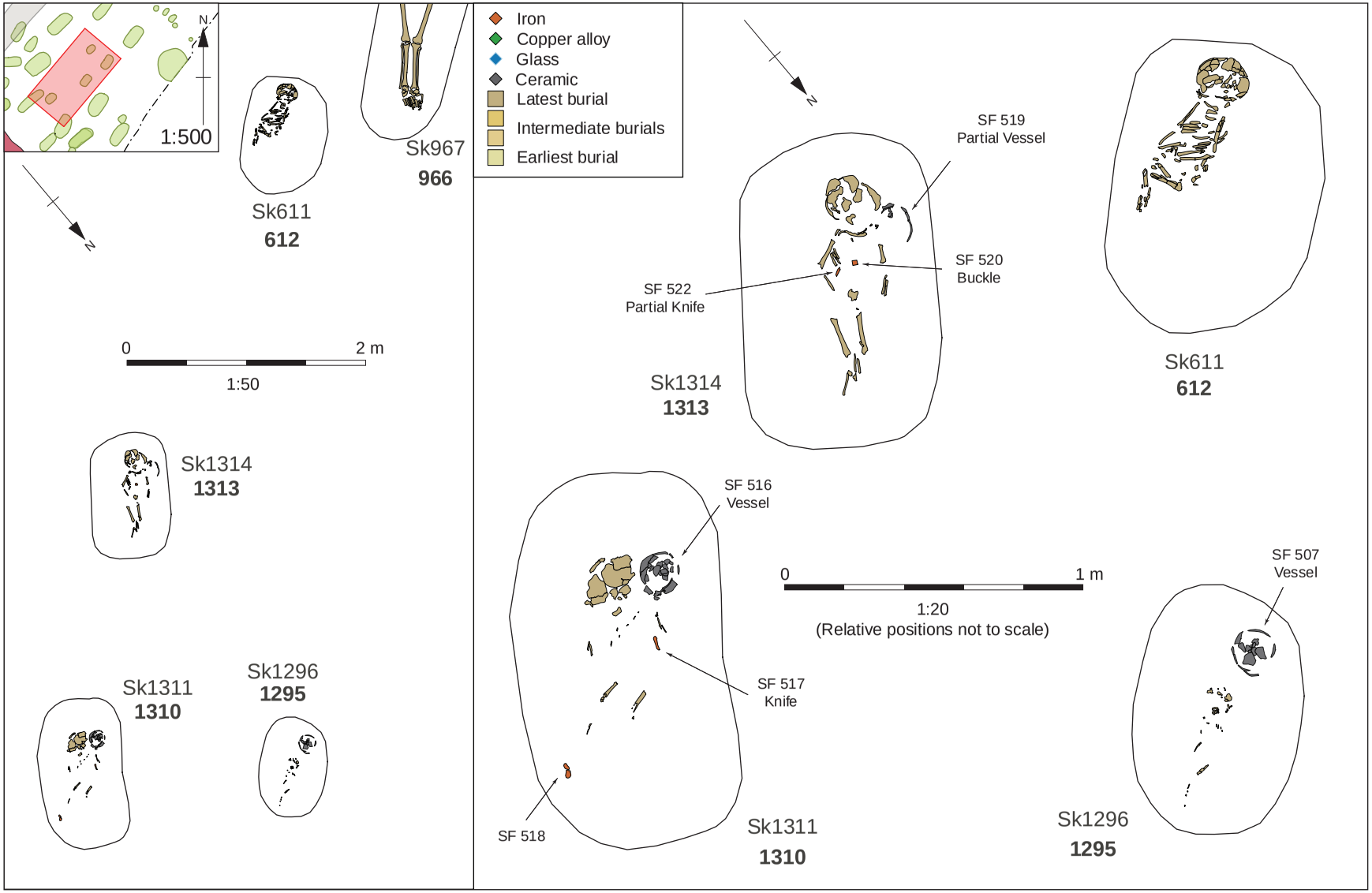

Figure 11: A group of infant burials, showing skeletons Sk611, Sk1313, Sk1310 and Sk1296.

Plate 1: 2nd-3rd Century Roman Cremation **231**. View to north-west. Scale 1m.

Plate 2: Late Roman Cremation **261**. View to north. Scale 0.4m.

Plate 3: Early Saxon skeleton Sk274 in Grave **273**. View to south-west.

Plate 4: Early Saxon skeleton Sk1202 being excavated, showing brooch SF 394.

Plate 5: ?Roman building material in upper fill of Early Saxon Barrow Ditch **358**. View to south-east.

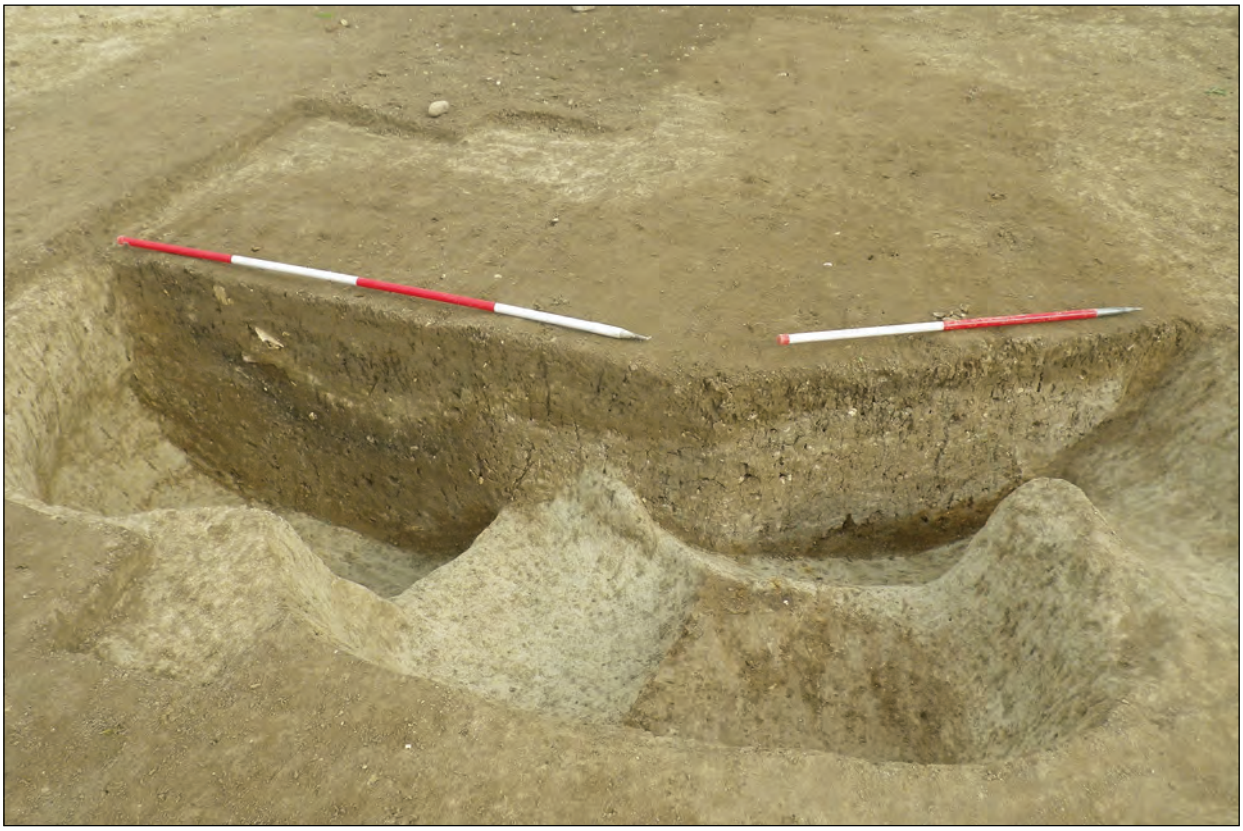

Plate 6: Middle Saxon Pits **852**, **880** and **874**, truncated by a furrow. View to north.

SF 124 Small Long Brooch
Sk294, Grave **293**

SF 85 Buckle, buckle plate and belt mount
Sk259, Grave **258**

SF 451 Wrist clasps
Sk1202, Grave **1201**

0 50 mm

1:1

SF 416 'Hippogriff' shield mount
adapted into a brooch
Sk1116, Grave **1115**

SF 27 (& 69) Great square-headed brooch
(and broken end)
Sk225, Grave **223**

0 100 mm

1:2

Plate 7: Example Early Saxon copper alloy objects following cleaning.

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