



# **Roman Settlement Remains South of Old School Lane, Upware, Cambridgeshire**

## **Archaeological Excavation Report**

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# Roman Settlement Remains South of Old School Lane, Upware, Cambridgeshire

## *Archaeological Excavation Report*

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## Summary

Between the 11th of December 2017 and the 11th of July 2018, Oxford Archaeology East carried out the archaeological excavation of an area adjacent to Old School Lane, Upware, Cambridgeshire. Alongside slight traces of earlier, prehistoric, activity the excavations revealed extensive Romano-British remains, attesting to activity between the mid 2nd century and the later 4th century AD. A linear 'ladder' system of cojoined ditched enclosures was partially exposed in the southern part of the site, whilst a complex, multi-phase complex of small enclosures was revealed in the northern half of the site. Most significantly, the well-preserved remains of a masonry-footed aisled building were partially exposed on the northern edge of excavation.

The various enclosure ditches produced relatively substantial finds assemblages and seem to have made up part of a major rural settlement located on the very southern end of the Upware 'promontory', immediately adjacent to the contemporary fen edge and the course of the River Cam. Features associated with the enclosures included burials, pits, wells and a possible grain steeping/malting tank. The aisled building was represented by a set of large postholes associated with surviving masonry footings and internal layers/surfaces, and major finds assemblages were recovered from a midden-like deposit exposed immediately to the south of the structure. The fills of the post pipes of the structure's post settings produced very large assemblages of charred grain, suggesting that it had been used for the storage of agricultural produce and had perhaps been destroyed by fire. Domestic use of at least part of the structure is, however, indicated by other finds, including painted wall plaster, from deposits associated with the building.

The finds and environmental evidence from the site indicate a prosperous agricultural settlement, with activity peaking in the 3rd and 4th centuries AD. The character of the pottery and metalwork hint at a relatively high status for the site and indicate good access to contemporary networks of communication and exchange. This is also reflected by the site's distinctive topographic location, immediately adjacent to the River Cam, with access to the important network of navigable waterways in the southern fens. The site makes an important contribution to the record of Romano-British activity in this area, and represents the first excavation of a major site along this stretch of the Cam valley, downstream from the major enclave of Romano-British settlement and industry known from around the junction of the Cam and the Old Tillage (Car Dyke) at Horningsea/Waterbeach.

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The project was managed for Oxford Archaeology by Matt Brudenell. The fieldwork was directed by Paddy Lambert, Robin Webb and Leanne Robinson Zeki, who were supported by Tegan Abel, Sam Corke, Anne-Marie Webb, Andrzej Zanko, Jamie Hirst, Dan Firth, Jo Nastazsyc, Carlotta Marchetto, Kelly Sinclair, Rona Booth, Scott Forsyth and Lexi Dawson. Survey and digitising were carried out by Sarita Louzolo with help from Jo Nastazsyc and Gareth Rees. Thanks are also due to the teams of OA East staff that cleaned and packaged the finds under the management of Natasha Dodwell, Martha Craven who processed the environmental remains under the supervision of Rachel Fosberry, and Katherine Hamilton prepared the archive under the direction of Natasha Dodwell.

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## 1 INTRODUCTION

### 1.1 Background and scope of work

- 1.1.1 Between the 11th December 2017 and 11th July 2018, OA East carried out excavations at Land South of Nos 1 to 7 Old School Lane, Upware, Cambridgeshire (NGR TL 53751 70051; Fig. 1). The site lies on the western edge of the village of Upware near to the current course of the River Cam and just north of Reach Lode Lock.
- 1.1.2 The work was commissioned by Emma Cross in respect of residential development of the site (Planning Application: 15/00482/OUT and 16/01307/OUT).
- 1.1.3 The archaeological excavations were undertaken in accordance with an approved Written Scheme of Investigation (WSI) prepared by OA East (Blackbourn & Brudenell 2017), the preparation of which was informed by a Brief issued by Gemma Stewart of CHET (Stewart 2017).
- 1.1.4 Previous evaluation conducted by OA East in September 2017 (Blackbourn 2017) had identified a concentration of Roman settlement remains. Enclosure ditches and pits were revealed, while stones found in the subsoil indicated the possibility of stone-built structures. The majority of the dateable artefacts suggested that the remains dated to the later part of the Roman period (c.AD 250-400).
- 1.1.5 The excavation comprised a total of 0.57ha, investigated in two contiguous areas: the Southern Area (consisting of former Block B and part of Block A); and the Northern Area (consisting of the remainder of former Block A; see Blackbourn and Brudenell 2017). These were excavated in two phases: the Southern Area (0.17ha) between 11th December 2017 and 8th January 2018 and the Northern Area (0.23ha) between 24th April and 11th July 2018.
- 1.1.6 Following completion of the fieldwork a programme of post-excavation assessment was carried out and reported on, allowing the production of an Updated Project Design (Robinson-Zeki 2020), which has guided the full analysis of the site reported on here.

### 1.2 Topography and geology

- 1.2.1 The site lies on land which slopes slightly to the south and west, situated to the south of Old School Lane and west of Upware Road. At the time of excavation, it comprised pasture next to the River Cam lying at approximately 2.4m to 3.7m OD, bounded by residential housing to the north and Upware Road to the east. The River Cam lies c.60m to the west and south, with pasture land between the watercourse and the development area.
- 1.2.2 The underlying geology of the development area comprises Upware Limestone Member, with the site situated c.2km south of the limestone outcrop. Superficial deposits were found to be a mix of clays and sands with occasional small patches of degraded limestone in the north of the site.
- 1.2.3 An alluvial deposit of pale brown/grey silty clay was found to cover a small portion of the site close to the western edge of the excavations.

## 1.3 Archaeological and historical background

- 1.3.1 A full search of the Cambridgeshire Historic Environment Record (CHER) of a 1km radius centred on the excavation site was commissioned from CHET. The following section provides a brief summary of these records along with the results of previous archaeological investigations in the vicinity, with selected records plotted on Fig. 2 and highlighted in bold in the text below.

### *Prehistoric*

- 1.3.2 All of the records dating to the prehistoric period in this area relate to unstratified findspots. An unidentified Mesolithic object (CHER 06917) was recorded c.1km north-west of the site. Further evidence for Mesolithic activity was recovered from land just north of Old School Lane in the form of an assemblage of Mesolithic flintwork (CHER **06896**) consisting of cores, flakes, blades and microliths.
- 1.3.3 Several axeheads have been recovered in the vicinity, dating to the Neolithic and Bronze Age periods. Nearest to the site, 300m to the south, an axehead of an unknown date (CHER **06579**) was recovered. Further afield, 500m to the north-east, a Neolithic polished flint axehead (CHER 06968), along with a further flint axehead, stone axehead and flint tools (CHER 06969A) were collected. A bronze socketed axehead (CHER 06969), of Bronze Age date, was also found in this field.

### *Roman*

- 1.3.4 Prior to the 2017 evaluation of the site discussed here (see below), Roman remains in the area were restricted to unstratified findspots. Immediately to the east of the site, across Upware Road, are three such findspots. A Roman coin (CHER **06937**) of Constantine the Great (AD308-337) was recovered, while a number of pottery sherds were also found (CHER **06939**, **06930**), although the quantity is unknown and specific dates were not included in the records.
- 1.3.5 Other Roman findspots have been identified further afield. Most of these are pottery sherds recovered from approximately 250m east of the site (CHER **06940**), 300m to the north-west (CHER **06942**) and 600m to the north (CHER 06943). Those from the latter location are fragments of Roman grey ware jars.
- 1.3.6 Puddingstone quern fragments were also recovered from the sites to the north-west and north (CHER **06942**, 06943).

### *Anglo-Saxon and medieval*

- 1.3.7 Very few remains dating to the Anglo-Saxon and medieval periods have been uncovered in the vicinity of the site. Closest to the site, an Anglo-Saxon scramasax, small knife and skeletal remains (CHER **08152**) were recovered from land c.0.5km to the east.
- 1.3.8 An early 13th century sword (CHER 02107) was dredged from the River Cam in 1982, c.0.8km north of the site.
- 1.3.9 Reach Lode (CHER **07896**) is an artificial navigable water course, which runs for 4.82km between Upware and Reach. Whilst for much of the 20th century it was suspected to

have its origins as a Roman canal, it is now more usually thought to date no earlier than the Late Saxon period.

### *Post-medieval and modern*

- 1.3.10 Immediately north of Old School Lane, to the north of the site, are the rectangular cropmarks of a moated Civil War gun battery (CHER **01066**), built upon an earlier mound and moat. It is believed that the mound overlies a cell or chamber. The moat has been backfilled and is visible as a cropmark measuring approximately 5m in width.
- 1.3.11 Two pumping stations and a steam engine pump lie to the south of the site. The Burwell pumping station (CHER **06524**) is located just off Upware Road, around 60m south of the site: its boilers are recorded as being made by William Fairbairn of Manchester. The Swaffham Prior pumping station (CHER **06398**) lies 250m to the south and comprised a boiler room and engine room. The site of a steam engine pump (CHER 06873) is also recorded 350m south. These buildings probably originated in the 1800s.
- 1.3.12 Various manmade drains are also located south-east of Upware, and include Commissioner's Drain (CHER 06874), which runs for 8.04km across Bottisham and Swaffham Fen, and Wicken Lode (CHER 06817) which runs between Wicken and Burwell. Harrison Farm is located 700m south-west of the site (CHER 06578) and was built in 1810 by Thomas Harrison.

### *Undated*

- 1.3.13 Cropmarks from undated features have been identified in the environs of Upware. Two east to west parallel linear cropmarks (CHER 10208) have been mapped 150m east of the site, although they did not appear to continue onto the development area.

### *Previous work*

- 1.3.14 The programme of works described here began with an archaeological evaluation (ECB5205; Blackburn 2017) conducted at the site in September 2017. Six trenches (each measuring 30m x 2m) were opened in the development area (see Fig. 1), revealing evidence for Roman settlement. This included a relatively dense network of ditches, gullies and pits forming parts of several rectilinear enclosures. Artefacts included Roman pottery (primarily dating between AD250-400), animal bone, ceramic building material, fragments of quern, stone, shell, three Late Roman coins and a lead weight. The ceramic building material suggested the presence of structures, and stone observed in the topsoil was interpreted as the possible disturbance of stone footings or stone-packed postholes.

## 2 EXCAVATION AIMS AND METHODOLOGY

### 2.1 Aims

#### *Original research aims and objectives*

2.1.1 A series of project research aims and objectives were outlined in the WSI (Blackbourn & Brudenell 2017), based upon the results of the evaluation (Blackbourn 2017). These provided a research framework for the excavations and were formulated in reference to the brief set by the CHET and relevant Regional Research Frameworks (Glazebrook 1997; Brown and Glazebrook 2000; Medlycott 2011). The objectives were separated into a series of generic excavation aims common to most projects (which focus on defining the date and form of evidence) and a set of more site specific research questions – the latter are outlined below.

- *Settlement: What was the form of the Roman settlement? Are different activity zones apparent and how were they used? How did the settlement structure develop over time? How does the settlement morphology compare with other similar settlement in the local and wider area?*
- *Environment: what can be reconstructed about the environmental conditions on this fen-edge settlement, as well as how they changed over the Roman period.*
- *Material culture: what is the range of ceramics used on the site, and how do they develop over time? What are their sources, and what does their distribution reveal about how the site was connected to wider patterns of material culture in the Late Roman period?*
- *Agriculture: what can be said about the animals and crops, and how were they used? What can be said about wider agricultural practices and land use on this fen-edge site? What can be said about animal husbandry on the site and the wider area?*
- *Economy: what was the economic basis for the settlement? What did it produce and what did it import? In particular, what can the site's ceramic sequence and proximity to the River Cam reveal about trade and communication in the region and into the Fens during the Roman period?*
- *Romanisation: what can the site contribute to understanding of the Romanisation of area (the Soham peninsula in particular)? How does this site relate to the other Roman settlements known along the edge of the Cam to the north of the site, and what does it reveal about Roman settlement strategies?*

#### *Revised aims*

2.1.2 The programme of Post-Excavation Assessment demonstrated the evidence obtained from the excavations was able to contribute to the original research aims as listed above, and that they remained relevant to the project. However, the unanticipated discovery of a regionally significant masonry-footed aisled building led to the formulation of further series of research questions explicitly concerned with this structure:

- 2.1.3 *The Aisled Building: What form did the building take? What function(s) did the building have? How long did the building remain in use and how was it demolished/dismantled? What are the implications of the building in terms of the status and character of the wider settlement?*

## 2.2 Fieldwork Methodology

### *Excavation standards*

- 2.2.1 Archaeological excavations and analysis were conducted in accordance with current best archaeological practice and the appropriate national and regional standards and guidelines.
- 2.2.2 All work was conducted in accordance with the Chartered Institute for Archaeologists' (2014a) *Code of Conduct and Standard and Guidance for Archaeological Excavation* and undertaken in accordance with the requirements of the OA Field Manual, and the revised OA fieldwork manual.

### *Excavation methods*

- 2.2.3 The site was excavated in accordance with the Written Scheme of Investigation (Blackbourn & Brudenell 2017). The development area was divided into two contiguous areas which were excavated in two separate mobilisations: the Southern Area was excavated first and subsequently backfilled following agreement with CHET; following which the Northern Area was excavated.
- 2.2.4 All machine excavation took place under the supervision of a suitably qualified and experienced archaeologist. The excavation areas were stripped by a mechanical excavator to the base of the topsoil. The subsoil was then metal detected by an experienced user with all finds plotted and retrieved. Following this, the subsoil was stripped by a mechanical excavator to the base of the subsoil. A toothless ditching bucket was used to remove the topsoil and subsoil and overburden was excavated in spits not greater than 0.1m thick.
- 2.2.5 Alluvium was encountered on the western edge of the excavation area. This was removed, since it obscured archaeological features.
- 2.2.6 Localised spreads of artefacts and pieces of stone rubble were visible at the base of the topsoil in two areas at the eastern edge of the site. These were left in place for hand excavation in the form of 1m by 1m test pits arranged on a grid (Test pit Areas 1 and 2). The stone footings of the rectangular building in the north-east corner of the site were also identified at the topsoil/subsoil interphase. The walls and interior of the building were subsequently cleaned and recorded, with artefacts collected at this level. No interior features could be clearly defined at this stage as the ground was rooted from adjacent trees and ploughing scarring obscured the internal fixtures. Following the excavation of a series of strategically placed 1m by 1m test pits (which served to characterise the building stratigraphy and the presence of underlying features), and, with the agreement of the CHET, the interior of the building was carefully machine stripped with a mini-digger.

- 2.2.7 Sufficient excavation of all features was carried out in line with Written Scheme of Investigation (Blackbourn & Brudenell 2017) and in consultation with the CHET.
- 2.2.8 Metal detector searches were undertaken at all stages of the excavation by an experienced metal detector user. Excavated areas were detected immediately after mechanical stripping of the topsoil. Topsoil spoil heaps were also checked. Metal detectors were not set to discriminate against iron. All artefacts were retrieved, given an individual small find number and located via GPS survey.
- 2.2.9 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Plans and sections were recorded at an appropriate scale and digital photographs were taken of all relevant features and deposits. Registers of all contexts, features, photographs, sections, small finds, environmental samples and human remains were kept.
- 2.2.10 Surveying was undertaken using a survey-grade differential GPS fitted with "smartnet" technology with an accuracy of 5mm horizontally and 10 mm vertically. The site grid has been tied into the Ordnance Survey National Grid and elevations have been levelled to the Ordnance Datum.
- 2.2.11 Pre-excavation plans were prepared using a combination of GPS-based survey and photogrammetry.
- 2.2.12 Plans and sections were supplemented with photogrammetric recording of the excavation areas in general and in detail in specific occasions. Models have been based on high-resolution digital photographs and processed using Agisoft Photosoft (Professional Edition) software. Models incorporated reference points located using GPS-based survey equipment.
- 2.2.13 A total of 144 bulk samples were taken from the excavated features. A selection of 54 samples were processed for assessment via flotation at OA East's environmental processing facility at Bourn. In addition, a column tin sample was taken, and a total of 29 samples were taken for phosphate analysis.
- 2.2.14 Site conditions varied with the seasons being frozen, puddled and dry in turn.

## 3 RESULTS

### 3.1 Introduction and presentation of results

- 3.1.1 Two contiguous open area excavations (the Southern Area and the Northern Area) were undertaken in the development area, totalling approximately 0.57ha (Fig. 3; Plates 1 and 2).
- 3.1.2 The archaeological works in the southern part of the site revealed the partial remains of a Roman ladder settlement on a north-east to south-west alignment, associated with discrete pits and postholes also dating broadly to the Roman period. Two ditches on a different north to south alignment were identified as the latest features, which probably dated to the post-Roman period.
- 3.1.3 Further Roman enclosures and boundary ditches were exposed across the Northern Area, here forming a complex sequence of inter-cutting ditches which clearly belonged to a complex multi-phase enclosure system associated with various features including pits, wells, ovens and burials. In the north-eastern corner of the area, the remains of a relatively well-preserved aisled building with masonry footing were found.
- 3.1.4 At the most general level, the remains recorded during the excavation have been separated into three broad phases: Phase 1: Prehistoric, Phase 2: Roman and Phase 3: Post-Roman. The vast majority of features belong to Phase 2, which has itself been divided into five subphases (Phases 2.1-2.5), based largely on stratigraphic and spatial relationships between the elements of the complex series of enclosure and boundary ditches exposed in the Northern Area.

| Phase | Chronological Period | Approximate Date Range          |
|-------|----------------------|---------------------------------|
| 1     | Prehistoric          | pre AD 43                       |
| 2.1   | Middle Roman 1       | mid 2nd to early 3rd century AD |
| 2.2   | Middle Roman 2       |                                 |
| 2.3   | Middle/Late Roman 1  | early 3rd to mid 4th century AD |
| 2.4   | Middle/Late Roman 2  |                                 |
| 2.5   | Late Roman           | 4th century AD                  |
| 3     | Post-Roman           | c. AD 410 onwards               |
| 0     | Unphased             | n/a                             |

*Table 1. Phasing scheme, with indicative chronology*

- 3.1.5 The results of the excavation are set out below by phase. Phased base plans of all features are provided in Figs 3-5, accompanied by a series of individual phase plans and detailed plans of selected individual features/areas of the site (Figs 6-16). Selected section drawings are provided in Fig. 17 and selected photographs of the excavations have been reproduced in Plates 1-12. The distribution of Roman pottery has been plotted by phase in Fig. 19 and similar plots of selected small finds and coins can be found in Fig. 19. A context inventory is provided in App. A, and full specialist reports on the finds and environmental remains are provided in Apps B and C respectively. Details of the three radiocarbon dates obtained on samples from the site are supplied in App. D.

## 3.2 Phase 1: Prehistoric (Fig. 6)

### *Introduction*

- 3.2.1 Evidence for pre-Roman activity was sparse and features and finds of this date were largely restricted to the Northern Area, with the exception of an isolated cremation burial found in the southernmost part of the site. Although very few features could be attributed to this broad period, it has been possible to attribute most of the more significant remains to three broad phases: Mesolithic to Neolithic, Early/Middle Bronze Age, Late Bronze Age/Early Iron Age and later Iron Age.

### *Mesolithic and Neolithic*

- 3.2.2 No pottery predating the Early/Middle Bronze Age was recovered from the site, although Mesolithic and Neolithic activity is represented by an assemblage of 109 worked flints recovered either as residual finds within later features or from unstratified deposits (see Booth, App. B.3). The flintwork was thinly, but widely, distributed across the site, with no obvious concentrations of material. Notable/diagnostic finds include three arrowheads; an early Neolithic leaf arrowhead from the extreme southern part of the site from Phase 2.1 pit **153**, and two Middle/Late Neolithic chisel arrowheads, from ditches **513** (Phase 2.4) and **739** (Phase 2.5) in the Northern Area.

### *Early to Middle Bronze Age (c. 1900-1200 BC)*

- 3.2.3 A single pit (**931**), located within the area later occupied by the Roman aisled building (815) produced a small quantity of shell-tempered pottery, probably of Middle Bronze Age date (four sherds, 19g). This bowl-shaped pit measured up to 0.76m in diameter and up to 0.4m deep (Fig. 17, Section 311) and contained a primary fill of light yellowish grey clay (932) overlain by a mid orangey brown sandy clay with charcoal inclusions (933). Fragments of red deer antler were also recovered from this upper deposit, including a large beam fragment with attached tines, and other fauna, as well as some charred wheat and barley grains, which probably represent intrusive (Roman) material (App. C.3). Two sherds (21g) of residual grog-tempered Early-Middle Bronze Age pottery were recovered from Phase 2.1 ditch 674 (cut **920**) immediately (within 0.5m) to the south of pit **931** (see Fig. 4), and seems likely to have been associated with the same episode of activity. A single sherd of probable Middle Bronze Age pottery (5g) was also recovered from Phase 2.3 ditch 639 (cut **658**), some 16m south of pit **931** (see Fig. 4).
- 3.2.4 In the Southern Area, within the area of a later, Roman, enclosure a subcircular, pit (**245**), not on Fig. 6 measuring 0.6m in diameter and 0.3m deep contained a basal fill of dark grey silty sand with frequent charcoal and almost 2kg (1925g) of cremated human bone, belonging to at least one (unsexed) adult individual (App. C.1). This deposit was overlain and sealed by a mid sandy clay. A sample of the bone from the lower fill has been radiocarbon dated (App. D; BRAMS-4091; 3013±25 BP), and although the calibrated date range is imprecise, at 75.3% confidence it is dated to 1311-1194 cal BC, suggesting a date in the latter part of the Middle Bronze Age for this cremation burial.

### ***Late Bronze Age/Early Iron Age (c. 1200-350 BC)***

- 3.2.5 Late Bronze Age/Early Iron Age activity was represented exclusively by a small quantity of residual pottery (22 sherds, 152g; App. B.7). Although recovered in very low densities from later features (deriving from more than 20 individual contexts/interventions), it is notable that the distribution of this material was largely restricted to the northern part of the Northern Area and is likely to indicate an episode of occupation in this area which left no clear evidence in the form of cut features.

### ***Later Iron Age (c. 350 BC – AD 50)***

- 3.2.6 Although essentially undated, a curvilinear gully which was found to underlie the aisled building (815) in the northern part of the site, is thought likely to have represented the heavily truncated remains of a roundhouse drip gully (926). Some 13m to the south-west of this was a pair of intercutting pits (708 and 710), the latest of which produced a small quantity of Iron Age pottery including a sherd of wheel-thrown, Late Iron Age pottery (c. 50 BC-AD 50). Additionally, a total of 45 sherds (347g) of residual/poorly stratified handmade Middle Iron Age type pottery was also recovered (App. B.7). As with the Late Bronze Age/Early Iron Age material, this was virtually restricted to the northern half of the Northern Area of the site, with a notable concentration from features and deposits in the area of Building 815, perhaps suggesting an association with ring gully 926.

Ring gully 926 consisted of three shallow, heavily truncated, segments of curvilinear gully cut into the natural clay. It was revealed following the removal of deposits associated with the aisled building (see below and Fig. 11). If projected (beyond the limits of excavation) The gully would have demarcated a circular area with an internal diameter of around 8m. The entire length of the gully, as exposed in the excavated area, was excavated in a series of nine interventions (926, 928, 930, 946, 948, 950, 952, 954, 956). The gully was up to 0.3m wide and 0.17m deep, with a U-shaped profile, and was filled by a single mid yellowish orange grey clay silt. The only find from this feature was a single sherd of coarseware Roman pottery (16g, from intervention 926), which is likely to have been intrusive from overlying deposits associated with the aisled building - the same is likely to be true of charred cereal grain recovered from bulk sampling of the gully's fill.

Some 13m to the southwest of the drip gully were a pair of intercutting, circular, pits. The earliest of these features (708) measured up to 0.9m in diameter and 0.2m deep and was filled by a single light grey brown clay sand. Cutting through this feature, on its southern side, pit 710 measured 1.3m in diameter and up to 0.25m deep, with a shallow U-shaped profile. The single mid grey brown clay sand fill of this pit contained 12 sherds (270g) of pottery, mostly from handmade vessels in sandy fabrics but including a wheel-made base sherd which can be dated to the Late Iron Age.

### ***Possible prehistoric features***

- 3.2.7 A further ten features, comprising nine small pits and possible postholes and a short length of slightly curvilinear gully, all located in the northern part of the Northern Area, produced no dating evidence but are thought likely to have related to prehistoric activity given a lack of later finds and/or on the basis of their stratigraphic relationships with other features. In most cases, these features were located within the main area of the distribution of residual Late Bronze Age to Iron Age pottery in the northern part of the site.

The gully (734: 734, 736) was located approximately 12m to the west of ring gully 926 and was aligned broadly north to south. It measured 4m long, having been truncated at its northern end by Period 2.5

ditch **676** (Enclosure 526). It was very shallow, surviving only up to 80mm deep and 0.23m wide. It produced a single tiny sherd of Roman pottery (4g) which is likely to be intrusive.

The pits and postholes (**325, 705, 714, 805, 836, 838, 867, 879, 934**) were all insubstantial features, measuring between 0.2 and 0.6m wide and between 0.1 and 0.38m deep. Most were regular circular/sub-circular features but several, notably **867** and **934**, were more irregular/amorphous in plan and may have been natural features. All were filled with single deposits of yellow brown/grey sandy clays.

### 3.3 Phase 2.1: Middle Roman 1 (Fig. 7)

#### *Introduction*

3.3.1 Features attributed to the earliest phase of Roman activity were concentrated in the Northern Area and consisted of three boundary ditches defining a series of narrow plots/fields and a pair of conjoined enclosures which were partially exposed in the north-eastern corner of the excavation area. A number of poorly dated pits and postholes have also been tentatively attributed to this period, including a cluster of features in the southern part of the Southern Area. Relatively few finds were recovered from features assigned to this phase, although the pottery is broadly consistent with activity beginning no earlier than the 2nd century AD.

#### *Boundary Ditches*

3.3.2 Three boundary ditches (**59, 317** and **639**) laid out on a west-north-west to east-south-east alignment divided the Northern Area into two roughly equal plots of land approximately 20m wide. A minor north-south aligned ditch (**290**) which extended from the southern side of ditch **639** may represent a contemporary sub-division of the northernmost of these two plots. Summary information on the three major boundary ditches and their associated finds is provided in Table 2. A total of 176 sherds of Roman pottery was recovered from these features, most of which consisted of coarse wares broadly dated to between AD 100 and 400. Few other finds were recovered and processing of bulk soil samples of the ditch fills produced very sparse charred plant remains (App. C.3).

| Feat. No. | Cut No. | No. of Fills | Dimensions |           | Pottery   |          | Other finds |      |         |            |
|-----------|---------|--------------|------------|-----------|-----------|----------|-------------|------|---------|------------|
|           |         |              | Width (m)  | Depth (m) | Roman     | Prehist. | Flint       | Bone | CBM     | Fired Clay |
| 59        | 59      | 4            | 2.2        | 0.46      | 77 (543g) | -        | -           | 26   | 2 (62g) |            |
|           | 353     | 2            | 0.8        | 0.3       | 7 (38g)   | -        | -           | 2    | -       |            |
|           | 356     | 1            | 0.9        | 0.46      | 10 (67g)  | -        | 1           | 10   | -       | 1 (18g)    |
| 317       | 317     | 1            | 0.93       | 0.42      | 1 (21g)   | -        | -           | -    | -       |            |
|           | 321     | 1            | 0.94       | 0.47      | -         | -        | -           | -    | -       |            |
|           | 446     | 1            | 1          | 0.46      | -         | -        | -           | -    | -       |            |
|           | 473     | 1            | 0.84       | 0.31      | 5 (15g)   | -        | -           | 8    | -       |            |
| 639       | 639=646 | 3            | 1.47       | 0.62      | 40 (312g) | 5 (25g)  | -           | 27   | -       |            |
|           | 658     | 3            | 1.4        | 0.76      | 11 (445g) | -        | 6           | 7    | -       |            |
|           | 703     | 1            | 0.34       | 0.13      | -         | -        | -           | -    | -       |            |

|  |     |   |      |              |                        |                     |          |            |                    |                |
|--|-----|---|------|--------------|------------------------|---------------------|----------|------------|--------------------|----------------|
|  | 718 | 3 | 1.82 | 0.62         | 18 (334g)              | 6 (42g)             | -        | 57         | -                  |                |
|  |     |   |      | <b>Total</b> | <b>174<br/>(1805g)</b> | <b>11<br/>(67g)</b> | <b>7</b> | <b>137</b> | <b>2<br/>(62g)</b> | <b>1 (18g)</b> |

*Table 2. Excavated interventions in Phase 2.1 boundary ditches*

Ditch **59** was the southernmost of the three boundary ditches; it extended beyond the excavation area at both ends and ran on a broadly straight course across the site, until it curved to the north-west at its western end. During the excavation it was investigated in three 1m wide interventions (**59**, **353** and **356**) and, although along much of its length its northern edge was cut away by Phase 2.2 ditch **69**, where its full profile was recorded it measured up to 2.4m wide and 0.46m deep. The ditch was generally steep sided with a flat base (Section 156, Fig. 17) and individual interventions contained between one and four fills, generally dark grey brown/brown grey silty sands and clays. A total of 94 sherds (648g) of Roman pottery was recovered from the ditch fills – largely from the fills of intervention **59**. Little of this was closely dateable but none of this material is likely to predate the 2nd century AD. A small fragment (18g) of clay kiln furniture (plate), probably deriving from a 1st century AD kiln, was recovered from the single fill of intervention **356** (fill 357), although this may have been residual. Other finds included small quantities of animal bone and ceramic building material (see Table 2).

Some 20m north of ditch **59**, ditch **317** ran from the eastern edge of excavation for around 20m before terminating some 5m to the east of the western edge of excavation. Investigated in four interventions (**317**, **321**, **446** and **473**) it was between 0.8 and 0.1m wide and up to 0.46m deep, usually with steeply sloping sides and a flat base. It was consistently filled with a single deposit of mottled/mixed light grey to mid reddish brown sandy silt. Very few finds were recovered from this feature (Table 2), with just six sherds of Roman pottery – although the fill (472) of intervention 473 contained a fragment of quernstone (App.B.5).

The northernmost boundary ditch (**639**), was located approximately 20m north of ditch **59**. Exposed for a length of 35m and extending across the entire excavation area, this was a somewhat more substantial feature than the ditches to the south, but in places it had been heavily truncated by later ditches (Section 222, Fig. 17; see Fig. 4). Investigated in four interventions (**639=646** (Section 222, Fig. 17), **658**, **703** and **718**), it measured up to 1.8m wide and 0.62m deep with a broad U-shaped profile, and contained up to three fills, with basal mid grey sandy silts generally overlaid by darker brownish grey silty clays. Alongside a small quantity of residual prehistoric pottery, this feature produced 69 sherds (1091g) of Roman pottery, most of which can only be broadly dated to c. AD 100-400 but which included sherds from two more distinctive coarseware vessels - a Beaker and a dish - from the secondary fills of intervention **639=646** (deposits 641 and 648) which suggest a 2nd century date for the infilling of the ditch. A narrow north to south aligned linear ditch, **290** (**290**, **604**, **697**, **699**, **701**) adjoined, and appeared to be contemporary with, ditch **639**, and extended southwards for a distance of 12m. Measuring up to 0.38m wide and 0.25m deep it was filled by a single mid greyish brown silty clay and produced no finds.

### *Enclosure ditches*

- 3.3.3 Lying to the north of the northernmost boundary ditch were two small conjoined enclosures (Enclosures **674** and **877**), which were exposed in the area later occupied by the aisled building. Partially revealed against the northern and eastern limits of excavation, their original extent and layout are uncertain. The easternmost enclosure was defined by a curvilinear ditch (**877**) which enclosed the south-west corner of an area which continued beyond the north and east limits of the development area. The second enclosure (**674**) was contiguous to the western edge of enclosure **877**, with which it shared a dividing ditch (**906**), and consisted of three further ditches (**674**, **747** and **752**). Summary information on these features and their associated finds are provided in Table 3.

3.3.4 Most of the pottery recovered from the enclosure ditches is only dated broadly to the Roman period (41 sherds, 372g), with eleven sherds (88g) of prehistoric pottery probably being residual. Other finds include animal bone, Roman ceramic building material and fired clay.

|          |           |         |              | Dimensions |           | Pottery   |          | Other finds |          |            |
|----------|-----------|---------|--------------|------------|-----------|-----------|----------|-------------|----------|------------|
| Enc. No. | Feat. No. | Cut No. | No. of Fills | Width (m)  | Depth (m) | Roman     | Prehist. | Bone        | CBM      | Fired Clay |
| 674      | 674       | 674=675 | 1            | 0.88       | 0.48      | 2 (14g)   | 1 (23g)  | 17          | -        | -          |
|          |           | 749     | 2            | 1.16       | 0.48      | 1 (10g)   | 1 (6g)   | 6           | -        | -          |
|          |           | 917     | 2            | 0.84       | 0.37      | 1 (1g)    | 2 (8g)   | 2           | 1 (299g) | -          |
|          |           | 920     | 2            | 0.89       | 0.55      | 2 (6g)    | 4 (25g)  | -           | -        | -          |
|          |           | 937     | 1            | >0.2       | >0.2      | -         |          | 2           | -        | -          |
|          | 747       | 747     | 1            | 0.24       | 0.11      | -         |          | -           | -        | -          |
|          | 752       | 752     | 1            | 0.96       | 0.19      | 1 (10g)   | 3 (26g)  | 3           | -        | -          |
|          |           | 892=800 | 1            | 0.7        | 0.55      | 30 (311g) |          | 12          | -        | 4 (51g)    |
|          |           | 923     | 1            | 0.65       | 0.2       | -         |          | 1           | -        | -          |
|          |           | 942     | 1            | >0.3       | 0.22      | -         |          | -           | -        | -          |
| 877      | 877       | 877     | 3            | 0.75       | 0.58      | -         |          | -           | -        | -          |
|          |           | 903     | 1            | 0.9        | >0.18     | 1 (9g)    |          | 1           | -        | -          |
|          |           | 906     | 4            | 0.93       | 0.42      | 1 (1g)    |          | 1           | -        | -          |
|          |           | 911     | 2            | 0.82       | 0.32      | 1 (3g)    |          | -           | -        | -          |
|          |           | 914     | 2            | 0.6        | 0.3       | 1 (7g)    |          | -           | 2 (204g) | -          |
|          |           |         |              |            | Total     | 41 (372g) | 11(88g)  | 43          | 3 (503g) | 4 (51g)    |

Table 3. Excavated interventions in Phase 2.1 enclosure ditches

The easternmost of the pair of enclosures, enclosure **877** was formed by a single curvilinear ditch, examined in five individual interventions (**877, 903, 906, 911, 914**). This feature varied from 0.6m to 0.93m in width and between 0.3m and 0.58m deep and generally had a simple U-shaped profile. Its fill sequence varied somewhat in the various interventions, with between one and four fills identified, although these were invariably mid to dark grey brown silty sands and clays. Very few finds were recovered from these deposits – with just four small sherds of Roman pottery and two fragments of ceramic building material.

The western enclosure, enclosure **674**, was somewhat more complex in its layout: its eastern edge was formed by the northernmost length of the ditch of Enclosure **877**, and its southern side was formed by a straight linear ditch (**752**) which had been subject to a major episode of modification/recutting, represented by ditch **674**. A short length of ditch exposed against the edge of excavation within the interior of the area defined by these ditches (**747**) may have represented an internal subdivision of this space.

Ditch **752** (**752, 892=800, 923, 942**) was a straight-sided, linear feature measuring up to 0.96m wide and 0.55m deep with a U-shaped profile. It contained a single fill of mid grey silty clay and produced few finds, although the fill of intervention 892=800 produced a notable concentration of Roman pottery (30 sherds, 311g), none of which was closely dateable.

Ditch **674** (**674=675, 749, 917, 920**) cut along the northern edge of ditch **752** for much its length, and measured up to 1.16m wide and 0.55m deep, with a broad U-shaped profile and, where best-preserved contained two fills, typically a lower mid brownish grey silty clay and an upper mid orange brown silty clay. Few finds were recovered. The pottery included a notably high proportion of residual prehistoric material, presumably relating to the Phase 1 remains encountered in this area (see above).

Intersecting with the northern side of ditch **674**, with which it appeared to be contemporary, a short length of north-to south aligned ditch (**747**) was exposed. This was an insubstantial feature measuring 0.55m in width and although its profile was not fully excavated appears to have been no deeper than 0.15m. It contained a single mid brownish grey sandy clay and produced no finds .

## Pits and postholes

- 3.3.5 A total of 23 pits and postholes have been assigned to Phase 2.1. In all cases, however, this attribution is tentative, and closely dateable finds were few. Summary information on all these features and their finds is provided in Table 4.
- 3.3.6 A small number of these features were found in the Northern Area and have been attributed to this phase on the basis of their spatial relationship to the boundary ditches and enclosures in this part of the site. These comprise a pair of intercutting pits (**596** and **599**) south of boundary ditch **639**, a small pit or posthole (**457**) immediately south of boundary ditch **317**, a pit (**365**) immediately north of boundary ditch **59** and a pair of pits (**860** and **862**) within the area enclosed by enclosure **877**. Of these features, only intercutting pits **596** and **599** produced finds – limited to a small quantity of Roman pottery, including some material dating no earlier than the second half of the 2nd century AD, and a little animal bone.
- 3.3.7 In the Southern Area, a larger number of features have been attributed to this phase on the basis of their stratigraphic relationships to later ditches belonging to Phase 2.3 – and it should be noted that these features may equally relate to activity during Phase 2.2. These include a relatively dense scatter of features in the very southern part of the site, bisected by the ditch of Phase 2.3 enclosure **171**. The only significant finds assemblage came from pit **153**, which produced 155 pottery sherds (1,465g) dating to AD 150-300. Bulk sampling of the fill of one of these features (pit **97**) failed to produce any preserved plant remains.

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds       |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-------------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot   | Bone |
| 95        | 95      | 1     | Sub-circular | 0.36       | 0.3       | 0.15      | -           | -    |
| 97        | 97      | 1     | Sub-circular | 0.34       | 0.32      | 0.07      | 1 (9g)      | -    |
| 153       | 153     | 1     | Circular     | 2          | 1.22      | 0.22      | 155 (1465g) | 37   |
| 169       | 169     | 1     | Oval         | 1.3        | 2.4       | 0.12      | 7 (116g)    | -    |
| 206       | 206     | 1     | Oval         | 1.2        | 0.66      | 0.24      | -           | -    |
| 213       | 213     | 2     | Sub-circular | 0.56       | 0.6       | 0.35      | -           | -    |
| 216       | 216     | 3     | Sub-circular | 1.2        | 0.38      | 0.28      | 4 (65g)     | 4    |
| 222       | 222     | 1     | Sub-oval     | ~1.3       | 0.22      | 0.04      | -           | -    |
|           | 226     | 1     | Sub-oval     | ~1.3       | 0.28      | 0.1       | 1 (4g)      | 1    |
|           | 228     | 1     | Sub-oval     | ~1.3       | 0.28      | 0.1       | -           | -    |
| 230       | 230     | 1     | Circular     | 0.82       | 0.82      | 0.12      | 11 (116g)   | 4    |
| 236       | 236     | 1     | Circular     | 0.3        | 0.3       | 0.1       | -           | -    |
| 238       | 238     | 1     | Circular     | 0.3        | 0.3       | 0.7       | -           | -    |
| 240       | 240     | 2     | -            | >0.4       | 0.9       | 0.27      | -           | -    |
| 243       | 243     | 1     | Sub-oval     | 0.65       | 0.3       | 0.06      | 4 (41g)     | 1    |
| 256       | 256     | 1     | Sub-circular | 0.7        | 0.52      | 0.14      | -           | -    |
| 272       | 272     | 1     | Oval         | 1.2        | 0.68      | 0.21      | -           | -    |
| 365       | 365     | 2     | Sub-circular | 0.4        | 0.37      | 0.15      | -           | 3    |
| 457       | 457     | 1     | Sub-circular | 0.29       | 0.29      | 0.11      | -           | -    |
| 596       | 596     | 2     | Oval         | 0.66       | 0.7       | 0.34      | 9 (168g)    | 21   |
| 599       | 599     | 1     | Oval         | 0.66       | 0.64      | 0.28      | 1 (5g)      | 3    |
| 860       | 860     | 1     | Sub-oval     | >0.3       | 0.24      | 0.33      | -           | -    |
| 862       | 862     | 1     | Sub-oval     | >0.7       | 0.2       | 0.18      | -           | -    |
|           |         |       |              | Total      |           |           | 193 (1989g) | 46   |

Table 4. Pits and postholes assigned to Phase 2.1

## 3.4 Phase 2.2: Middle Roman 2 (Fig. 8)

### Introduction

3.4.1 Features attributed to Phase 2.2 essentially comprise a number of ditches which appear to represent modifications to the plots formed by boundary ditches originally set out during Phase 2.1 in the Northern Area.

### Boundary ditches

3.4.2 Three boundary ditches in the Northern Area, all sharing the same alignment as the earlier Phase 2.1 boundary ditches, have been attributed to this phase. One of these (ditch **69**) was a recut of Phase 2.1 ditch **59**, whilst the other two (ditches **414** and **594**) may have represented subdivisions within the two plots created by the Phase 2.1 boundaries, which probably continued in use into this phase. Summary information on these features and their finds are provided in Table 5. A total of 109 sherds of Roman pottery was recovered from these ditches and although densities were low, most of the interventions produced at least one sherd of pottery. A single undated copper alloy artefact was recovered from enclosure ditch **414**. Small amounts of animal bone, residual flint and shell were also recovered.

| Feat. No. | Cut No. | No. of Fills | Dimensions |           | Finds       |      |        |
|-----------|---------|--------------|------------|-----------|-------------|------|--------|
|           |         |              | Width (m)  | Depth (m) | Roman Pot   | Bone | CuA    |
| 69        | 69      | 1            | 0.8        | 0.42      | 7 (26g)     | -    | -      |
|           | 351     | 1            | 0.6        | 0.1       | 1 (3g)      | 1    | -      |
|           | 358     | 1            | 0.94       | 0.4       | 6 (35g)     | -    | -      |
|           | 368     | 1            | >0.53      | >0.26     | -           | -    | -      |
| 414       | 414     | 1            | >1.1       | >0.72     | 11 (201g)   | -    | -      |
|           | 433     | 3            | >2.2       | 1         | 28 (676g)   | 36   | 1 (2g) |
|           | 475     | 1            | >1.3       | 0.66      | -           | -    | -      |
|           | 762     | 3            | >0.94      | >0.63     | 40 (572g)   | 6    | -      |
| 594       | 594     | 1            | 0.62       | 0.22      | 6 (93g)     | 2    | -      |
|           | 626     | 1            | 0.53       | 0.17      | 1 (2g)      | 1    | -      |
|           | 712     | 1            | 0.36       | 0.21      | 9 (227g)    | 7    | -      |
| Total     |         |              |            |           | 109 (1835g) | 53   | 1 (2g) |

Table 5. Interventions excavated in Phase 2.2 boundary ditches

Ditch **69** (**69**, **351**, **358** (Section 156, Fig. 17), **368**) cut along the northern edge of Phase 2.1 ditch **59** and followed its slightly curvilinear course, terminating some 4m from the western edge of excavation. It measured up to 0.9m wide and 0.4m deep and contained a single fill of mid greyish brown sandy silt. Finds were limited to 14 small sherds of Roman pottery and a single fragment of animal bone.

Ditch **414** (**414**, **433**, **475**, **762**) had been heavily truncated along most its length by later features belonging to Phases 2.3-5 (see below, Fig. 4) but appears to have bisected the southern of the two plots created by the Phase 2.1 boundary ditches - laid out on a similar north-north-west to south-south-east alignment as the earlier boundaries but perhaps turning at its eastern end to run on a more north to south alignment. Although its full profile had been cut away by later features, this was clearly a substantial ditch - measuring at least 2.2 wide and 1m deep. In its best preserved sections it contained three fills and was associated with a fairly substantial assemblage of Roman pottery and a single fragmentary, unidentified, copper alloy artefact (SF 99; from the basal fill (440) of intervention **433**).

Ditch **594** (**594**, **626**, **712**) was a short length of narrow ditch laid out parallel to and just 5m east of Phase 2.1 ditch **290** - and like this earlier feature it seems likely to have served to subdivide the

northernmost of the two plots formed by the Phase 2.1 boundary ditches. Measuring up to 0.62m wide and 0.22m deep this feature had a U-shaped profile and was filled by a single mid orange brown sandy clay which produced small quantities of Roman pottery and a little animal bone.

### *Pits and postholes*

- 3.4.3 A small sub-circular pit or posthole (**284**) has been assigned to this phase (0.17m length, 0.18m wide, 0.04m deep): it lay relatively close to ditch **594** and may originally have been enclosed by it.
- 3.4.4 At the northern end of the site, a pit (**873**) cut through an earlier enclosure ditch (**877**). The pit was sub-circular and was 1.12m long, 1.3m wide and 0.89m deep. It contained three fills and twelve sherds (118g) of Roman pottery, dating to AD100-400, and its attribution to this phase is uncertain.

## **3.5 Phase 2.3 Middle/Late Roman 1 (Fig. 9)**

### *Introduction*

- 3.5.1 Phase 2.3 saw the establishment of a series of small, ditched enclosures across the site. In the Southern Area, these took the form of a ladder enclosure system, defining at least four small sub-square plots, the ditches of which produced relatively large quantities of pottery and animal bone suggestive of settlement related activity. A somewhat more irregular set of four sub-square/rectangular enclosures was also laid out in the Northern Area – the produced fewer finds and may have had a different function to those exposed in the Southern Area. Small numbers of discrete features (pits, postholes and single large well/watering hole) appear to have been associated with both enclosure systems, but few produced significant finds assemblages and there were no clear traces of structures/buildings.

### *Southern Area: Ladder Enclosures*

- 3.5.2 The partially exposed system of ditches revealed in the Southern Area appear to have defined the western edge of a set of four conjoined enclosures laid out on a linear, north-north-east to south-south-west alignment: from south to north, Enclosures **194**, **171**, **124** and **79**. The southern part of the straight western boundary of the conjoined enclosures was formed by a single ditch (**99**) which formed the western side of the three southern enclosures. Following a short break of 3m, which probably marked an entranceway into Enclosure **124**, this ditch line was continued by a recut ditch (ditch **82**, recut by ditch **79**; Section 57, Fig. 17), which formed the western side of Enclosure **79** and which also turned to form this enclosure's southern boundary with Enclosure **124**. To the south, the boundaries between Enclosures **124** and **171** and between Enclosures **171** and **194** were formed of straight lengths of west-north-west to east-south-east aligned ditches (**171** and **194** respectively). The overall dimensions of the enclosures remain unclear; the most fully exposed, Enclosures **124** and **171**, measured 15m and 22m across respectively – and it seems likely that they defined relatively small square or rectangular plots/compounds. Discrete features associated with the enclosures were rare but included a group of three pits/postholes adjacent to Enclosure **124**. A series of other poorly dated discrete features in the area of the enclosures have been assigned to Period 2.4 (see below).

3.5.3 Summary information on the enclosure ditches and the small number of potentially associated discrete features are provided in Tables 6 and 7 respectively. The relatively large quantity of Roman pottery and animal bone recovered from enclosure ditches, together with smaller amounts of Roman ceramic building material in some contexts, provides evidence for domestic settlement within these enclosed areas, albeit that no structural elements have survived. It is assumed that such features may have lain further to the east, beyond the limit of the development area. The dating of the pottery ranges between AD 50-400, with one sherd dating more narrowly to between AD 100-200. Two pieces of slag from intervention **104** may indicate that metal-working took place within enclosure **79**, although the evidence is meagre. Small amounts of shell, stone and residual flint were also found in several contexts whilst bulk sampling of the ditch fills produced meagre assemblages of charred plant remains dominated by wood charcoal but including occasional cereal grains.

|           |             |         |              | Dimensions |           | Pottery       |          | Other Finds |          |            |
|-----------|-------------|---------|--------------|------------|-----------|---------------|----------|-------------|----------|------------|
| Feat. No. | Enc. No.    | Cut No. | No. of Fills | Width (m)  | Depth (m) | Roman         | Prehist. | Bone        | CBM      | Fired Clay |
| 79        | 79+124      | 79      | 3            | 1.8        | 0.38      | 120 (1460g)   | -        | 26          | 2 (302g) | -          |
|           |             | 104     | 2            | 1.22       | 0.18      | 95 (788g)     | -        | 22          | -        | 2 (26g)    |
|           |             | 124     | 1            | 0.23       | 0.2       | 5 (44g)       | -        | 1           | -        | -          |
|           |             | 150     | 2            | >0.4       | >0.22     | 8 (43g)       | -        | -           | -        | -          |
|           |             | 268     | 1            | >0.25      | 0.32      | 1 (4g)        | -        | -           | -        | -          |
|           |             | 274     | 2            | 0.84       | 0.4       | 23 (497g)     | -        | 14          | -        | -          |
| 82        |             | 82      | 3            | 1.24       | 0.61      | 78 (1318g)    | -        | 8           | -        | -          |
|           |             | 101     | 2            | 0.76       | 0.26      | 18 (155g)     | -        | -           | -        | -          |
|           |             | 147     | 2            | 1.2        | 0.4       | 55 (592g)     | -        | 10          | 4 (134g) | -          |
| 99        | 124+171+194 | 99      | 1            | 1          | 0.38      | 132 (1611g)   | 1 (5g)   | 39          | 2 (232g) | -          |
|           |             | 126     | 1            | 0.6        | 0.16      | 36 (568g)     | -        | 8           | -        | -          |
|           |             | 128     | 1            | 0.55       | 0.17      | 37 (265g)     | -        | 6           | -        | -          |
|           |             | 155     | 1            | 0.9        | 0.24      | 210 (1935g)   | -        | 44          | -        | -          |
|           |             | 174     | 2            | 1.4        | 0.36      | 44 (1037g)    | -        | 30          | -        | -          |
|           |             | 224     | 1            | 1.2        | 0.36      | 20 (267g)     | -        | 1           | -        | -          |
|           |             | 234     | 1            | 1.3        | >0.35     | 38 (505g)     | -        | 3           | -        | -          |
|           |             | 254     | 1            | 0.6        | 0.16      | 24 (440g)     | -        | 4           | -        | -          |
| 171       | 171+124     | 171     | 2            | 1.5        | >0.5      | 41 (670g)     | -        | 18          | -        | 1 (3g)     |
|           |             | 189     | 2            | 1.5        | 0.55      | 90 (1456g)    | -        | 41          | -        | -          |
| 194       | 194+171     | 194     | 3            | 1.84       | 0.46      | 37 (619g)     | -        | 3           | -        | -          |
|           |             | 232     | 1            | >0.32      | >0.35     | 43 (522g)     | -        | 13          | 2 (440g) | -          |
|           |             |         |              |            | Total     | 1155 (14756g) | 1 (5g)   | 283         | 7 (584g) | 3 (29g)    |

Table 6. Interventions in Phase 2.3 ladder enclosure ditches

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Bone |
| 143       | 143     | 1     | Sub-circular | 0.28       | 0.28      | 0.2       | -         | -    |
| 145       | 145     | 1     | Sub-circular | 0.2        | 0.2       | 0.2       | -         | -    |
| 192       | 192     | 1     | Sub-oval     | 1.2        | 0.9       | 0.17      | 2 (23g)   | 1    |
| Total     |         |       |              |            |           |           | 2 (23g)   | 1    |

Table 7. Discrete features associated with the Phase 2.3 ladder enclosures

#### Enclosure ditches (Table 6)

Ditch 99 was exposed for a length of 34m on a north-north-east to south-south-west alignment, passing beyond the southern limit of excavation. It formed the western side of Enclosures **194**, **171** and **124**

and was investigated in eight individual interventions (**99, 126, 128, 155, 174, 224, 234, 254**). Along much of its length it was a fairly substantial feature, measuring between 0.6 and 1.4m wide and up to 0.36m deep, but at its northern end (interventions **126** and **128**) it became much shallower and narrower (at most up to 0.6m wide and well under 0.2m deep) and one short stretch had been entirely truncated away. The ditch invariably contained a single fill of mid grey brown sandy silt and finds – particularly pottery and animal bone – were fairly frequent, and fragments of imbrex tile were recovered from intervention **99** (fill 100).

The boundary between the southernmost pair of enclosures, Enclosures **194** and **171**, was formed by ditch **194** (**194, 234**). In the single intervention excavated across the full profile of this ditch (**194**) it was up to 1.84m wide and 0.46m deep and contained three fills, with a thin basal mid grey brown silty clay overlain by two thicker layers of dark grey brown silty clays. Both interventions produced relatively substantial assemblages of pottery (Table 6). The equivalent boundary between Enclosure **171** and **124** was formed by ditch **171** (**171, 189**). This measured up to 1.5m wide and 0.55m deep and contained two fills of dark grey clay silt, again producing substantial quantities of pottery. A notable find was part of a samian dish from the upper fill of intervention 189 (191) which bore a graffito letter scratched on its base.

Enclosure **79** was defined by ditch **79** (**79, 104, 124, 150, 268**), an L-shaped feature which formed both its western and southern sides. Along its northern part, on the western side of the enclosure, traces of an earlier iteration of this ditch (ditch **82**: **82, 101, 147**) were revealed in three interventions (see Section 57, Fig. 17). This earlier ditch was heavily truncated but was at least 1.2m wide and up to 0.6m deep, whilst ditch **79** itself was somewhat less substantial, up to 1.34m wide and 0.38m deep. Both features produced large assemblages of pottery, together with animal bone and a small quantity of ceramic building material including tegula and imbrex fragments.

#### *Discrete features (Table 7)*

Three discrete features were found immediately adjacent to the northern terminus of ditch **99**, on the exterior of Enclosure **124** and close to the putative entranceway into this enclosure. The features comprised a single oval shaped pit (**143**) and two small postholes (**143** and **145**). The pair of postholes were located less than 0.5m apart and may have been associated with some kind of gateway or fence associated with this entranceway. All were filled with single deposits of mid to dark grey/brown silty clays and only the pit contained any finds – two sherds of Roman pottery and a single fragment of animal bone.

### ***Northern Area: Boundary ditches and rectilinear enclosures***

- 3.5.4 The features exposed in the Northern Area related to a somewhat more irregular system of enclosures and boundaries than those of the ladder enclosures to the south. Four probable sub-square/rectangular enclosures (Enclosures **53, 286, 295** and **510**) have been identified, alongside several more isolated lengths of ditch. A small number of discrete features probably associated with these enclosures have also been attributed to this phase. These enclosures produced fewer finds (especially pottery) than those in the Southern Area and it seems possible that these were not directly associated with settlement activity. The major elements of the Phase 2.3 enclosure and boundary systems in the Northern Area are described separately below, in geographical order from the south to the north.

#### *Enclosure 53*

- 3.5.5 Enclosure **53** was the southernmost of the enclosures in the Northern Area and was sub-square, aligned north-south/east-west, and measured approximately 20m across. It was defined by a single ditch on its southern, western and eastern sides (ditch **53**), although in places this feature was discontinuous due to subsequent truncation, and

along its western edge there was evidence for a phase of recutting/modification in the form of a surviving length of an earlier iteration of the enclosure ditch (**471**). Its northern side may have been defined by boundary ditch **418** (see below). Very few finds were recovered from the ditch fills – limited to five sherds of pottery and a little animal bone. Summary information on the enclosure ditches and their associated finds is provided in Table 8.

- 3.5.6 Three discrete features may have been associated with this enclosure (Table 9) – a pit (**61**) and a posthole (**73**) within its interior, close to its southern edge, and a larger pit (**77**) just outside its southern boundary. Again, very few finds were recovered from these features.

| Enc. No. | Feat. No. | Cut No. | No. of Fills | Dimensions |           | Roman Pot | Bone |
|----------|-----------|---------|--------------|------------|-----------|-----------|------|
|          |           |         |              | Width (m)  | Depth (m) |           |      |
| 53       | 53        | 53      | 3            | 0.5        | 0.28      | -         | 8    |
|          |           | 75      | 1            | 0.3        | 0.08      | 4 (22g)   | -    |
|          |           | 85      | 1            | 0.36       | 0.11      | -         | -    |
|          |           | 87      | 2            | 0.42       | 0.23      | 2 (69g)   | 2    |
|          |           | 303     | 1            | 0.39       | 0.09      | -         | -    |
|          |           | 305     | 1            | 0.22       | 0.04      | -         | -    |
|          |           | 468     | 2            | 0.68       | 0.32      | 1 (12g)   | 19   |
|          | 471       | 471     | 1            | 0.57       | 0.11      | -         | -    |

Table 8. Interventions excavated in Phase 2.3 Enclosure 53 ditches

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Bone |
| 61        | 61      | 2     | Sub-circular | 0.71       | 0.9       | 0.2       | 3 (11g)   | 43   |
| 73        | 73      | 1     | Sub-circular | 0.33       | 0.26      | 0.18      | -         | -    |
| 77        | 77      | 1     | Sub-oval     | 1.88       | 0.78      | 0.33      | -         | 13   |

Table 9. Phase 2.3 discrete features associated with Enclosure 53

#### Enclosure ditches (Table 8)

The eastern, southern and western sides of the enclosure were defined by a single, insubstantial, ditch (**53**: **53**, **75**, **85**, **87**, **303**, **305**, **468**), although the western side of the enclosure had evidently seen at least one phase of modification/recutting, as here an earlier length of ditch was also revealed (**471**), whilst the later ditch on this side of the enclosure continued beyond the western edge of excavation. Ditch **53** was up to 0.68m wide and 0.28m deep but was often considerably narrower and shallower than this, frequently surviving only to a depth of around 0.1m, especially along the eastern side of the enclosure. The more substantial sections of the ditch contained two or three fills (interventions **53**, **87** and **468**), but most contained a single deposit; in all cases, the fills were mid to dark brown and grey sandy silts and clays from which few finds were recovered. It seems likely that the ditch on the eastern side of the enclosure originally extended further north to meet boundary ditch **418**, which would thus have formed the northern side of the enclosure, whilst access may have been through the gap in its north-western corner.

#### Discrete features (Table 9)

Pit **61** and posthole **73** were located some 6m apart, both immediately adjacent to ditch **53** on the southern edge of the interior of the enclosure. Posthole **73** contained a single fill of mid grey brown clay silt and produced no finds. Pit **61** was a larger feature, measuring up to 0.9m across, but was only up to 0.2m deep. It contained two fills, a lower mid grey brown sandy clay devoid of finds and an upper

dark grey brown sandy clay which produced a small quantity of Roman pottery (three sherds, 11g) and a little animal bone.

Just outside of Enclosure 53, on its southern side, pit **77** was a relatively large oval shaped feature measuring up to 1.88m long and 0.33m deep. Filled by a single deposit of mid grey brown clay silt, it produced only a small quantity of animal bone, whilst bulk sampling of its fills (Samples 20 and 40) produced only a few cereal grains and very little charcoal.

### Boundary Ditch 418

- 3.5.7 North of Enclosure **53**, and possibly serving to form its northern side, a length of east to west aligned ditch, curving slightly to the north at its western end, was exposed (boundary ditch **418**). Its entire length, some 35m, was exposed within the excavation area. It intercut with the ditch defining the southern edge of Enclosure **286**, and may have cut through this feature, although this relationship was ambiguous.
- 3.5.8 Summary details about the ditch and its finds are provided in Table 10. Finds, especially pottery, were somewhat more abundant in this feature than in many of the Phase 2.3 enclosure ditches in the Northern Area, with a total of 97 sherds (1349g) of Roman pottery. A single mid 4th-century copper alloy coin (SF 185) was also recovered from the upper fill of the ditch in intervention **480** but, given its location high in the ditch profile and the presence of later features cutting through the ditch at this point, this is likely to be intrusive.

| Feat. No. | Cut No. | No. of Fills | Dimensions |           | Finds      |      |          |        |
|-----------|---------|--------------|------------|-----------|------------|------|----------|--------|
|           |         |              | Width (m)  | Depth (m) | Roman Pot  | Bone | CBM      | CuA    |
| 418       | 418     | 1            | 0.63       | 0.22      | 2 (18g)    | 2    | -        | -      |
|           | 428     | 1            | 0.59       | 0.23      | 16 (71g)   | -    | -        | -      |
|           | 435     | 2            | 1.42       | 0.42      | 15 (303g)  | -    | -        | -      |
|           | 480     | 2            | 1.82       | 0.37      | 64 (957g)  | 29   | 3 (514g) | 1 (1g) |
|           |         |              | Total      |           | 97 (1349g) | 31   | 3 (514g) | 1 (1g) |

Table 10. Interventions in Phase 2.3 boundary ditch 418

Ditch **418** (**418**, **428**, **435**, **480**) measured 35m long and was investigated in four individual interventions. It was more substantial at its eastern end, up to 1.8m wide and 0.42m deep, and became much narrower to the west – its western terminus (**428**) measuring up to 0.6m wide and 0.22m deep. The more substantial sections of the ditch (interventions **435** and **480**) had a broad U-shaped profile and contained two fills of mid to dark grey sandy silt, whilst only one deposit was recorded in the interventions in the shallower eastern part of the ditch. All of the interventions produced finds (dominated by pottery; see Table 10), but most came from intervention **480**, close to the south-western corner of Enclosure **286**; finds from here included a copper alloy coin (SF 185), dated to AD 348-351 from upper fill 482.

### Enclosure 286

- 3.5.9 On the northern side of boundary ditch **418**, and adjoining it on its southern side, Enclosure **286** was formed by a single ditch (**286**). To the north this ditch intercut with the southern ditch of Enclosure **295**, but the relationship between the ditches was ambiguous and it seems likely that they were in contemporary use. Sub-square/rectangular in plan, the southern and northern sides of Enclosure **286** were aligned broadly east to west and its western side was aligned broadly north to south, while along its eastern side the ditch was aligned north-east to southwest. The northern corner of the enclosure lay beyond the limits of excavation but the ditch on

the northern side of the enclosure terminated close to the edge of excavation and it seems likely that an entranceway to the enclosure was located here, corresponding to a probable entranceway in the south-eastern corner of Enclosure **295**, immediately to the north. The enclosure is estimated to have covered an area of some 12m x 15m. Summary details of the interventions excavated in this enclosure and their associated finds are provided in Table 11. Most of the interventions produced moderate quantities of Roman pottery (192 sherds, 1906g in total) and animal bone whilst other finds included a small quantity of tile and a single iron nail.

3.5.10 Three pits/postholes were exposed in the northern half of the enclosure (Table 12) and, although they produced few finds, they may have been associated with its use.

| Enc. No. | Feat. No. | Cut No. | No. of Fills | Dimensions |           | Finds     |      |          |            |
|----------|-----------|---------|--------------|------------|-----------|-----------|------|----------|------------|
|          |           |         |              | Width (m)  | Depth (m) | Roman Pot | Bone | CBM      | Metal (Fe) |
| 286      | 286       | 286     | 3            | 0.8        | 0.36      | 36 (934g) | 84   | 1 (109g) | -          |
|          |           | 319     | 1            | 0.41       | 0.26      | 8 (58g)   | 5    | 1        | -          |
|          |           | 327     | 2            | 0.75       | 0.31      | 27 (516g) | 46   | 1 (28g)  | -          |
|          |           | 362     | 2            | 0.8        | 0.55      | 94 (132g) | 1    | 3 (451g) | -          |
|          |           | 392     | 2            | 1.04       | 0.37      | 22 (230g) | 13   | -        | -          |
|          |           | 436     | 1            | 0.84       | 0.3       | 5 (36g)   | 10   | -        | 1          |
|          |           | 483     | 1            | >0.3       | >0.35     | -         | -    | -        | -          |

Table 11. Interventions in ditch of Phase 2.3 Enclosure 286

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Bone |
| 338       | 338     | 1     | Sub-circular | 0.54       | 0.67      | 0.1       | -         | 2    |
| 340       | 340     | 4     | Sub-circular | 0.49       | 0.53      | 0.44      | 1 (14g)   | -    |
| 343       | 343     | 1     | Sub-circular | 1.88       | 0.78      | 0.33      | -         | -    |
|           | 349     | 1     | Sub-circular | 0.23       | 0.19      | 0.3       | 1 (7g)    | 1    |

Table 12. Pits and postholes associated with Enclosure 286

#### Enclosure ditches (Table 11)

All four sides of the enclosure were defined by a single ditch, **286** (**286, 319, 327, 362, 392, 436, 483**). This feature intersected with boundary ditch **418** on the southern side of the enclosure, and with the ditch on the southern edge of Enclosure **295** on its northern side, but in neither case was the relationship between these features clear. The ditch varied considerably in size in the seven interventions excavated through it, from 0.41-1.04m wide and from 0.3 to 0.55m deep. Its profile/morphology also varied, in places having a broad, relatively steep sided and flat base and elsewhere having more gently sloping sides and a rounded base. The more substantial sections of the ditch contained up to three fills but in other places only a single fill was identified. All of these deposits were mid to dark grey or brown silty sandy silts or clay silts. Finds were concentrated in interventions excavated through the ditch on the enclosure's northern side, immediately adjacent to Enclosure **295**.

#### Pits and postholes (Table 12)

The three discrete features were all located in the northern part of the enclosure. Isolated posthole **343** was subcircular in plan and measured 0.45m in diameter. It contained a mid grey brown packing fill surrounding a clearly defined circular post pipe measuring 0.2m in diameter (**349**) which was filled by a very dark grey silty sand containing a single sherd of Roman pottery. Some 5.5m to the east, feature **340** was a substantial, steep-sided circular posthole measuring 0.5m in diameter and 0.44m deep. It

contained three possible basal/packing fills and a mid-brownish grey silt sand which may have been the fill of a postpipe, and which produced a single sherd of Roman pottery. A shallow sub-circular pit/hollow measuring up to 0.67m across and 0.1m deep (**338**) was located 2m to the east of this feature. It was filled by a mid brownish grey silty sand which produced only two fragments of animal bone.

## Enclosure 295

3.5.11 Enclosure **295** adjoined Enclosure **286** on its northern side, and its southern, western and northern sides were exposed within the excavation area. Unlike most of the enclosures belonging to this phase, each side of this broadly rectangular shaped enclosure was formed by individual ditches with adjoining/intercutting butt ends (ditches **295**, **382**, **397**). The ditch on the southern side of the enclosure terminated some 5m from the eastern edge of excavation and there was probably an entranceway at this point. Although the overall dimensions of the enclosure are unknown, the exposed area measured some 12m by 15m across. No discrete features potentially associated with enclosure were identified.

3.5.12 Summary details of the interventions excavated in the ditches of this enclosure and their associated finds are provided in Table 13. Most of the interventions produced small quantities of Roman pottery (74 sherds, 797g in total) and animal bone. Two metal artefacts were recorded, both from ditch **382**: a possible (fragmentary) copper alloy finger ring from ditch **382** (SF 97) and a 4th-century coin (SF 109) recovered from the uppermost fill of the ditch – the latter probably representing an intrusive find.

| Enc. No. | Feat. No. | Cut No. | No. of Fills | Dimensions |           | Finds     |      |          |                 |
|----------|-----------|---------|--------------|------------|-----------|-----------|------|----------|-----------------|
|          |           |         |              | Width (m)  | Depth (m) | Roman Pot | Bone | CBM      | Metal           |
| 295      | 295       | 295     | 3            | >0.38      | 0.5       | 23 (330g) | 20   | 2 (258g) | -               |
|          |           | 330     | 1            | 0.55       | 0.26      | 16 (255g) | 12   | 1 (170g) | -               |
|          |           | 395     | 1            | 0.52       | 0.4       | -         | -    | -        | -               |
|          | 382       | 382     | 1            | 0.55       | 0.25      | 20 (116g) | 24   | -        | 1 - finger ring |
|          |           | 601     | 2            | 0.63       | 0.33      | 11 (69g)  | 6    | -        | 1 (1.68g)       |
|          |           | 635     | 1            | 0.28       | 0.15      | -         | -    | -        | -               |
|          | 397       | 397     | 1            | 0.7        | 0.12      | 1 (7g)    | 3    | -        | -               |
|          |           | 532     | 1            | >0.38      | 0.21      | -         | -    | -        | -               |
|          |           | 633     | 1            | 0.61       | 0.19      | 3 (20g)   | 16   | -        | -               |

Table 13. Interventions in ditches of Phase 2.3 Enclosure 295

The southern side of Enclosure **295** was formed by a 12m long west-north-west to east-south-east aligned ditch, **295** (**295**, **330**, **395**). It intercut with the ditch of Enclosure **286** on its southern side along its entire length, but it measured up to at least 0.55m in width and between 0.26 and 0.5m deep. In two of the three interventions excavated in this feature it was filled by a single mid greyish brown sandy silt, but a more complex sequence of three deposits of mid to dark grey/brown sandy silts was encountered in intervention **295**. Both interventions **295** and **330** produced Roman pottery alongside animal bone and several fragments of tile, including tegulae and a single piece of flue tile.

Ditch **397** (**397**, **532**, **633**) formed the western side of the enclosure; it measured 9m long and up to 0.7m wide and 0.21m deep and was filled throughout by a single deposit of mid grey/brown sandy silt. Finds were limited to four small sherds of Roman pottery and a little animal bone.

On the northern side of the enclosure, ditch **382** (**382**, **601**, **635**) measured at least 15m long and extended beyond the eastern limits of excavation. It measured up to 0.63m wide and 0.33m deep and was filled by similar grey/brown sandy silts similar to those from the other ditches making up this enclosure. Two of the three interventions in this ditch produced finds, and alongside small quantities of pottery and bone these included a copper alloy finger ring (SF 97) from the sole fill of intervention

**382**, and a copper alloy coin dated to AD 364-378 (SF 109) from the upper fill of the ditch close to intervention **601**.

### Enclosure 510

3.5.13 To the west of Enclosures **286** and **295**, partially exposed against the western edge of excavation, was a further sub-rectangular enclosure – Enclosure **510**. This was formed by two ditches: a straight north-north-east to south-south-west aligned ditch (**510**), the northern part of which had been modified/recut by an L-shaped ditch (**575**) to create two sides of what was probably a rectangular shaped enclosure, open to the south. Summary details of the interventions excavated in these ditches and their associated finds are provided in Table 14. Finds from the ditches were limited to very small quantities of Roman pottery and animal bone.

3.5.14 A relatively large number of discrete features were found within the interior of Enclosure **510**, as summarised in Table 15. Most of these were small pits and postholes located adjacent to the ditch line on the eastern side of the enclosure, none of these produced dateable or significant finds. More significantly, a large watering hole/well (**534**; Section 198, Fig. 17; Plate 3) was partially exposed against the western edge of excavation and its lower, waterlogged, fills produced a small quantity of Roman pottery as well as a wooden plank /split timber whilst a small assemblage of waterlogged seeds, mostly from ruderal plants, were recovered from bulk samples of its lowest fill.

| Enc. No. | Feat. No. | Cut No. | No. of Fills | Dimensions |           | Finds     |      |     |       |
|----------|-----------|---------|--------------|------------|-----------|-----------|------|-----|-------|
|          |           |         |              | Width (m)  | Depth (m) | Roman Pot | Bone | CBM | Metal |
| 510      | 510       | 510     | 2            | 0.61       | 0.18      | -         | -    | -   | -     |
|          |           | 577     | 1            | 0.55       | 0.24      | 12 (190g) | 9    | -   | -     |
|          |           | 655     | 1            | 0.22       | 0.11      | -         | -    | -   | -     |
|          | 575       | 575     | 1            | 0.66       | 0.24      | 1 (9g)    | -    | -   | -     |
|          |           | 649=644 | 2            | 0.57       | 0.24      | 4 (20g)   | 10   | -   | -     |

Table 14. Interventions in ditch of Phase 2.3 Enclosure 510

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |         |      |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|---------|------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Prehist | Bone | Wood |
| 386       | 386     | 1     | Sub-circular | 0.4        | 0.25      | 0.3       | -         | -       | -    | -    |
| 388       | 388     | 1     | Sub-circular | 0.3        | 0.3       | 0.25      | -         | -       | -    | -    |
| 390       | 390     | 1     | Sub-circular | 0.8        | 0.85      | 0.18      | -         | -       | -    | -    |
| 502       | 502     | 1     | Sub-oval     | 0.97       | 0.24      | 0.12      | -         | -       | -    | -    |
|           | 957     | 1     |              | 0.97       | 0.25      | 0.13      | -         | -       | -    | -    |
| 504       | 504     | 1     | Sub-oval     | 1.03       | 0.38      | 0.14      | -         | -       | -    | -    |
|           | 959     | 1     |              | 1.03       | 0.36      | 0.12      | -         | -       | -    | -    |
| 534       | 534     | 4     | Sub-circular | 3.3        | >2.3      | 1.95      | 40 (487g) | -       | 4    | 1    |
| 567       | 567     | 3     | Sub-circular | 1.27       | 0.97      | 0.36      | -         | 1 (3g)  | 4    | -    |
| 571       | 571     | 2     | Sub-circular | 1.12       | 0.98      | 0.28      | -         | -       | -    | -    |

Table 15. Discrete features associated with Enclosure 286

### *Enclosure ditches (Table 14)*

Ditch **510** (**510**, **577**, **655**) was a straight linear feature, 22m long and aligned north-north-east to south-south-west with a U-shaped profile, and it consistently measured up to 0.61m wide and 0.24m deep. It was generally filled with a single deposit of light to mid brown silty clay/sandy silt, but one intervention (**510**) contained two fills: a basal light yellowish brown silty clay overlain by a light reddish brown silty clay. Finds were recovered only from intervention **577** and were limited to 12 sherds of Roman pottery and fragmentary animal bone. Ditch **510** was cut by L-shaped ditch **575** (**575**, **649**–**644**). This ditch ran for 13m on the same alignment as Ditch **510** before turning at right angles to run east-north east/west-south-west for 14m, passing beyond the western limit of excavation. This feature was of similar proportions to the earlier ditch, measuring up to 0.66m wide and 0.24m deep and was filled by mid to dark grey clayey silts, with very small quantities of pottery coming from both interventions excavated through this feature.

### *Discrete features (Table 15)*

The most significant feature associated with Enclosure **510** was well/watering hole **534** (Plate 3). Although only partially exposed against the edge of excavation, this large subcircular feature measured at least 3.3m across and 1.83m deep, with steeply sloping sides descending to what was probably a fairly narrow, flattish base (Section 198, Fig. 17). Its lowest fill (535) was a thin mid brownish grey slightly sandy silt which covered the base and lower sides of the feature, and was waterlogged towards the base of the feature. The only find from this deposit was a large fragment of wooden plank/split timber (0.6m long and 0.14m wide) found close to the base of the feature. Bulk sampling of this deposit recovered a sparse and poorly preserved assemblage of waterlogged seeds including dead nettle (*Lamium* sp.), stinging nettle (*Urtica dioica*), mouse-ear chickweed (*Cerastium* sp.) and water-dropwort (*Oenanthe crocata*). Overlying this thin basal fill was a much thicker deposit of mottled dark brownish grey organic clay silt which produced no finds (536). This was sealed by a mottled mid greyish brown clayey silt (537) containing 18 sherds of pottery - including sherds from a cordoned jar dating to the 3rd or 4th century AD. The feature was capped by a mid orange brown clayey silt (538) which produced 22 sherds of pottery.

The other discrete features within Enclosure **510** were found further to the east. A pair of very similar oval-shaped pits (**502**–**957** and **504**–**959**), both measuring almost 1m long and between 0.25m, 0.38m wide and under 0.15m deep, were found cutting the southern end of ditch **510**, laid out parallel and immediately adjacent to one another. The layout and morphology of these features was distinctive but neither produced finds and their function remains unclear. The other features consisted of five shallow postholes and pits laid out in a roughly linear arrangement on the interior of the enclosure's eastern edge (postholes **386** and **388** and pits **390**, **567** and **571**). None of these produced finds.

## *Other Features in the Northern Area*

### *Ditches*

- 3.5.15 In addition to the enclosures detailed above, five other ditches have been assigned to this phase but not to a specific enclosure or boundary (Table 16). These ditches had no obvious function but may have been elements of enclosures or trackways that could not be identified within the bounds of the excavated area.

| Feat. No. | Cut No. | No. of Fills | Dimensions |           | Pottery   |          | Other finds |         |
|-----------|---------|--------------|------------|-----------|-----------|----------|-------------|---------|
|           |         |              | Width (m)  | Depth (m) | Roman     | Prehist. | Bone        | CBM     |
| 384       | 384     | 1            | 0.7        | 0.09      | -         | -        | 1           | -       |
| 425       | 425     | 1            | 0.8        | 0.36      | 2 (25g)   | -        | 2           | -       |
|           | 565     | 1            | 0.55       | 0.28      | -         | -        | 6           | -       |
| 678       | 678     | 1            | 0.6        | 0.08      | -         | -        | 1           | 1 (42g) |
|           | 783     | 1            | 0.19       | 0.27      | -         | -        | -           | -       |
| 716       | 716     | 1            | 0.4        | 0.12      | 2 (6g)    | 4 (7g)   | 4           | -       |
| 785       | 785     | 1            | 0.51       | 0.2       | 15 (100g) | -        | 3           | -       |

Table 16. Interventions in Phase 2.3 ditches in the Northern Area

Lying within the complex of enclosures in the northern part of the site was a short length of ditch (**425**, **565**). Its north-east terminal was situated approximately 2m to the east of enclosure ditch **510** at its south-west extent. Ditch **425** ran on a similar north-east to south-west alignment as ditch **510** and other similar enclosure ditches but was only c.6.5m in length. Two sherds of Roman pottery from its fills date to AD 100-400.

In the north-west corner of the site, two parallel shallow ditches (**384** and **716**) both continued beyond the excavated area. The two ditches were situated approximately 2m apart on a north-east to south-west alignment. The ditches contained very few finds, with six sherds of pottery from ditch **716** forming the only datable material. Two of these were Roman sherds and four sherds were identified as prehistoric.

Further east, lay two iterations of a ditch (**678** and **785**) which continued north-eastwards beyond the northern limit of the excavated area. Some 15 sherds of Roman pottery, spot dated to AD 200-400, were found in this feature. Its function is unknown.

### Discrete features

3.5.16 A small number of discrete features were found within the Northern Area outside of the areas occupied by the various enclosures which have very tentatively been assigned to this phase (Table 17). These comprised a single small pit to the south of the eastern end of boundary ditch **418** (pit **495**), which produced no finds, and a cluster of four small pits (**545**, **548**, **632** and **637**) located to the east of Enclosure **510**, only two of which produced very small quantities of Roman pottery.

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |              |      |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|--------------|------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Iron Age Pot | Bone |
| 495       | 495     | 1     | Sub-circular | 0.2        | 0.3       | 0.16      | -         | -            | -    |
| 545       | 545     | 2     | Sub-circular | 0.55       | >0.3      | 0.33      | 1 (1g)    | -            | -    |
| 548       | 548     | 2     | Sub-circular | 0.31       | 0.35      | 0.22      | -         | -            | -    |
| 632       | 632     | 1     | Sub-circular | 0.66       | 0.7       | 0.27      | 5 (28g)   | -            | 9    |
| 637       | 637     | 1     | Sub-circular | 0.67       | 0.62      | 0.24      | -         | -            | 2    |

Table 17. Other discrete features in the Northern Area attributed to Phase 2.3

## 3.6 Phase 2.4 Middle/Late Roman 2 (Fig. 10)

### Introduction

3.6.1 The most significant development attributed to Phase 2.4 was the construction of stone-footed aisled building, partially exposed in the north-eastern corner of the site (Building **815**; Fig. 11, Plates 4 and 5). The establishment of this structure is thought to

have been broadly contemporary with a major reorganisation/replacement of the enclosures in the Northern Area, with four new enclosures being established during this phase. One of these enclosures (Enclosure **399**) contained a group of discrete features which included three neonatal/perinatal burials, whilst a double inhumation burial of two adult individuals had been interred into one of the enclosure ditches. In the Southern Area, the ladder enclosure system appears to have remained in use with only minor modifications.

### ***Aisled Building 815 (Fig. 11)***

#### *Introduction and phasing summary*

- 3.6.2 The original construction and use of the stone-footed aisled building exposed in the north-eastern corner of the site has been attributed to this phase and, whilst other elements of the remains of this building relating to its disuse, have been assigned to subsequent Phase 2.5. For the purposes of clarity, a brief overview of the excavation strategy and sequence of the building is provided here, and illustrated in Fig. 11a, which includes a series of phased plans (A-C) and a schematic, composite section drawing of the various deposits associated with the building (Section 294). A large-scale plan showing the details of the masonry footings of building (and the composition of environmental samples relating to Phase 2.5 deposits) is provided in Fig. 11b.
- 3.6.3 Mechanical stripping of this part of the site revealed the truncated upper surface of masonry footings/foundations along the eastern and southern sides of the building (**815**). Mechanical excavation was halted at this point and the footings and deposits preserved within the interior of the building were hand cleaned and then investigated through a series of hand dug test pits/sondages (TPs J1-J7; Fig. 11a). Extensive bulk sampling was undertaken of deposits associated with the building (App. C.3), whilst spot pollen samples were taken from the internal layers within the building from a section exposed in Test Pit J6 (App. C.5).
- 3.6.4 The uppermost deposits preserved within the footprint of the building appear to have been related to its disuse and to a period of demolition/abandonment. Assigned to Period 2.5 (see Fig. 11a) these are fully described below, but essentially comprised a continuous layer (807) of light brownish grey silty/sandy clay containing occasional fragments of angular limestone rubble. Cut into the exposed surface of this deposit, several small scoops/hollows were recorded, and, more significantly, six regularly spaced circular features all containing distinctive very dark grey, fills were revealed. Subsequent excavation demonstrated that these were the infilled postpipes of a set of substantial postholes and that the cuts of the postholes themselves and their packing fills were sealed beneath layer 807 – indicating that this deposit had accumulated prior to the infilling of the postpipes.
- 3.6.5 With the removal of layer 807 and the fills of the postpipes, the remaining elements of the building appear to relate to its original construction and use; these have been attributed to Phase 2.4 and are described in detail in this section (see Fig. 11). They comprise the six postholes which supported the timbers of the roof of the aisled building, the masonry footings themselves and a levelling/floor layer within the area

of the footings through which the postholes had been cut and which directly overlay the natural geology and sealed earlier features belonging to Phase 1 to Phase 2.3.

### *Levelling/floor layer 522*

- 3.6.6 The footprint of the building was defined by the masonry-built footings of the external wall of the building and by a levelling/floor layer (522) within its interior. This levelling layer appears to have been the stratigraphically earliest element of the construction as in some places it underlay the stone footing (Section 294, Fig. 11), although in other places the footings had been laid directly on top of the natural geology and the layer abutted the interior face of the footing (Section 304, Fig. 11). This deposit sealed the various Phase 1 and earlier Phase 2 features exposed in this area.
- 3.6.7 This deposit was 0.1-0.2m thick and was a firm mid orangey-brown silty clay. The origin of the material used to create this layer is unknown and, although it did produce finds, it is unclear to what extent these represent residual material or instead derive from the use of the building itself. Clearly residual material includes small quantities of worked flint (two flakes) and five small sherds of prehistoric pottery. Fifteen sherds of Roman pottery were recovered from this deposit, all from coarse ware vessels dated only broadly to AD 100-400, while a fragment of clay pedestal, probably from an oven or kiln of some kind, was also found. Metal finds included four iron nails (SFs 121, 170, 171 and 192), a fragment of copper alloy bracelet (SF 120) and a copper alloy coin – unfortunately worn and illegible but probably of 4th-century date (SF 123).

### *Wall footing 815*

- 3.6.8 The masonry footing was exposed on the eastern and southern sides of the building (Fig. 11a and b). On the eastern side, the footing was aligned north-north-east to south-south-west and was exposed for a length of 8.8m from the northern edge of excavation, turning at a right angle and running for a further 3.3m along the southern side of the building. Following a 4m gap in the footing on the southern side of the building – representing a wide entranceway into the structure on this side – a short length of the footing was preserved close to the eastern edge of excavation, but had been partly truncated by later, Phase 3, ditches. An exploratory test pit hand dug outside of the excavation area along the line of the western side of the structure found that the stone footings continued for at least another 3m in this direction, indicating a minimum length of 11.8m for the building as a whole.
- 3.6.9 The wall footing varied in width from 0.5 to 1m in width, with several clearly defined changes in its thickness at various points along its length, and it survived up to a height of between 0.5m and 0.6m. Although it is unclear how much of its original height had been lost to truncation or during demolition/robbing, there were no major deposits of collapsed masonry to suggest that it originally extended much higher. The stonework was examined *in situ* by Dr Simon King, who identified the vast majority as angular fragments of Upware limestone, probably field-gathered rather than quarried, and displaying few traces of shaping/dressing (see App. B.5). Most sections of the wall were formed by informally pitched pieces of this angular stone, with more regular sections where the stones had been pitched in herringbone-like pattern and were

bounded together with a fine yellow grey mortar (Sections 270 and 304, Fig. 11a, Plates 6 and 7).

### *Post settings*

3.6.10 The six post-settings (see Table 18 for dimensions and associated finds) were cut through layer 522 and were arranged in two lines, 1.8m apart, running parallel to the stone foundations. Within each line, the features were regularly spaced from each other at a distance of between 1.5m and 1.54m. The three post-settings forming the western alignment (**883**, **884** and **891**) and one feature (**888**) in the eastern alignment were fully exposed, with parts of the other two features on this side (**896** and **898**) lying beyond the eastern edge of excavation. They varied little in shape or size, being circular, steep-sided and flat-bottomed features measuring between 1.3m and 1.5m across (Sections 292, 295, 294, Fig. 11; Plates 8 and 9). The maximum depths of these features, however, varied considerably, from 0.5 to 1.18 m. Each of the post-settings had a central circular/sub-circular postpipe, c.0.4m in diameter, where a large circular post would have been inserted into the post-setting (see below, Phase 2.5, for description of these postpipes and their fills). Around these central posts, the settings had been backfilled with one or two packing fills, typically very compact deposits of mid yellowish grey/brown silty clay, in one case (posthole **891**) containing frequent angular fragments of limestone.

3.6.11 Finds from these packing fills were sparse and were dominated by small sherds of coarse ware Roman pottery, with a piece of clay oven lining coming from posthole **883** and a single iron nail from posthole **898**.

| Feat. No. | Fills | Shape        | Dimensions |           |           | Finds     |            |      |            |
|-----------|-------|--------------|------------|-----------|-----------|-----------|------------|------|------------|
|           |       |              | Length (m) | Width (m) | Depth (m) | Pot       | Fired clay | Bone | Metal (Fe) |
| 883       | 1     | Sub-circular | 1.51       | 1.19      | 0.7       | 19 (269g) | 35 (76g)   | 10   | -          |
| 884       | 2     | Sub-circular | 1.3        | 1.25      | >0.45     | 1 (4g)    | -          | 2    | -          |
| 888       | 1     | Sub-circular | 1.39       | 1.4       | 0.5       | 1 (3g)    | -          | 1    | -          |
| 891       | 1     | Sub-circular | 1.48       | 1.32      | 0.81      | 1 (13g)   | -          | 1    | -          |
| 896       | 1     | Sub-circular | 1.25       | 1.2       | 0.68      | 11 (118g) | -          | 1    | -          |
| 898       | 2     | Sub-circular | 1.25       | 0.76      | 1.18      | 3 (13g)   | -          | 14   | 1          |

Table 18. Postholes, Phase 2.4 Building 815.

## *Enclosures in the Northern Area*

### *Introduction*

3.6.12 To the south of Building **815**, in the Northern Area, a new set of ditches defining a set of at least four small conjoined sub-square/rectangular enclosures (Enclosures **282**, **399**, **498** and **528**) were laid out, replacing the earlier series of enclosures in this area assigned to Phase 2.3. The dimensions of and finds from the various ditches making up this enclosure complex are summarised in Table 19, whilst each enclosure is discussed below from south to north, together with any associated /internal features.

3.6.13 The most significant remains were associated with Enclosure **399**, where a double inhumation burial had been interred into the ditch forming the northern boundary of the enclosure and where a group of discrete features lay preserved beneath a layer of

dark earth/midden like material in the eastern part of the enclosure. These included three neonate/perinate burials and a stone-lined pit or post pad associated with the semi-articulated remains of a calf. Discrete features were rare in the other enclosures.

| Enc. No. | Feat. No. | Cut No. | No. of Fills | Dimensions |           | Pottery   |         | Other finds |          |      |
|----------|-----------|---------|--------------|------------|-----------|-----------|---------|-------------|----------|------|
|          |           |         |              | Width (m)  | Depth (m) | Roman     | Prehist | Bone        | CBM      | Slag |
| 282      | 282       | 282     | 1            | 0.6        | 0.06      | 4 (134g)  | -       | -           | 2 (250g) | -    |
|          |           | 312     | 2            | 0.51       | 0.15      | 1 (2g)    | -       | 1           | -        | 1    |
|          |           | 314     | 1            | 0.53       | 0.11      | 1 (1g)    | -       | -           | -        | -    |
|          |           | 336     | 1            | 0.95       | 0.13      | 3 (9g)    | -       | -           | -        | -    |
|          |           | 345     | 1            | 0.65       | 0.17      | 3 (9g)    | -       | 1           | -        | -    |
|          |           | 455     | 1            | 0.82       | 0.22      | 5 (27g)   | -       | 3           | -        | -    |
|          |           | 506     | 1            | 0.57       | 0.08      | 1 (1g)    | -       | -           | -        | -    |
|          |           | 508     | 1            | 0.34       | 0.1       | -         | -       | -           | -        | -    |
| 399      | 399       | 399     | 4            | 0.9        | 0.44      | 20 (201g) | 5 (42g) | 25          |          |      |
|          |           | 652=642 | 2            | 1.05       | 0.34      | 17 (137g) | -       | -           | -        |      |
| 528      | 528       | 528     | 2            | 1.16       | 0.49      | 10 (354g) | -       | 66          | 1 (115g) | -    |
|          |           | 563     | 1            | >0.2       | >0.06     | -         | -       | -           | -        | -    |
|          |           | 606     | 2            | 1.08       | 0.52      | 11 (100g) | -       | 9           | -        | -    |
|          |           | 621*    | 1            | 1.6        | 0.4       | 10 (58g)  | 1 (4g)  | 24          | -        | -    |
| 498      | 498       | 498     | 3            | 1          | 0.22      | 10 (422g) | -       | 17          | -        | -    |
|          |           | 513     | 4            | 0.73       | 0.24      | 30 (983g) | -       | 26          | 1 (219g) | -    |
|          | 416       | 416     | 1            | >0.88      | 0.2       | 19 (341g) | -       | -           | -        |      |
|          |           | 766     | 1            | >0.64      | 0.12      | -         | -       | 1           | -        | -    |

Table 19. interventions in Phase 2.4 enclosure ditches in the Northern Area

## Enclosure 282

3.6.14 Enclosure **282** was the best defined of the four enclosures in the Northern Area attributed to this phase. Laid out on a broadly north to south / east to west alignment, it appears to have replaced, and substantially enlarged Phase 2.3 Enclosure **286**. Although its eastern extent lay beyond the edge of excavation, it seems to have been sub-square/rectangular in plan, enclosing an area of at least 20m x 20m. The ditch surrounding this enclosure (**282, 312, 314, 336, 345, 455, 506, 508**) was extremely shallow and had been entirely truncated at several places around the enclosure's perimeter, especially along its northern edge, although enough traces remained to suggest that it had originally been continuous. In the eight excavated interventions the ditch measured between 0.82m and 0.34m wide and, at most, up to 0.22m deep (Section 104, Fig. 17). It was invariably filled by a single deposit of mid grey brown

clayey and sandy silts, from which very small quantities of Roman pottery, bone and tile were recovered.

- 3.6.15 A single discrete feature was recorded within Enclosure **282**; located close to its northern boundary this was a shallow subcircular pit (**360**). Measuring 0.55m in diameter and up to 0.16m deep it contained a single fill of mid grey silty from which a single sherd of coarseware pottery was recovered, alongside a residual struck flint.

#### *Enclosure 498*

- 3.6.16 To the west of Enclosure **268** a further sub-square/rectangular enclosure was been defined by two ditches (**498** and **416**) on its southern and northern sides, which extended beyond the limits of excavation to the west, and by the western boundary of Enclosure **282** (see above) and the southern boundary ditch of Enclosure **528** (see below). This created a broadly sub-square or sub-rectangular plot covering an area of at least 15m x 12m, partly open to the south and with a broad entranceway into Enclosure **528** to the north. Fairly substantial assemblages of pottery were recovered from the enclosure ditches, including sherds from several vessels dating to the 3rd and/or 4th century AD, but other finds were scarce (Table 19). A single small pit (**422**), devoid of finds, was found within this enclosure.

Enclosure ditch **416** (**416**, **766**) was straight and aligned east to west; it passed beyond the western boundary of the excavation and was exposed for a length of 6.7m, ending in a regular rounded terminus. It was truncated along its northern side by a large later, Phase 2.4, ditch (**412**) but survived to a width of up to 0.88m and depth of 0.2m. It contained a single fill of mid grey clay silt. In one intervention (**416**) this fill produced 19 sherds of Roman pottery.

Ditch **498** (**498**, **513**), on the opposite (northern) side of the enclosure was L-/dog leg-shaped, running from the western edge of excavation on a south-west to north-east alignment before turning to run west-north-west to east-south-east and terminating, leaving a gap of 2.8m between its termination and that of Enclosure **399** ditch **528**. This ditch was up to 1m wide and 0.24m deep and the two excavated interventions both had multiple fills of grey to brown silty clays which produced fairly substantial assemblages of pottery – 40 sherds in total, including a large portion of a single flanged rim bowl (SF 33) - along with animal bone and a piece of tile.

#### *Enclosure 528*

- 3.6.17 Immediately to the north of Enclosure **498** was another sub-rectangular enclosure (Enclosure **528**), partially exposed against the western edge of excavation. Its southern side was formed partly by the northern ditch of Enclosure **498** (ditch **498**, see above) but the remainder of its southern side and its eastern and northern sides were delineated by a single ditch, **528** (**528**, **563**, **606**, **621**), which although heavily truncated in places by later features was fairly substantial – measuring up to 1.6m wide and 0.52m deep – and which produced a small assemblage (21 sherds) of Roman pottery.

#### *Enclosure 399*

- 3.6.18 Enclosure 399 lay north west of Enclosure 528 and north of Enclosure 282 (see above). With its southern and western sides defined by the ditches of those enclosures, its northern side was bounded by a linear ditch **399** which extended beyond the eastern edge of excavation. Close to the edge of excavation a double inhumation burial of two

adult males had been made into this ditch (intervention **399**; Fig. ref; SKs 401 and 402; Fig. 12).

- 3.6.19 Within the eastern part of the enclosure (as exposed in the excavation area) was a loose cluster of discrete features (Fig. 13), most of which were exposed following the removal of a dark earth/midden-like deposit which lay in this area (belonging to Phase 2.5, Test Pit Area 1; see below). These included two small pits, each containing the remains of neonatal/perinatal skeletons, and two larger features, one containing another neonatal/perinatal skeleton and the other a probable post-pad – with a stone lined base and containing the partial articulated remains of a calf skeleton.

#### *Ditch 399 and double inhumation burial (Fig. 12)*

Ditch **399** (**399**, **652=642**) was exposed for a length of 28m, running on a north-west to south-east alignment. In the most westerly of the two interventions excavated across this feature (**652=642**) the ditch measured 1.05m wide and 0.34m deep and was filled by two mid/ dark grey brown deposits of silty clay which produced 17 sherds of pottery. In the easternmost intervention (**399**) the ditch measured up to 0.9m wide and 0.44m deep. A more complex sequence was revealed here: a thin basal layer of mid brownish grey silty clay covered the base of the ditch, onto which a double inhumation burial had been interred. The two skeletons, both belonging to adult males (see App. C.1) were 'stacked', one on top of one another; the lower skeleton (Sk 402) lay on its side in a slightly flexed position, facing south with its head to the west. The second skeleton (Sk 401) had been placed in a similar flexed position, facing south but had its head to the east and its torso and head overlay that of Sk 402. No sediment was recorded between the skeletons and it seems certain that they were deposited in a single episode, the ditch having been backfilled by a deposit of mid pinkish red silty clay containing abundant small fragments of limestone and twenty sherds of pottery. This backfill was later sealed by two thinner deposits of grey/brown silty clay.

#### *Internal features*

A total of 12 discrete features were exposed in Enclosure 399, nine of which were found in the eastern part of the enclosure, in the area later sealed by Phase 2.5 dark earth/midden deposit sampled by Test Pit Group 2 (Fig. 13). These included a cluster of four pits which produced special deposits in the form of the remains of neonatal burials and, in one case, semi-articulated animal remains. The most distinctive of these features was a regular circular pit with a stone lined base interpreted as a post pad/setting (**663**). This feature measured 0.7m in diameter and 0.2m deep with steeply sloping sides and a broad flat base and was lined with field-gathered limestone fragments, as well a large fragment of millstone from made of Folkestone Greensand, which had been reused as a saddlequern (App. B.5). In the southern part of this feature were the semi-articulated, partial remains of a calf skeleton comprising the skull and two articulated lower limb bones. The stone lining and the calf remains were sealed by dark grey silty clays which produced five sherds of Roman pottery, including two sherds from a shell tempered coarse ware jug of 3rd or 4th century date.

Half a metre to the south of this feature was a very similarly sized pit (**666**) which although lacking any stone lining, also contained a 'special'/placed deposit in the form of the partial remains of a perinatal/neonatal burial. This feature was circular in plan, measuring 0.76m in diameter and 0.23m deep and cut through an earlier, poorly defined, shallow oval shaped pit/hollow (**669**), and was filled by a lower light yellowish grey clay overlain by a mid brownish sandy clay. This upper fill contained a single sherd of pottery, whilst the remains of the neonatal burial were found on the base of the pit, close to its eastern edge. A small quantity of disarticulated neonatal bone recovered from the overlying dark earth deposit in Test Pit B2, directly above this feature seem likely to derive from this individual (see below, Phase 2.5 and App. C.1).

Two smaller pits immediately to the south of pit **666** also produced the remains of neonatal burials. Subcircular pit **333** measured 0.24m in diameter and just 20mm deep. Elements belonging a single neonatal/perinatal individual were recovered from this feature, which had probably originally been in

articulation. Under a metre to the south west, pit **335** was oval in plan, measuring 0.37m long by 0.31m wide and 40mm deep; again this contained the partial remains of an articulated neonate/perinate skeleton, and a femur recovered during the excavation of the Phase 2.5 midden/dark earth layer where it overlay this feature, in Test Pit D3, may have derived from this individual (see below).

To the north of these features were three small pits/postholes (**292**, **758** and **760**) all measuring around 0.25m in diameter and between 0.12m and 0.1m deep. These could have represented the heavily truncated and partial remains of a post-built structure(s), but they produced no finds. Just to the north of these features a large, very shallow, oval-shaped pit/hollow was recorded (300). Measuring 3.7m long and 1.15m wide and 0.14m deep it was filled by a mid grey brown silty clay which contained frequent angular fragments of field gathered limestone.

Three small features were recorded in the south-western corner of the enclosure: intercutting pits **553** and **551** and posthole **555**. All these features were very extremely shallow (less than 0.1m deep) and only pit **551** produced finds – a small sherd of Roman pottery (3g) and a residual sherd of Middle Iron Age pottery (7g).

### *The Southern Area – the ladder enclosures*

3.6.20 In the Southern Area it seems very likely that the ladder enclosures attributed to Phase 2.3 (see above) remained in use into Phase 2.4. A small number of ditches relating to minor modifications/additions to the enclosure system have been attributed to this phase (Table 20), alongside a scatter of discrete features within the enclosures (Table 21), but it should be emphasised that this is somewhat arbitrary and the features in the Southern Area assigned to Phases 2.3 and 2.4 should probably be seen as reflecting a single broad phase of activity.

| Feat. No. | Enc. No. | Cut No. | No. of Fills | Dimensions |           | Finds     |      |            |        |
|-----------|----------|---------|--------------|------------|-----------|-----------|------|------------|--------|
|           |          |         |              | Width (m)  | Depth (m) | Roman Pot | Bone | Fired clay | Glass  |
| 121       | 79, 124  | 121     | 2            | 0.5        | 0.26      | 10 (85g)  | 1    | 1 (4g)     | 1 (2g) |
|           |          | 139     | 1            | >0.25      | 0.2       | 2 (37g)   | -    | -          | -      |
|           |          | 265     | 1            | 0.85       | 0.23      | -         | -    | -          | -      |
| 266       | 124, 171 | 141     | 1            | >0.1       | >0.08     | 8 (181g)  | -    | -          | -      |
|           |          | 266     | 1            | 0.35       | 0.06      | -         | -    | -          | -      |
| 179       | 124,     | 179     | 1            | 0.45       | 0.15      | 2 (8g)    | 5    | -          | -      |
| 181       | 171      | 181     | 1            | 0.53       | 0.15      | -         | -    | -          | -      |
| 208       | 194,171  | 208     | 1            | 0.58       | 0.29      | -         | -    | -          | -      |

Table 20. Interventions in Phase 2.4 ladder enclosure ditches

| Feat. No. | Cut No. | Fills | Shape        | Dimensions |           |           | Finds     |      |       |
|-----------|---------|-------|--------------|------------|-----------|-----------|-----------|------|-------|
|           |         |       |              | Length (m) | Width (m) | Depth (m) | Roman Pot | Bone | H.S.R |
| 92        | 92      | 2     | Sub-circular | 0.9        | 0.9       | 0.18      | -         | -    | -     |
| 109       | 109     | 1     | Sub-circular | 0.22       | 0.23      | 0.14      | -         | -    | -     |
| 111       | 111     | 1     | Sub-circular | 0.15       | 0.18      | 0.12      | -         | -    | -     |
| 113       | 113     | 1     | Sub-circular | 0.23       | 0.26      | 0.25      | -         | -    | -     |
| 115       | 115     | 1     | Sub-circular | 0.28       | 0.28      | 0.13      | -         | -    | -     |
| 117       | 117     | 1     | Sub-circular | 0.2        | 0.24      | 0.08      | -         | -    | -     |
| 119       | 119     | 1     | Sub-circular | 0.23       | 0.24      | 0.26      | -         | -    | -     |
| 159       | 159     | 1     | Sub-oval     | 1.52       | 0.54      | 0.19      | -         | 1    | -     |
| 161       | 161     | 1     | Sub-circular | 0.24       | 0.22      | 0.19      | -         | -    | -     |
| 163       | 163     | 1     | Sub-circular | 0.24       | 0.21      | 0.09      | -         | -    | -     |
| 167       | 167     | 1     | Sub-circular | 0.52       | 0.6       | 0.2       | 1 (13g)   | -    | -     |
| 183       | 183     | 1     | Sub-oval     | 0.5        | 0.36      | 0.13      | 2 (12g)   | -    | -     |
| 185       | 185     | 1     | Sub-oval     | 0.22       | 0.18      | 0.1       | -         | -    | -     |
| 187       | 187     | 1     | Sub-circular | 0.45       | 0.46      | 0.11      | -         | -    | -     |
| 198       | 198     | 1     | Sub-circular | 0.75       | 0.45      | 0.1       | -         | -    | -     |
| 200       | 200     | 1     | Sub-circular | 0.7        | 0.42      | 0.25      | 1 (3g)    | -    | -     |
| 202       | 202     | 1     | Sub-circular |            | 0.38      | 0.06      | -         | -    | -     |
| 210       | 210     | 2     | Sub-oval     | 0.38       | 0.33      | 0.09      | -         | -    | -     |
| 220       | 220     | 1     | Sub-oval     | 1.7        | 0.2       | 0.04      | 2 (54g)   | -    | -     |
| 248       | 248     | 1     | Sub-circular | 0.23       | 0.22      | 0.08      | -         | 1    | -     |
| 252       | 252     | 1     | Sub-circular | 0.25       | 0.25      | 0.25      | -         | -    | -     |
| 258       | 258     | 1     | Sub-circular | 0.3        | 0.25      | 0.13      | -         | -    | -     |
| 260       | 260     | 1     | Sub-circular | 0.45       | 0.5       | 0.15      | 3 (27g)   | -    | -     |

Table 21. Phase 2.4 discrete features associated with ladder enclosures

#### Enclosure ditches (Table 20)

Four ditches in the southern part of the site indicate reworking of elements of the ladder enclosures and all shared the same west-north-west to east-south-east orientation as the earlier enclosure ditches.

The southernmost ditch (**208**) was exposed for c.4.5m of its length, extending from the eastern site limit. It was situated approximately 5m north of pre-existing ditch 194 on the southern side of enclosure 171 and had been completely truncated at its western extent. It had a maximum width of 0.58m and a maximum depth of 0.29m.

Immediately adjacent to earlier ditch **171**, on the southern side of Enclosure **124**, two new ditches (**179** and **181**) were established, perhaps redefining the former boundary between two enclosures. Both measuring around 0.5m wide and 0.15m deep, these had been entirely truncated at their western ends.

Further north, another ditch (**121**: **121**, **139**, **141**, **265**) probably served to re-establish the southern side of Enclosure **79**. The new ditch was L-shaped, forming the south-west corner of the enclosure in a similar way to ditch **79** in the previous phase. The maximum width and maximum recorded depth for ditch **121** was 0.5m and 0.26m respectively. Ditch **121** was completely truncated approximately 1m north-north-east of the corner. Ditch **266** was a short and heavily truncated feature which cut into the western edge of ditch **121**.

In general, few finds were found in these enclosure ditches, although a relative concentration occurred at the division between the two northernmost enclosures. The pottery sherds date only broadly to the Roman period (AD100-400). A small fragment of glass was found in ditch **121** and was probably from a vessel.

#### Discrete features (Table 21)

A total of 23 small discrete features were associated with the ladder settlement in this period. Due to a lack of direct relationships and a dearth of datable artefacts, their phasing is tentative.

### 3.7 Phase 2.5 Late Roman (Fig. 14)

#### *Introduction*

- 3.7.1 At some point between Phases 2.4 and 2.5, episodes of overbank flooding appear to have resulted in an alluvial deposit, up to 0.3m deep, which covered some of the western part of the Northern Area (see Fig. 14). Various features assigned to Phase 2.5 were cut through this deposit. This phase was characterised by another reorganisation of the enclosure system in the Northern Area, and by the later phases of the use and disuse of the aisled building. No features have been attributed to this phase in the Southern Area but it is possible that the ladder enclosures remained in use into this period.

#### *Aisled Building 815 – Disuse and abandonment (Fig. 11)*

##### *Introduction*

- 3.7.2 As outlined above, deposits associated with the later phases of use/disuse of Building 815 have been attributed to Phase 2.5 (Fig. 11). During this phase, the remains of the building appear to have been enclosed by ditches into a small plot adjoining Enclosures **404** and **720**. These ditches are fully described below, alongside the other element of the Phase 2.5 enclosure system in the Northern Area of the site, but here it is important to note that the fills of ditch **756**, immediately to the west of the building, contained finds-rich fills with finds and environmental remains directly comparable to those recovered from the fills of the postpipes within the footprint of the building.
- 3.7.3 The principal remains of the building assigned to this phase include an extensive layer (**807**) which sealed the original levelling/floor layer of the building and the cuts of the large post settings – all assigned to Phase 2.4. This layer appears to have built up around the posts set into the postholes, as the outlines and fills of the postpipes were visible as discrete circular features in the surface of this deposit. The fills of the postpipes themselves were highly distinctive, consisting of very dark deposits extremely rich in charred plant remains, largely in the form of fully processed grain (App. C.3, Fig. 11b), these appear to represent deposits emplaced following the removal of the posts/timbers – possibly in the aftermath of a fire which had gutted the superstructure of the building (see Discussion). A series of small pits/hollows were also recorded cut into the surface of layer 807, including a small pit containing the remains of neonatal burial (pit **813**). Also probably relating to a period following the abandonment of the building, or perhaps accumulating during its later period of use, was a finds rich, midden-like deposit outside, to the south, of the footprint structure. This was excavated in an array of 1x1m test pits (Test Pit Area 2).

##### *Occupation/disuse layer 807 and associated features*

- 3.7.4 An occupation/disuse layer (807) was exposed across the footprint of the building within the area enclosed by wall footing **815**, overlying levelling layer 522 (Section 294, Fig. 11a). This deposit was excavated and sampled in the series of test pits dug to investigate the building and the southern part of the deposit was exposed in plan and subject to surface collection of finds and metal detecting (see Fig 11a). Deposit 807

was a firm light brownish grey slightly sandy silty clay. It measured between 0.1 and 0.2m thick and contained moderate amounts of angular limestone fragments. In places there were localised but poorly defined patches of redeposited natural clay and/or stony spreads in the upper part of this deposit (812 and 834). Finds were recovered from this layer both during hand excavation of the test pits and from surface collection (the latter allocated to separate context numbers 431 and 432). A moderate quantity of Roman pottery, 218 sherds (5255g), was recovered of which the diagnostic forms were consistent with a 3rd or 4th century date. Also present was a small quantity (193g) of fired clay, including fragments of probable kiln plates. Animal bone included 17 identifiable elements, dominated by cattle but including sheep/goat and domestic fowl. Metal finds were restricted to a single amorphous piece of lead (SF 90), and an early 3rd century coin (SF 91). Other finds comprised a single shard of vessel glass and a little residual prehistoric pottery and flintwork. Environmental samples from this deposit produced some poorly preserved charred grain.

- 3.7.5 Aside from the postpipes of the major post settings of the structure, which were visible on the exposed surface of layer 807, several other ephemeral features cut into this layer. In the northern part of the building, pit **780** was a shallow, oval-shaped feature measuring 1.65m long, 1.1m wide and 0.12m deep, and was filled by a mid greyish red sandy silt. In the southern part of the structure, adjacent to the entranceway, was a second oval/subcircular pit (**795**), measuring 1.05 by 0.9m across and 0.11m deep, and containing two fills of sandy silt from which 14 sherds of Roman pottery and 220g (44 fragments) of fired clay were recovered. Immediately to the west of this feature was a smaller subcircular pit, 0.2m in diameter and just 40mm deep from which two sherds of pottery and 12 small fragments of fired clay were collected.
- 3.7.6 East of these two features, in the south-eastern corner of the building were two small oval shaped pits, **813** and **825**. Pit **813** was a very shallow scoop, sub-circular in plan and measuring less than 10mm deep it contained the partial remains of an articulated neonatal skeleton (**814**). Pit **825** was a similarly sized, very shallow feature, but produced no finds. A sample of the bone from the burial in pit **813** has been radiocarbon dated, but has produced an anomalously early result (cal AD 5-130 at 92% confidence), which is inconsistent with other strands of dating evidence relating to the building's use and disuse phases (see Discussion, Section 4.3).

### *Postpipes*

- 3.7.7 The postpipes (**774, 778, 789, 827, 843, 845**) of the six major post settings were clearly visible in the exposed surface of layer 807 following initial mechanical stripping of the area of the structure, and were largely excavated from this horizon, with the packing fills and cuts of the post settings being fully excavated following the removal of layer 807. The dimensions of the post pipes and a summary of their associated finds are provided in Table 22. The morphology of the postpipes varied somewhat, but most appeared roughly subcircular in plan and were between 0.4m and 0.5m in diameter. Postpipe **778** was somewhat larger, at 0.7m in diameter, whilst post pipe **774** was much more irregular in plan and measured up to 1.35m across – this is likely to have been caused by the forcible removal of the post from its setting. The postpipes were filled by between one and three deposits, but where multiple fills were recorded the

differences between them were very minor and they were essentially all made up of very dark grey, charcoal rich silts. Given the presence of this material in each of the postpipes, and its similarity to the upper fills of adjacent ditch **756** (see below), it seems possible that they represent the remains of a once more extensive deposit which covered much of the interior of the building, which has subsequently been lost to truncation and has been preserved only in the postpipe voids.

- 3.7.8 The postpipes fills produced a small but varied finds assemblage (Table 22), and some of this material, notably a relatively large number of nails (15), 714g of wall plaster and a small quantity of mortar seem likely to derive directly from the structure of the building. The relatively small assemblage of pottery included material dated to the 3rd/4th century. The environmental remains from these deposits were extremely rich, and were overwhelmingly dominated by charred wheat grains (App. C. 3; Fig. 11b), which invariably occurred in densities of over 100 grains per litre, with the more productive samples registering well in excess of a thousand grains per litre. Many of the grains showed evidence for insect damage, but this was clearly a fully processed crop and probably reflects the large-scale storage of grain within the structure. A sample of the charred grain (from post pipe **774**) has been radiocarbon dated to cal AD 325-416 at 75.5% confidence (App. D; BRAMS-4090; 1704±25 BP).

| Dimensions |       |            |           |           | Finds     |              |          |            |                          |     |           |          |
|------------|-------|------------|-----------|-----------|-----------|--------------|----------|------------|--------------------------|-----|-----------|----------|
| Feat No.   | Fills | Length (m) | Width (m) | Depth (m) | Pot       | Bone         | CBM      | Fired clay | Metal                    | HSR | Plaster   | Mortar   |
| 774        | 3     | 1.35       | 1.02      | 0.8       | 10 (124g) | 9            | -        | -          | 1 x finger ring (SF 164) | -   | 27 (205g) | -        |
| 778        | 1     | 0.73       | 0.72      | 1.12      | 20 (296g) | 57           | -        | -          | 4 x nails                | -   | -         | -        |
| 789        | 2     | 0.5        | 0.5       | >0.7      | 8 (164g)  | 7            | -        | -          | 2 x nails                | -   | 23 (137g) | 4 (204g) |
| 827        | 1     | 0.4        | 0.39      | 1.15      | 10 (184g) | 36           | -        | 14 (366g)  | 6 x nails                | -   | 1 (11g)   | 1 (25g)  |
| 843        | 1     | 0.39       | 0.38      | 0.78      | 10 (162g) | 16 (1 wrkd ) | 2 (105g) | -          | 2 x nails                | 1   | 10 (2g)   | -        |
| 845        | 2     | 0.56       | 0.4       | >0.54     | 5 (38g)   | 34           | -        | -          | 1 x nail; 1x CuA pin     | -   | -         | 1 (13g)  |
| Total      |       |            |           |           | 61 (928g) | 159          | 2 (105g) | 14 (366g)  | 16                       | 1   | 53 (373g) | 6 (242g) |

Table 22. Postpipes of Building 815, Phase 2.5

### Test Pit Area 2: Dark earth/midden deposits 430 and 755

- 3.7.9 Mechanical stripping of the area immediately to the south of the aisled building revealed an extensive layer of very dark brownish grey sandy grey (430=719), extending beyond the eastern edge of excavation. This deposit lay mostly within the area of Enclosure **404** (see below) but seems likely to have been associated with the final phases of use or abandonment of the building. This area was investigated through a 5m x 4m array of 1x1m test squares, initially excavated in chequerboard fashion

followed by total excavation. This revealed layer 430 to measure up to 0.2m deep and to overlay a second layer, a thin pale brown silt up to 800mm thick (755) which contained relatively large quantities of angular limestone fragments.

- 3.7.10 A very large assemblage of finds was recovered from upper deposit 430 (=719). Metal finds included five copper alloy coins (SFs 124, 125, 128, 129 and 130); several of these were heavily worn and illegible, but all seem to be 4th century issues and two have been dated to the later 4th century. Of somewhat later date, and potentially representing an isolated, later, episode of activity than the bulk of the finds, was an iron spearhead of Early Saxon type (SF 204; see App. B.1). Other metal finds comprised a pair of copper alloy tweezers, fragments of at least five iron nails and several small amorphous fragments of iron and lead. Also recovered was an unusual bone hinge (SF 162; App. B.14), probably a fitting from a casket or cabinet of some kind, as well as 50 fragments of CBM (8897g), fragments of fired clay (629g), three fragments of rotary quern and three small fragments of vessel glass. A relatively large assemblage of animal bone, including 105 identifiable elements (dominated by cattle, sheep/goat and horse), as well as a single neonatal human bone, was also collected. By far the most abundant material, however, was pottery and over a thousand sherds were recovered (1,098, 20,351g). The lower deposit (755) produced a much smaller finds assemblage including 73 sherds (1128g) of pottery and four fragments of CBM.

### *Enclosures in the Northern Area and associated features*

- 3.7.11 Phase 2.5 saw a third, and final, phase of reorganisation and modification of the enclosures in the Northern Area, with a series of ditches appearing to define five new sub-square/sub-rectangular enclosures: Enclosures **404**, **524**, **526**, **720** and **737**. These were bounded to the south by what appears to have been a major boundary ditch (**412**). As with previous phases, discrete features associated with the enclosures were relatively rare, but some important features were found within some of the enclosures, including a clay-lined pit – possibly a corn dryer – in Enclosure **526** and an oven/hearth and several wells in Enclosure **524**, whilst a second area of midden-like/dark earth deposit was exposed and sampled in Enclosure **737**.
- 3.7.12 The various elements of the enclosure system are described below from south to north, beginning with boundary ditch **412** and associated features, followed by descriptions of each of the conjoined enclosures and their associated features. Information on the dimensions and finds associated with the various ditches are tabulated below; those for Boundary ditch **412** and associated features are summarised in Table 23 and those for the enclosure ditches in Table 24.

| Feat. No. | Cut No. | Fills | Dimensions |           | Pottery     |         | Other Finds |            |      |     |       |
|-----------|---------|-------|------------|-----------|-------------|---------|-------------|------------|------|-----|-------|
|           |         |       | Width (m)  | Depth (m) | Roman       | Prehist | CBM         | Fired Clay | Bone | CuA | Glass |
| 412       | 412     | 2     | 1.68       | 0.82      | 151 (4898g) | -       | 5 (522g)    |            | 80   | 2   | 1     |
|           | 434     | 3     | 1.86       | 0.5       | 176 (3752g) | -       | 8 (369g)    | 2 (33g)    | 70   |     | -     |
|           | 497     | 3     | >0.78      | >0.33     | 56 (573g)   | -       | 1 (46g)     |            | 52   | -   | -     |
|           | 768     | 1     | >0.5       | >0.13     | 13 (261g)   | -       | -           |            | 1    | -   | -     |
| 485       | 485     | 1     | >0.45      | 0.34      | -           | -       | -           |            | -    | -   | -     |
|           | 491     | 1     | >0.3       | 0.36      | -           | -       | -           |            | -    | -   | -     |
| 487       | 487     | 1     | 0.44       | 0.22      | 82 (1172g)  | 2 (3g)  | 7 (586g)    |            | 78   | -   | -     |
|           | 493     | 1     | 0.51       | 0.19      | 12 (108g)   | -       | -           |            | 3    | -   | -     |
| 489       | 489     | 1     | 0.4        | 0.18      | -           | -       | -           |            | -    | -   | -     |

Table 23. Interventions in Phase 2.5 Boundary Ditch **412** and associated features

| Feat. No. | Enc. No.                | Cut No.         | No. of Fills | Dimensions |           | Finds       |      |          |         |    |    |     |     |
|-----------|-------------------------|-----------------|--------------|------------|-----------|-------------|------|----------|---------|----|----|-----|-----|
|           |                         |                 |              | Width (m)  | Depth (m) | Roman Pot   | Bone | CBM      | Plaster | Fe | Pb | CuA | HSR |
| 404       | 404                     | 404             | 1            | 0.7        | 0.19      | 2 (6g)      | 12   | -        | -       | -  |    |     | -   |
| 421       |                         | 421             | 3            | 0.97       | 0.23      | 38 (772g)   | 39   | 1 (56g)  | -       | -  |    |     | 1   |
| 526       | 404, 526, 524, 737, 720 | 526             | 1            | 1.15       | 0.35      | 52 (566g)   | 47   | -        | -       | 1  |    |     | -   |
|           |                         | 672=673=676=677 | 1            | 1.28       | 0.52      | 35 (936g)   | 99   | -        | -       | -  |    |     | -   |
|           |                         | 691=693         | 1            | 1.03       | 0.41      | 23 (472g)   | 12   | -        | -       | -  |    |     | -   |
|           |                         | 720=724         | 1            | 0.8        | 0.5       | 33 (442g)   | 35   | 2 (216g) | -       | 1  |    |     | -   |
| 524       | 524                     | 524             | 1            | 0.82       | 0.29      | 13 (96g)    | 31   | -        | -       | -  |    |     | -   |
|           |                         | 609             | 1            | 0.56       | 0.25      | 7 (154g)    | 44   | -        | -       | -  |    |     | -   |
|           |                         | 624             | 1            | 1.24       | 0.15      | 9 (225g)    | 4    | -        | -       | -  |    |     | -   |
| 737       | 737                     | 737             | 1            | 0.32       | 0.16      | -           | -    | -        | -       | -  |    |     | -   |
| 739       |                         | 739             | 1            | 0.48       | 0.21      | 20 (336g)   | 32   | -        | -       | -  |    |     | -   |
| 756       | 720                     | 756             | 4            | 1.15       | 0.3       | 18 (393g)   | 4    | 1 (283g) | -       | 5  | 3  | 3   | -   |
|           |                         | 817             | 4            |            | 0.84      | 125 (2611g) | 8    | 2 (78g)  | 1 (8g)  | 2  |    |     | -   |
|           |                         | 939             | 2            | 1.39       | 0.39      | 33 (460g)   | -    | -        | -       | 1  |    |     | -   |
| 904       | 404                     | 904             | 1            | 0.37       | 0.11      | 3 (43g)     | 9    | 1 (239g) | -       | -  |    |     | -   |

Table 24. Interventions in Phase 2.5 enclosure ditches

### Boundary Ditch 412 (Table 23)

3.7.13 The southern boundary to the area of enclosures belonging to Phase 2.5 was defined by a substantial ditch (**412: 412, 434, 497, 768**), which ran broadly east to west from the western edge of excavation and terminated less than 5m from the eastern edge of excavation, where it was supplemented by several smaller parallel ditches (**485, 487, 489**).

3.7.14 In the two interventions excavated across its full profile (**412, 434**), ditch **412** measured up to 1.86m wide and 0.82m deep and contained between two and three fills. The

basal fill throughout the excavated sections was a dark grey silty clay, overlain by a very dark grey brown silty clay, in places sealed by a lighter, yellowy brown silty sand. Moderate to large quantities of finds were recovered from the ditch fills, alongside ceramic building material and bone. The more diagnostic pottery included material dated to c. AD 370-400 and is consistent with a later 3rd or 4th century date for the infilling of the feature, whilst two 4th century coins (SFs 115 and 96) were recovered, one from the upper fill and one from the basal fill (411) of intervention **412**.

- 3.7.15 Running parallel and slightly to the north of ditch **413**, and extending beyond the western edge of excavation, were a pair of intercutting ditches. The earliest of these features, **485 (485, 491)**, measured at least 0.45m wide and was up to 0.36m deep; it was filled by a single dark grey sandy silt from which no finds were recovered. This feature was recut along its southern side by ditch **487 (487, 493)** which was up to 0.51m wide and 0.19m deep. This was again filled by a single dark grey sandy silt, which produced a total of 104 sherds of Roman pottery and a little animal bone and ceramic building material.
- 3.7.16 To the south of these ditches the east to west aligned portion of a L-shaped ditch (**489**) cut the western terminus of ditch **412** and then turned, passing beyond the eastern edge of excavation on a broadly north to south alignment. This produced no finds from its single mid grey sandy silt fill.

### *Enclosure 737*

- 3.7.17 Enclosure **737** was a rectangular shaped plot, partially exposed against the eastern edge of excavation. It covered an area of at least 28m (north to south) by 13m (east to west); its southern side was defined by boundary ditch **412** and associated ditches **485** and **487** (see above), whilst its northern side was defined by a group of four intercutting ditches (**404, 421, 737** and **739**). A large part of its western side was open but it was partly bounded here by the southern part of major L-shaped ditch (**526**) which also served to delineate parts of the other four enclosures. No discrete features within Enclosure **737** have been attributed to this phase, although an area of undisturbed buried soil/dark earth was found against the eastern edge of excavation, where it sealed a series of features belonging to Phase 2.4 (see above).

### *Enclosure ditches (Table 24)*

The northern side of Enclosure **737** was formed by a series of minor east to west aligned, intercutting ditches, which also formed the southern edge of Enclosure **404** (ditches **404, 421, 737, 739**). These ditches cut across the earlier line of Phase 2.5 ditch **399** (see above). None of these features were substantial, measuring between 0.32 and 0.97m wide and up to 0.23m deep. They were invariably filled by dark brown grey silt clays which generally produced few finds. The one major exception to this was ditch **421**, which had a more complex fill sequence of three deposits of mid to dark brown/grey silty clays, and which produced a relatively substantial assemblage of pottery (38 sherds) together with a single piece of human bone (a radius) which almost certainly derived from skeleton 402, interred in Phase 2.4 ditch **399** (see above).

The southern part of the western side of Enclosure **737** was open to Enclosure **524** to the west, but the northern part of this side was defined by the southern part of L-shaped ditch **526 (526, 672=671, 691, 720)**. At this point, this feature was aligned north-north-west to south-south-east and ran north to form the boundary between Enclosures **404** and **526** (see below) before turning west to form the northern boundary of Enclosure **526**. A relatively substantial feature, measuring up to 1.28m wide and 0.52m

deep, it was nonetheless filled by single deposits of mid to dark grey/brown silty clay; these produced fairly substantial assemblages of Roman pottery and bone – as well as a shale spindle whorl (SF149) from the upper part of the fill (687) of intervention **672**.

#### *Midden-like deposit (Test Pit Area 1)*

Against the eastern edge of excavation, mechanical stripping exposed a layer of mid grey brown clayey silt in a restricted area measuring approximately 4m by 4m, which was subsequently entirely hand excavated in a grid of 1x1m test squares (Test Pit Area 1; Test Pits A1-4 to D1-4). This revealed the deposit (51) to survive to a depth of 0.2m, and to seal a number of features which have been assigned to Phase 2.4 (see above). Finds were much less abundant than in Test Pit Area 2 (see above), and consisted of 190 sherds of Roman pottery (2036g), five fragments of CBM and 368g of fired clay – including several fragments of kiln plates (see App. B.10). As discussed above, disarticulated neonatal human remains from two of the test pits (B2 and D3) are likely to have derived from the Phase 2.4 neonatal burials sealed by this deposit.

#### *Enclosure 524*

- 3.7.18 Enclosure **524** lay to the east of Enclosure **737** and was partially exposed on the western side of the Northern Area. It covered an area of at least 23m (north to south) by 17m (east to west). It may originally have formed one part of a single larger plot with Enclosure **526** to the north, defined by boundary ditch **412** to the south and L-shaped ditch **526** to the east and north, but at some point the southern part of ditch **526** had been recut by L-shaped ditch **524**, which then turned to form a broadly east to west aligned boundary between the two enclosures.
- 3.7.19 A relatively large number of features were exposed within this enclosure, consisting of three wells (**448**, **456**, **557**), a single shallow pit (**612**) and a poorly defined pit containing a collapsed fired clay oven/hearth structure/lining which may have represented oven or corn dryer (**371**).

#### *Enclosure ditches (Table 24)*

The southern side of Enclosure **524** was defined by boundary ditch **412** (see above), whilst its eastern and northern sides were delineated by ditch **524** (**524**, **609**, **624**), which in part represented a recut of major L-shaped ditch **526**. Ditch **524** measured between 0.8m and 1.24m wide and between 0.15m and 0.29m deep and was filled throughout by a single deposit of mid grey silty clay, which produced small quantities of Roman pottery and animal bone.

#### *Wells within Enclosure 524*

Three wells were exposed in the south-eastern part of Enclosure **524**. The southernmost of these features (**456**) was oval in plan, measuring 1.85m long by 1.55m wide and was excavated to a depth of 1.1m, with augering of its basal fills establishing that it measured up to 1.25m deep. The upper part of the cut had weathered back to form a relatively gentle slope, but the lower part of the cut was very steeply sloping and shaft-like (Section 184, Fig. 17). The lower three fills, which filled the vertical-sided part of the well (467, 466, 465) were waterlogged, mottled grey to orange silty clays from which no finds were recovered; these were sealed by 464, an orange sandy clay which seemed to represent material eroded from the sides of the feature and which again produced no finds. The upper part of the feature's profile was filled by a series of brown/grey clay silts (460, 461, 462, 463), which seemed to reflect more gradual silting up and backfilling of the feature and which produced, in total, 44 sherds of Roman pottery and a small quantity of animal bone.

Less than 5m to the north was well **448**, the top of which was cut by Phase 2.1 Boundary ditch **317**. This feature was less substantial than well **456**; it was oval in plan, measuring 1.05m by 0.86m and up to 0.8m deep, with steeply sloping/near vertical sides and slightly concave base giving a U-shaped profile

(Section 182, Fig. 17). Its basal fill (449) was a heavily mottled mid blue grey/yellow brown silty clay – this produced a large portion of a Horningsea ware jar (15 sherds, 896g) dated to the 3rd or 4th century and seven sherds from other vessels. This was overlain by three layers of mid grey brown silty clays which produced no finds, and the feature was capped by two dark charcoal-rich deposits (453 and 454 which both produced small quantities of Roman pottery (24 sherds in total) and a little animal bone.

A further 5m to the northwest was well **557**. This was of similar size to well **456**, measuring 0.96m by 0.74m and up to 0.98m deep, with steeply sides and a slightly rounded base (Section 202, Fig. 17; Plate 10). Its basal fill was a blue grey clay (558), overlain by upper deposits of mid grey or brown silty clays. Very small quantities of pottery (eight sherds) and animal bone were recovered from the upper fills of this feature.

### *Oven/hearth 407/371*

Some 5m to the west of well **448** a large, recut, pit containing deposits of fired clay representing the collapsed/dumped remains of a lining and with heavily burnt/scorched fills was exposed, and probably represented the remains of a multiphase/reused oven or hearth/fire setting. This feature was cut partly into the alluvial subsoil (51) and it proved difficult to define its edges precisely (Section 164, Fig. 17). The original cut of the feature (**407**) appears to have been oval in plan, measuring 2.45m long, 1.9m wide and 0.52m deep with sloping sides and a broad flat base.

The fills of this cut had been heavily truncated by later cut **371**, but lying on the base of the feature were two deposits of fired clay (408 and 409) which, although clearly not *in situ* and somewhat amorphous in shape, appeared to represent a collapsed lining, with slabs of fired clay measuring up to 25mm thick. This fired clay was overlain by a light yellowish brown silty clay (372). This deposit was cut through by pit **371**; this later feature measured up to 1.95m long, 1.4m wide and 0.55m deep and had moderately steeply sloping sides and an undulating but generally flat base. This basal fill of this feature was a sterile mid grey silty sand (378), which was overlain by a complex series of four heavily burnt/scorched clay silts/silty clays (373-376) which varied from light pinkish brown to dark bluish grey in colour and seem likely to relate to *in situ* heating/burning. Unfortunately, environmental samples taken from three of these fills (374, 376, 378) proved to contain very sparse charred plant remains - just a few fragments of charred grain and very low volumes of charcoal – and the function of this feature remains unclear.

### *Pit 612*

Partially exposed against the western edge of excavation was a large, shallow, pit/hollow, cut from relatively high up in the alluvium which covered this area of the site. It measured at least 1.4m across and was up to 0.3m deep. It was filled by a sequence of four yellowish grey to mid brown/grey sandy silts, from which 19 sherds (342g) of Roman pottery were recovered.

### *Enclosure 526*

Enclosure **526** was defined on its northern and eastern sides by L-shaped ditch **526** and was separated from Enclosure **524** to the south by the western arm of ditch **524**. Both of these features have been described above. The enclosure covered an area of at least 19m by 19m, its western side extending beyond the limit of excavation. A single feature was identified within this enclosure: an elongated clay-lined pit (**512**) which was infilled by deposits rich in charred grain (Fig. 15). The shape of the feature, and its association with charred grain suggest that it is likely to represent the remains of a corn dryer, although the lack of evidence for *in situ* burning or heating suggests it may represent a clay lined tank made for another purpose, perhaps for steeping grain as part of the malting process (see App. C.3 and Discussion, below).

### *Clay-lined Pit 512 (Fig. 15; Plates 11 and 12)*

The cut of pit 512 was 'key-hole shaped' in plan, with a broad bulbous western end (up to 1m wide) narrowing to around 0.6m wide at its eastern end. The western end of the feature was also somewhat deeper, at around 0.45m deep, becoming shallower (0.25m deep) at the east, with steeply sloping sides and a flat, somewhat undulating base. The base and parts of the sides of the feature were lined with a thin deposit of unburnt/unheated soft light grey clay, up to 50mm thick.

The infill sequence of the feature was complex. The eastern (narrower and shallower) end of the feature appeared to have infilled first; the earliest fill in this half of the feature was a localised deposit of light yellow mid grey silty sand found against the western edge of the feature (588). This was overlain by a mid grey silty sand, which contained lenses of very dark charcoal-rich material, which covered the base of this half of the feature (587). This was sealed by two deposits of brownish grey/yellowish brown sandy silts, both containing abundant charcoal inclusions (586 and 585). In the western part of the feature, the clay lining was overlain by a mid grey silty sand with lens of charcoal (580) – very similar and probably equivalent to 587. This was sealed by a very thin layer of charcoal-rich dark grey silt sand (579), which in turn overlain by a mid grey silty sand with charcoal inclusions (544). This part of the feature was capped by two deposits of mid grey/brown silty sand which appeared to represent episodes of natural silting (542 and 543).

Following the infilling of the feature with these deposits, two pits were cut through its fills; the purpose of these features is unclear and they do not seem to relate to reuse of the feature. Pit **754** cut through the centre of the earlier feature and was sub-circular in plan, up to 0.6m in diameter and 0.43m deep, with vertical sides and an undulating base and was filled by a single mid grey silt sand. Pit **589** was a smaller circular pit cut into the eastern end of the corn dryer, measuring up to 0.35m in diameter. It was up to 0.12m deep and was filled by a single mid brownish grey silty sand.

Bulk environmental samples were taken from the two major basal deposits overlying the clay lining in feature **512** – fills 580 and 587 – and from one of the upper fills in the eastern part of the feature (585). These deposits contained abundant charred grain and weed seeds (App. C.3); spelt and barley grains were frequent and there was evidence of germination of some of the spelt grains. Chaff was absent although wood charcoal and charred nutlets of Great Fen sedge (*Cladium mariscus*) and seeds of other sedge species (*Carex* spp.) were present. Weed species included stinking mayweed (*Anthemis cotula*), goosefoots (*Chenopodium* sp.) and docks (*Rumex* spp.). Twenty-nine sherds of Roman pottery were recovered from the fills of pit **512**, mostly from the upper fills (542 and 543), alongside a single iron nail (from fill 579), whilst, unusually, four fragments of bone from a large bird of prey – probably a red kite – were recovered from fill 579 (see App. C.2).

### *Enclosure 404*

3.7.20 Enclosure 404 lay immediately south of Building 815 and the spread of midden-like/dark earth deposit that lay south of the building lay largely within this enclosure (Test Pit Area 2 – see above). The southern side of the enclosure was formed by the set of intercutting ditches on the northern side of Enclosure **737** and its western side was formed by part of L-shaped ditch **526** (see above). It was partly open to the north and, if Building **815** was still functioning during this phase, its entrance would have opened onto Enclosure **404**, but to the west the Enclosure was separated from the building by a short length of ditch (**904**). A single feature within Enclosure **404** has been attributed to this phase, a hollow (**901**) revealed following the removal of Phase 2.4 layers 430 and 755 in Test Pit Area 2.

### *Enclosure ditch (Table 24)*

Ditch 904 was a narrow, shallow feature, aligned east to west and extending for a length of 5.5m eastwards from L-shaped ditch 526 (with which it appeared to be contemporary) before terminating.

Measuring 0.37m wide and up to 0.11m deep, this feature was filled by a single mid grey silty clay from which three sherds of pottery, a small quantity of animal bone and a large tile fragment were recovered.

#### *Hollow 901*

Beneath the deposits excavated in Test Pit Area 2, a sub-circular/amorphous shaped feature was revealed. Measuring up to 1.5m across and up to 0.15m deep this irregular feature contained a single fill of dark grey clay silt from which no finds were recovered, although bulk sampling produced some charred grain (App. C.3).

#### *Enclosure 720*

3.7.21 A small plot appears to have been defined to the west of Building **815**, its southern side delineated by L-shaped ditch **526** (see above) and its eastern side by a length of ditch (**756: 756, 817, 939**) which measured up to 1.4m wide and 0.84m deep (Section 294, Fig. 11). As noted above, this ditch seems likely to have also formed the western side of a ditched compound around Building 815 and had been backfilled with finds rich deposits analogous to those found in the postpipes of the building. These fills produced a relatively substantial assemblage of pottery (178 sherds; 3511g), including some material dated to the 4th century. Three copper alloy coins were also recovered from this feature; one, presumably residual, of 2nd century date (SF 133) and two of mid 4th century date (SFs 139 and 144). Other finds included a little animal bone and tile, as well as five iron nails and several small scraps of lead. Perhaps the most compelling evidence for a very strong association with the deposits from the postpipes of the adjacent building came, however, from a single (8g) piece of painted wall plaster, and by the very similar composition of the rich charred grain assemblages derived from these deposits (dominated by fully processed wheat grains; App. C.3).

### **3.8 Phase 3 – Post-Roman (Fig. 16)**

- 3.8.1 A total of six ditches have been interpreted as post-Roman and ran on different alignments to their Roman predecessors. These features are summarised in Table 25.
- 3.8.2 In the Southern Area, ditches **67** and **130** may once have been connected as they were truncated at their southern and northern extents. They were both shallow and narrow ditches (a maximum of 0.55m wide by 0.2m deep and 0.66m wide by 0.15m deep, respectively) running on a north to south alignment similar to ditch **297** in the northern part of the site which may have formed part of the same boundary (albeit slightly offset). Ditch **67** was truncated at its northern end, while ditch **130** was truncated at its southern end. Artefacts recovered from these ditches were relatively scarce and the associated pottery is likely to have been residual.
- 3.8.3 Ditch **297** ran the length of the Northern Area on a north to south alignment. It was a shallow, narrow ditch (a maximum of 0.75m wide and 0.35m deep) and was completely truncated at several points along its length. At its southern extent it shallowed to an end at the junction with an earlier ditch (**69**). At its northern end, the ditch continued beyond the northern limit of excavation. A total of 45 sherds (1030g) of residual Roman (AD100-400) pottery were recovered.
- 3.8.4 Other ditches dated to the post-Roman period were located in the north-east corner of the Northern Area and can be dated by their relationship to remains relating to the

aisled structure. Ditch **787**, orientated approximately north-east to south-west, cut across the western foundation of the former building, causing small amounts of damage and truncating post-pipe **845**. The ditch was shallow (maximum of 0.21m deep) and, having been truncated at both extents, it may have originally continued in either direction. Finds from its fills were proportionally more common than in other ditches, since 100% of its fills were excavated. Pottery (5 sherds, 20g) from this feature was dated to AD150-400 but was probably residual. The only other artefact of note from this feature was a possible Roman key (SF167).

3.8.5 Ditches **855** and **857** cut into the stone foundations on the eastern side of the structure's entranceway. These features were shallow, truncated at their western extents and continued beyond the eastern limit of the excavations.

| Feat. No. | Cut No. | No. of Fills | Dimensions |            | Pottery   |         | Other finds |            |         |    |
|-----------|---------|--------------|------------|------------|-----------|---------|-------------|------------|---------|----|
|           |         |              | Width (m)  | Depth (m)  | Roman     | Prehist | Bone        | Fired clay | CBM     | Fe |
| 67        | 67      | 1            | 0.55       | 0.2        | 9 (81g)   |         | 9           | -          | -       | -  |
|           | 71      | 1            | 0.5        | 0.1        | 7 (38g)   |         | -           | -          | -       | -  |
|           | 107     | 1            | 0.28       | 0.2        | 6 (77g)   |         | 2           | -          | -       | -  |
| 130       | 130     | 1            | ~0.4       | 0.05       | -         |         | -           | -          | -       | -  |
|           | 177     | 1            | 0.66       | 0.15       | 6 (40g)   |         | -           | -          | -       | -  |
|           | 204     | 1            | 0.62       | 0.13       | -         |         | -           | -          | -       | -  |
|           | 270     | 1            | 1          | 0.1        | -         |         | -           | -          | -       | -  |
| 297       | 297     | 2            | 0.7        | 0.35       | 20 (253g) |         | 28          | -          | -       | -  |
|           | 306     | 1            | 0.55       | 0.15       | 2 (95g)   |         | -           | -          | -       | -  |
|           | 323     | 1            | 0.75       | 0.19       | 3 (68g)   |         | 2           | -          | -       | -  |
|           | 592     | 1            | 0.72       | 0.22       | 19 (175g) |         | -           | 3 (73g)    | 2 (20g) | -  |
|           | 628     | 1            | 0.35       | 0.06       | 1 (15g)   |         | 1           | -          | -       | -  |
| 787       | 787     | 1            | 0.73       | 0.13       | 5 (20g)   |         | 19          | -          | 4 (39g) | 1  |
|           | 808     | 2            | 0.6        | 0.21       | 9 (155g)  |         | 10          | -          | -       | -  |
|           | 835     | 1            | 0.73 (max) | 0.21 (max) | 12 (142g) |         | 28          | -          | -       | -  |
| 855       | 855     | 1            | 0.8        | 0.12       | 3 (18g)   | 1 (6g)  | 3           | 1 (3g)     | -       | -  |
| 857       | 857     | 2            | 0.63       | 0.33       | 6 (53g)   | 1 (3g)  | 30          | -          | -       | -  |
|           | 870     | 2            | 0.8        | 0.28       | 4 (36g)   |         | -           | -          | -       | -  |

Table 25. Excavated slots in post-Roman ditches

3.8.6 Three discrete shallow and slightly amorphous hollows were assigned to the post-Roman period (Table 26). All were found within the footprint of the disused aisled building and were cut into layer 807. The finds recovered from them are likely to derive from layer 807 and/or the disused building, other than a modern iron nail.

| Feat. No. | Fills | Shape     | Dimensions |           |           | Pottery   |             | Other finds |            |         |    |
|-----------|-------|-----------|------------|-----------|-----------|-----------|-------------|-------------|------------|---------|----|
|           |       |           | Length (m) | Width (m) | Depth (m) | Roman Pot | Prehist Pot | Bone        | Fired Clay | Mortar  | Fe |
| 793       | 1     | Amorphous | 1.02       | 0.87      | 0.1       | 6 (77g)   | 1 (8g)      | 13          | -          | 2 (14g) | 1  |
| 795       | 2     | Amorphous | 1.06       | 0.92      | 0.11      | 14 (173g) |             | -           | -          | -       | -  |
| 833       | 2     | Amorphous | 0.34       | 0.33      | 0.03      | 2 (51g)   |             | 1           | 12 (52g)   | -       | -  |

Table 26. Excavated slots in post-Roman discrete features

## 3.9 Undated (Fig. 4)

3.9.1 A single, isolated feature in the northern part of the site remains unphased. This small sub-oval feature (**309**) contained three fragments of flint and may have been naturally created.

## 3.10 Summary of finds and environmental evidence

### *Finds Summary*

3.10.1 The excavations yielded a large and varied finds assemblage, quantified in summary from here in Table 27 and summarised below, full specialist reports are provided in Appendix A.

| Category                  | No.  | Weight  | Report ref.          |
|---------------------------|------|---------|----------------------|
| Metalwork                 | 139  | -       | App. B.1             |
| Coins                     | 51   | -       | App. B.2             |
| Worked flint              | 109  | -       | App. B.3             |
| Burnt flint               | 21   | 248g    | App. B.3             |
| Shale                     | 1    | -       | App. B.4             |
| Worked stone              | 22   | 5238g   | App. B.5             |
| Wood (waterlogged)        | 1    | -       | App. B.6             |
| Prehistoric pottery       | 89   | 814g    | App. B.7             |
| Roman pottery             | 5948 | 9,7365g | App. B.8             |
| Ceramic building material | 166  | 2,3694g | App. B.9             |
| Fired clay                | 247  | 2673g   | App. B.10            |
| Plaster/mortar            | 62   | 673g    | App. B.11; App. B.12 |
| Glass                     | 8    | -       | App. B.13            |
| Worked bone               | 4    | -       | App. B.14            |
| Slag                      | 11   | 440g    | App. B.15            |
| Coal and clinker          | 3    | 3g      | App. B.16            |

Table 27. Finds summary

### *Metalwork (App. B.1)*

3.10.2 The assemblage consists of 142 fragments of metalwork relating to a total of 134 artefacts recovered from metal detecting and excavation of archaeological features. The bulk of the assemblage dates to the Roman period, with a single item of Early Anglo-Saxon date (a spearhead) being found (in Phase 2.5, layer 719). Some artefacts can be attributed to the post-medieval and modern periods, while other items (including the collection of lead waste) are of indeterminate date. The assemblage comprises copper alloy (CuA), iron (Fe) and lead (Pb) artefacts and includes personal possessions (knives), jewellery/decorative items (bracelets, brooches, buckles, buttons, finger rings, pins), weaponry (spear head, musket balls), practical items (horse shoes, keys, loops, nails, pot mends, weights) and items associated with personal hygiene (tweezers). The copper-alloy artefacts indicate a relatively high status for part of the community settled on the site, particularly during the Late Roman period.

### *Coins (App. B.2)*

3.10.3 A total of 53 coins Roman coins was recovered from top-soil metal-detecting and excavation of archaeological features. The identifiable coins are dominated by 3rd and

4th century issues, although a few issues attest to activity in the 2nd century. The assemblage is marked by a first major peak in coin loss in the later 3rd century (AD 260-275), with a second peak in the later 4th century (AD 330-378), and suggests that the site remained engaged with the monetary economy into a relatively late stage of the 4th century.

#### *Flint (App. B.3)*

- 3.10.4 A total of 109 worked flints and a small quantity (248g) of unworked flint were recovered. The flintwork was collected either as residual material from later features or from unstratified deposits, and was thinly distributed across the site. The assemblage includes a relatively high proportion of blade/narrow-flake based material suggestive of a Mesolithic/earlier Neolithic date. Diagnostic pieces include three Neolithic arrowheads (one leaf-shaped and two transverse, chisel, forms).

#### *Shale (App. B.4)*

- 3.10.5 A single shale spindle-whorl was recovered from Phase 2.5 ditch **526**.

#### *Worked stone and building stone (App. B.5)*

- 3.10.6 Twenty-two pieces of worked stone were recovered from the excavations, whilst a sample of 90 pieces of building stone were retained for specialist analysis. The worked stone included a complete millstone alongside fragments belonging to at least one other millstone and several rotary querns, some of which appear to have been reused as whetstones. The stone used for the millstones and querns was imported to the region and includes Folkestone Greensand (probably from sources at East Wear Bay, Kent), Hertfordshire Puddingstone and Millstone grit (from sources in the Southern Pennines).
- 3.10.7 The limestone used for the footings of the aisled building (815), and found in some quantities in deposits associated with the disuse of the building, appears to almost entirely reflect the use of local field-collected Upware limestone. Other building stone includes a small quantity of Collyweston Slate roofing tile derived from sources in Northamptonshire.

#### *Waterlogged wood (App. B.6)*

- 3.10.8 A single piece of waterlogged wood, a split timber or plank of oak (*Quercus* sp.) was recovered from the basal fill of well/watering hole **534**; it is not clear whether this relates to a timber structure/lining associated with the well or simply represents a discarded timber.

#### *Prehistoric pottery (App. B.7)*

- 3.10.9 A total of 89 sherds of prehistoric pottery were recovered. The assemblage includes four sherds of Middle Bronze Age pottery from a pit in the Northern Area (**931**) and small quantities (22 sherds) of Late Bronze Age/Early Iron Age pottery recovered as residual finds in later features. However, most of the material was of Middle-Late Iron Age date, including material from several Iron Age pits which may have been

associated with the (undated) ring drip gully of a probable roundhouse in the Northern Area.

### *Roman pottery (App. B.8)*

A.1.1 A large assemblage of 5,948 sherds (97,365g) of Roman pottery was recovered representing an estimated 700 vessels. The composition of the assemblage suggests that most of the pottery relates to activity from the mid/late 2nd century through to the 4th century AD. In general terms, the assemblage is typical of those from other rural domestic settlements in the region: it is dominated by coarseware jars, with local production centres (namely Horningsea and Nene Valley) well represented, but with regular access to goods from outside of the local area such as Hadham wares, Oxfordshire wares and samian. Nonetheless, it is notable that the proportion of finewares is somewhat higher, and the range of vessel s fabrics somewhat wider, than at other comparable sites. This may reflect the slightly elevated wealth/status of the site, or simply relate to the excellent access to contemporary trade networks afforded by the site's location immediately adjacent to the River Cam. That there is no evidence for Early Saxon pottery at the site indicates an abrupt end to occupation sometime in the later 4th or early 5th century AD, albeit that the ceramic evidence indicates that until this point, the site was flourishing.

### *Ceramic building material (App. B.9)*

3.10.10 A total of 166 fragments (23,694g) of ceramic building material (CBM) was recovered from the site. The CBM was moderately to severely abraded (average weight 143g) and collected from disuse fills of ditches, middens and within construction layers or the subsoil. The assemblage was mostly concentrated in features dated to Roman phases (Phases 2.1 to 2.5), with a small fraction recovered from post-Roman features (Phase 3). The CBM assemblage comprised a variety of fabrics, forms and production techniques which points to many sources for the material. The material includes pieces with diagnostic features of Roman brick and tile, mostly consisting of fragments of *tegula* and *imbrex* but including small numbers of flue tiles, *pedalis* or *besalis* and a possible *lydion*. It is clear the Roman material derives from demolition and post-demolition processes and although at least some of it may have been originally used for the buildings in the immediate vicinity of the site it is not possible to make a direct, unequivocal, link between any of the CBM and the aisled building uncovered in the northern part of the site.

### *Fired clay (App. B.10)*

3.10.11 A small assemblage of fired clay (247 fragments, 2673g) was recovered. The material was collected largely from Roman contexts, with a concentration in the northern part of the site. The majority of the material comprises 'structural' fragments, *i.e.* pieces with recognisable attributes (208 fragments, 2458g). Of the structural fraction, a portion consists of diagnostic objects (10, 2008g), namely kiln related objects including 33 fragments of kiln plate (743g). The thirty-two confidently identified kiln plate fragments (724g in total) were found scattered in low quantities across the northern area, from contexts belonging to Phases 2.1-3 and much of this is

likely to be residual – whilst attesting to the presence of an episode of pottery production somewhere on the site.

#### *Plaster and mortar (App. B.11; App. B.12)*

- 3.10.12 Small assemblages of painted wall plaster (42 pieces, 326g), undecorated plaster (13, 55g) and unrefined plaster or mortar (8, 256g) were recovered from the site. The assemblage was collected from the Northern Area, almost exclusively from the fills of the post pipes of Building 815. A variety of colours were present on the painted plaster, but no patterns were discernible aside from a simple band on one fragment. The material was small and fragmented, without the largest mortar fragment (181g) the average weight was 7g. Portable X-Ray Fluorescence analysis of samples of the painted plaster identified a high calcium and strontium signal on all the painted layers, confirming the use of a lime whitewash onto which was then painted thin pigment colours applied to the plaster whilst it was still drying, in the style of a simple fresco. The simple (and probably unsophisticated) painted wall panels appear to have been painted using the colours white, red, pink, pink-orange and grey (or black). High sulphur levels associated with the paint almost certainly reflect the formation of gypsum within the painted limewash, perhaps on account of the use of egg tempera, but more likely as a result of post-depositional changes, or possibly contemporary air pollution associated with smoke and the use of the buildings during the Roman period.

#### *Glass (App. B.13)*

- 3.10.13 Eight small fragments of Roman vessel glass were recovered from Phase 2.4 and 2.5 contexts, including dark earth/midden deposit 430.

#### *Worked bone (App. B.14)*

- 3.10.14 Four worked bone objects were recovered. Two simple pointed bone spatulae made on the metacarpals of sheep/goat were found, alongside a bone pin of later Roman type and, most notably, a complete bone hinge (from Phase 2.5 layer 430) which has its best paralleled in Early Roman contexts, probably originally from a wooden cabinet or chest of some kind.

#### *Slag (App. B.15)*

- 3.10.15 A small assemblage of slag, consisting of 11 pieces weighing 440g, was recovered – all from ditch fills belonging to Period 2.3-2.5.

#### *Coal and clinker (App. B.16)*

- 3.10.16 Three small fragments of coal (1, <1g) and clinker (2, 2g) were recovered. These were found in Roman features and are likely to be intrusive.

#### ***Environmental evidence***

- 3.10.17 Environmental evidence from the site is summarised in Table 28.

| Category                   | Details                                                                                                           | Report ref. |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|-------------|
| Human remains              | Two adult male skeletons; remains from at least four perinatal/neonatal burials and one deposit of cremated bone. | App. C.1    |
| Animal bone                | 7379g; 684 identifiable specimens                                                                                 | App. C.2    |
| Environmental bulk samples | 54 samples assessed, 19 subject to detailed analysis and quantification                                           | App. C.3    |
| Marine mollusca            | 1565g                                                                                                             | App. C.4    |
| Pollen samples             | Three sub samples from sequence within Building 815                                                               | App. C.5    |

Table 28. Environmental summary

### Human Remains (App. C.1)

- 3.10.18 A double burial containing two adult male inhumations (skeletons 401 and 402) was identified in the upper fills of enclosure ditch **399** (Phase 2.4). Four partial perinatal/neonate burials (deposits 334 and 668, Phase 2.4 and 814 and 844, Phase 2.5) were identified. An isolated, unurned cremation burial (**245**) has been radiocarbon dated to the Middle Bronze Age.

### Faunal Remains

- 3.10.19 The faunal assemblage was of medium size, with 73.79kg of bone from hand-collection and from environmental samples. The number of recordable fragments that could be assigned to a phase totalled 684, with 78 of those fragments retrieved from environmental samples. The species represented include cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), pig (*Sus scrofa*), horse (*Equus caballus*), dog (*Canis familiaris*), field vole (*Microtus agrestis*), red deer (*Cervus elaphus*), mouse (*Mus musculus*), rabbit (*Oryctolagus cuniculus*), shrew (*Sorex sp.*), cat (*Felis catus*) and also amphibian, fish, birds, small rodent and probable fox/dog.
- 3.10.20 Domestic mammals were the mainstay of the food economy, with cattle being the most well represented species. The dominance of cattle in the assemblage is typical for Roman settlement sites. Beef would have made up the most important part of the residents' diet. Sheep/goat would have been a secondary species for food, however, from the ageing data it can be concluded they were probably exploited primarily for secondary products in addition to providing a source of meat.

### Environmental bulk samples

- 3.10.21 The results of assessment of approximately 54 samples taken during the excavations revealed a background scatter of charred plant remains from earlier phases of Roman activity and a marked increase in density during the later Roman period. Detailed analysis was focussed on samples from Building **815** and surrounding features in the northern area of the site. Extremely large quantities of fully-processed cereal grain, predominantly spelt wheat, were recovered from each of the post-pipes within the structural post holes of the building and there appeared to be very little chaff or weed seeds. There also appeared to be spatial variation between the assemblages from the post pipes which could possibly suggest the distribution of stored products within the building which may have been destroyed by fire. Samples

from a broadly contemporary clay-lined pit (512) also produced substantial assemblages of processed grain.

### *Marine Mollusca*

- 3.10.22 A total of 1.565kg of shell or shell fragments were collected by hand from ditches, pits, post pipes and a midden deposit. The shells recovered are dominated by edible examples of oyster *Ostrea edulis*, from estuarine and shallow coastal waters.

### *Pollen samples*

- 3.10.23 Three sub-samples from a 30cm long monolith sample collected from Test Pit J2, through surface layers inside the aisled building were processed for pollen. Unfortunately, none of the sub-samples contained sufficient pollen for confident interpretation. Rare palynomorphs were recorded from two of the deposits sampled and included occurrences of 'robust' pollen types such as dandelion-type (*Taraxacum*-type) and grasses (*Poaceae*), including large grasses/cereal types and ribwort plantain (*Plantago lanceolata*). Rare tree pollen of alder (*Alnus*) and pine (*Pinus*) was present in one deposit which also contained non-pollen palynomorphs, of which several types of fungal spore were identified. The pollen grains, together with the fungal spores may be interpreted (with caution) to suggest an environment associated with possible grassy areas and disturbed soils. Cereal-type pollen may be indicative of arable agriculture in the vicinity of the aisled building or local cereal processing, or cereal-type pollen grains may have entered the building deposits, along with straw or animal dung.

## 4 DISCUSSION

### 4.1 Introduction

- 4.1.1 The evaluation and subsequent excavation at Old School Lane revealed part of what appears to have been a major, previously undocumented Roman rural settlement. As such, the site makes an important contribution to the increasingly rich regional record of Roman activity in the southern fenland/Cam valley (*e.g.* Smith *et al* 2016, 192-206; J. Evans *et al* 2013). Beyond this, certain aspects of the site are of particular significance – perhaps most notably the presence of the well-preserved remains of an aisled building, as well the site’s distinctive location in relation to contemporary networks of communication and exchange.
- 4.1.2 The excavation and post-excavation programme has been guided throughout by a series of explicit regional and site specific research aims and objectives. The latest iteration of these aims is set out above in Section 2.1, and - alongside familiar objectives concerned with matters of the site’s economy and status, and its wider regional context in terms of processes of Romanisation and patterns of exchange and communication – special emphasis was placed on investigating the use and history of the aisled building.
- 4.1.3 In order to address these research objectives, the discussion that follows has been organised into five main sections. The first of these sections provides a brief overview of the site sequence and an introduction to the form and character of the Roman settlement (4.2). The second section (4.3) is concerned explicitly with the aisled building and discusses and interprets the evidence for its construction, use and demolition/abandonment. Following this, wider aspects of the evidence from the Roman settlement are discussed, with sections dealing with the evidence for agriculture/economy (4.4), funerary activity/ritual (4.5) and communication/exchange (4.6).

### 4.2 Site sequence and overview

- 4.2.1 Whilst evidence for prehistoric activity at the site was sparse, the small assemblages of flintwork and prehistoric pottery provide a relatively full record of at least occasional small-scale occupation at the site from the Mesolithic through until the Late Iron Age. Perhaps most significant is the evidence for Middle Bronze Age activity, with the small assemblage of pottery and animal bone/antler from pit **931** possibly hinting at an episode of domestic activity on the site, and with the cremation burial (**245**) in the Southern Area representing broadly contemporary activity. Also probably representative of small-scale domestic settlement are the small number of potential Middle to Late Iron Age features.
- 4.2.2 There is very little evidence that this Late Iron Age activity represents a direct precursor of the Roman-British settlement; the Roman pottery provides very little evidence for activity preceding the mid-2nd century AD, with only a handful of sherds, (most occurring alongside later forms and hence clearly residual) which are clearly dated earlier than c. AD 150. The features attributed to the earliest phase of Roman activity (Phase 2.1) probably date no earlier than the mid-2nd century. Indeed,

notwithstanding the relatively undiagnostic character of most of the coarsewares, much of the pottery probably relates to activity that took place in the 3rd and 4th centuries AD (see App. B.8). This dating is supported by the coins recovered from the site (App. B.2), with the bulk of the 53 coins reflecting coin loss from the mid-3rd century through to the later 4th century. The more diagnostic metal small finds are also of 'later' Roman attribution (App. B.1). Although the pottery allows for the possibility of activity continuing into the 5th century, there is no clear evidence for any significant activity post-dating the later 4th century, aside from a single find - a diagnostically early Anglo-Saxon spear head (SF 204), recovered from the surface of the midden/dark earth deposits to the south of Building 815, which seems likely to represent a casual loss, or to attest to an interest in the presumably visible earthwork/ruined remains of the Roman settlement.

- 4.2.3 Within this broad time span, covering the mid/late 2nd century to the later 4th century, the ubiquity of poorly dated coarsewares and high levels of residuality of finds has often made it difficult to allocate precise dates to individual features and deposits. The phasing of the site has therefore relied predominantly on stratigraphic relationships between features.
- 4.2.4 The identification of five individual phases of development of the settlement (Phases 2.1-2.5) thus reflects the complex sequence of multiphase boundaries and enclosure systems encountered in the Northern Area. Inevitably, the attribution of certain elements of the site, especially discrete features, to specific phases is far from certain, and any account of the site development is thus inevitably partly speculative and interpretative in nature.
- 4.2.5 A further caveat concerning interpretation of the site relates to the necessarily partial exposure of the settlement afforded by the footprint of the development and the lack of any wider trenching, geophysical survey or cropmarks which may inform on the overall extent and layout of the site. The remains of the settlement clearly extended beyond the edge of excavation in virtually all directions; in particular the exposure of the ladder enclosures in the eastern part of the Southern Area was very partial, whilst the remains of the aisled building were only partially exposed in the north-eastern corner of the site and much of the core of the settlement may thus have lain to the east and north of the excavations. Some evidence for this is provided by records of stray finds of Roman date, including a 4th century coin and pottery, from the area immediately to the north-east and east of the excavations (on the other side of Upware Road) recorded in the CHER (see Section 1.3; Fig. 2).
- 4.2.6 The earliest phases of Romano-British activity, attributed to Phases 2.1 and 2.2, essentially comprise a series of boundary ditches in the Northern Area and a small group of discrete features predating the later ladder enclosure system in the Southern Area. With the exception of a pair of possible enclosures/compounds exposed on the northern edge of excavation (Enclosures 674 and 877), the ditches of Phases 2.1 and 2.2 seem to represent simple boundaries rather than forming parts of the kind of small sub-square/rectangular enclosures which characterised the later phases of the site's use. They were also associated with relatively small quantities of pottery compared to those of later phases (see pottery distribution plots, Fig. 18), and it is unclear to what extent they were associated with settlement/occupation as opposed to representing

paddocks and holdings on the periphery of any settlement, which the more complex arrangement of possible enclosure ditches on the northern edge of the excavation may suggest lay in this direction, further to the north.

- 4.2.7 Regardless of the character and function of the Phase 2.1 and 2.2 remains, a major reorganisation of the site appears to have taken place in Phase 2.3, with the establishment of the ladder enclosures and the first iteration of the complex sequence of conjoined enclosures in the Northern Area. Dating evidence, such as it is, suggests that these developments should probably be placed no earlier than the early 3rd century AD. As presented here, the distribution of the pottery within features attributed to Phase 2.3 appears to show a major distinction between the relatively large quantities of material recovered from the ladder enclosure in the south and much smaller quantities from the northern enclosures. However, this suggestion is probably somewhat misleading given that the ladder enclosures are likely to have remained in use into Phase 2.4 (if not into Phase 2.5), whilst the features belonging to this early phase of the northern enclosures were replaced over the course of the 3rd and 4th centuries (Phases 2.4 and 2.5). Some indication that the ladder enclosures did not see intensive use during the later phases of the site's use may, however, be implied by the dearth of coins (mostly later 3rd/4th century issues) recovered from the southern part of the excavation area (Fig. 19).
- 4.2.8 The precise relationship of the construction and use of Building 815 to the various phases of 3rd and 4th century activity in the Northern Area is difficult to establish with any certainty; the building's chronology and sequence is discussed in more detail below and, whilst its construction is here attributed to Phase 2.4, it remains possible that it was first established somewhat earlier, during Phase 2.3 and remained in use for an extended period of time over the 3rd and/or 4th centuries or instead belongs to a shorter period in the mid to late 4th century.
- 4.2.9 In contrast to the relatively small assemblages of pottery recovered from the Phase 2.1 and 2.2 ditches, both the ladder enclosures in the southern area and the various configurations of enclosures in the Northern Area were associated with relatively substantial quantities of pottery (Fig. 18), as well as faunal remains and other finds, and there can be little doubt that they were associated with fairly intensive occupation. Notwithstanding the partial exposure of the site, in general terms the arrangement of small conjoined ditched enclosures seems likely to have formed part of the kind of 'complex farmstead' which form a characteristic element of rural settlement in the area (see Smith 2016, 196-201), incorporating multiple conjoined enclosures variously representing building compounds, yards and paddocks. Elsewhere, farmsteads/settlement represented by such enclosure systems invariably incorporated and were structured by well-established trackways. No such routeways were identified within the excavated area here, but it seems plausible that the linear arrangement of the ladder enclosures in the Southern Area may have been laid out in relation to a north to south aligned routeway running somewhere to the east of the site and potentially broadly corresponding to the existing route of Upware Road.
- 4.2.10 Any discussion of the layout of the settlement must take account of its distinctive topographical location. Lying at the extreme southern tip of the north to south aligned 'promontory' of the Upware ridge, this was very much both a riverside and a fen edge

location. Crudely, fenland deposits are estimated to have reached up to around the 2.5m contour in the first half of the 1st millennium AD (Waller 1994, 75) and with the site sitting between c. 3.7 and 2.4m OD, with the ground falling off fairly sharply to the south and west towards the River Cam, and to the east into the wetlands of the Wicken Basin, the site would have occupied a narrow strip of habitable land (certainly less than 200m wide) at the southern end of this promontory. This location has clear implications for the organisation of the settlement in terms of its agricultural holdings, which must have lain on the higher ground of the ridge to the north, but is also of major importance in terms of emphasising the importance of its relationship to the major contemporary transport and communication route represented by the River Cam.

- 4.2.11 In terms of the function of the individual enclosures, unequivocal evidence for buildings/structures was essentially limited to the remains of Building 815, but it seems possible that other structures based on shallow beam slots or other insubstantial footings were originally located within the excavated portion of the site, but have simply left little or no subsurface trace of their presence (*cf.* C. Evans *et al* 2013, 24). One exception to this may be the cluster of features exposed within Phase 2.5 Enclosure 399 (Fig. 13), including at least one probable post pad, which seem likely to represent the remains of features associated with a structure of some kind, an interpretation strengthened by their association with neonatal burials and a placed animal bone deposit which can be interpreted as the remains of foundation/closing deposits associated with a building (see below, Section 4.5). This said, it seems very likely that other elements of the enclosure systems formed open paddocks and yards given over to various activities associated with the agricultural and craft/industrial processes with, for example, grain processing of some kind probably represented by the clay-lined pit in Phase 2.5 Enclosure 526 (see below, Section 4.4).

## 4.3 Aisled Building

### *Introduction*

- 4.3.1 Aisled buildings are a familiar, and relatively common, architectural element of Romano-British rural settlements in lowland Britain and the recent *Rural Settlement of Roman Britain Project* was able to identify at least 219 excavated examples. These were widely distributed across Southern Britain and were found on a wide range of rural settlements including villa complexes, farmsteads, 'villages' and roadside settlements (Smith *et al* 2016, 67, fig. 3.18). Whilst buildings belonging to this class of rectangular structure are united by their common architectural configuration (with parallel rows of substantial post settings defining a central nave, flanked by pair of narrower aisles) there is considerable variability between individual structures in terms of their size, the details of their construction and their probable uses/functions. Nonetheless, there is a general consensus that aisled buildings were used for a wide range of activities, and that many were multi-functional structures, with different areas within the structures playing host to domestic occupation, storage, industrial activities and agricultural processing (*e.g.* Hingley 1989, 39-45; Smith *et al* 2016, 67; Taylor 2013, 178).

- 4.3.2 At a national level, there is little real precedence for structures of this kind in the Late Iron Age and, although a few aisled buildings seem to have been constructed in the later 1st century AD, they seem to have become an important element of rural settlements from the early 2nd century, and continued to be constructed and used well into the late 4th century (see Smith *et al* 2016, 67, fig. 3.19). Although the variability exhibited by aisled buildings makes generalisation difficult, Jeremy Taylor's analysis of such structures in the East Midlands (Taylor 2001, 50-53, fig.14; 2013, 178-9) has identified a general chronological trend for increased architectural elaboration of aisled buildings over the course of the 3rd and 4th centuries, with multifunctional open spaces within buildings dating to the 2nd and 3rd centuries often later giving way to more formally partitioned structures, and with evidence for architectural elaboration and well-furnished domestic spaces (sometimes including mortared stone walling, tessellated flooring and hypocausts).
- 4.3.3 In the regional context of the Cambridgeshire fenland and adjacent areas, well-documented aisled buildings are best known from the excavations of enclosed, often relatively complex, Romano-British farmsteads, including those at Orton Hall Farm, Orton Longueville (Mackreth 1996; Barns 1-4); Langdale Hale, Earith (C. Evans *et al* 2013; Structure 6); North Stud, Woodditton (Mustchin *et al* 2016; Buildings 1 and 3); Rectory Farm, Godmanchester (Lyons 2019; Buildings 1, 3 and 4) and Vicar's Farm, Cambridge (Evans and Lucas 2020). The evidence from these sites, and the various interpretations of their architectural character and functions, provides a robust body of comparative evidence with which to interrogate the evidence for the construction and use of the building investigated at Upware. Whilst interpretation of the structure is hampered by its partial exposure within the excavation area, its significance and research potential is heightened by its relatively good preservation, both in terms of the survival of its stone footings and, perhaps more importantly, by the recovery of substantial assemblages of finds and charred plant remains from a series of deposits within and immediately adjacent to the building, thus potentially providing evidence directly relating to its construction, use and function. The sequence of the building and these associated deposits has been fully outlined above (and see Fig. 11), but given the importance of some of these deposits, specifically associated with the final use and disuse of the building, their finds and environmental remains have been subject to particularly close scrutiny. Summary information on selected finds and the charred plant assemblages from four major groups of Phase 2.5 deposits associated with the final use and disuse of the structure is provided here in Table 29.

| Feature/deposit group                 | Pottery        | Plaster/mortar | CBM        | Fired clay                                     | Roof slate | Nails (fe) | Coins                           | Other small finds                                     | Charred plant remains                                       |
|---------------------------------------|----------------|----------------|------------|------------------------------------------------|------------|------------|---------------------------------|-------------------------------------------------------|-------------------------------------------------------------|
| Internal layer (807 etc.)             | 218 (5255g)    |                | 6 (1912)   | 6 (193g) including three plate frags           |            |            | 1 (221 AD; SF 91)               | Pb x 1 (unid.)                                        | Poorly preserved grain (assessment only)                    |
| Post pipe fills                       | 64 (971g)      | 59 (615g)      | 2 (105g)   | 14 (366g) including plate or pedestal          |            | 15         |                                 | 2 x CuA - finger ring and pin; 2 x Fe (unid.)         | Very abundant fully processed grain                         |
| Test Pit Area 2 - 'dark earth/midden' | 1098 (20,351g) |                | 50 (8897g) | 28 (629g) including pedestal or plate fragment | 11 (1486g) | 8          | 5 (SFs 124, 125, 128, 129, 130) | Fe; spearhead, 2x unid. CuA, 1x tweezers; Pb 2x unid. | Moderate grain, some chaff and weed seeds (assessment only) |
| Ditch 756                             | 143 (3071g)    | 1 (8g)         | 6 (398g)   | 1 (25)                                         | 1 (133g)   | 8          | 3 (SFs 133, 139, 144)           | Fe x2 (unid.) Pb x2 (unid.)                           | Very abundant fully processed grain                         |

Table 29. Summary of selected finds and environmental evidence from key contexts associated with Building 815

### ***Building history, from construction to abandonment***

- 4.3.4 The basic ground plan of Building 815 is shown alongside a selection of comparable structures from the region in Fig. 20. Given the partial exposure of the building, the length of the structure remains unknown, but as exploratory test pitting has demonstrated that the western stone footing continued for at least another 3m to the north of the edge of excavation, it seems likely that it had at least one further set of paired posts (giving at least three bays) and may have been significantly longer. The dimensions of the structure in terms of the width of the nave and aisles and the spacing of the posts are closely comparable to those from other structures of this kind, all of which relate closely to the constraints imposed by the size of roofing timbers available and the design of the framing of the roof structure (see Mackreth 1996, 67-70).
- 4.3.5 The scale and dimensions of the wall footing are also comparable to excavated examples from elsewhere in the region, with the use of undressed pitched limestone fragments and some more carefully laid stone pitched in a herringbone fashion and with mortaring of parts of the lower courses (*cf.* Wild 1974, 159; Mackreth 1996). Made almost entirely of local, field-collected, limestone the presence of wall footings here should probably be seen as a consequence of a ready supply of building stone, as opposed to indicating any elevated status of the building. Although Mackreth has suggested that some of the aisled structures excavated at Orton Hall Farm may have had fully masonry-built walls (Mackreth 1996, 68-9), such footings are more generally interpreted as providing support for a timber framed superstructure. Although limestone fragments, presumably derived from the wall footings, were present in the midden-like/dark earth deposits investigated in Test Pit Area 2, immediately to the south of the structure, there were insufficient quantities to suggest the demolition of walls of any great height, whilst there was no indication of any collapsed/eroded portion of upper courses of the wall within or adjacent to the footings, and a timber

superstructure set on low stone footings remains the authors' preferred interpretation.

- 4.3.6 Any reconstruction of the superstructure of the building is inevitably somewhat speculative, but such structures are generally envisaged as having a fairly steeply pitched roof over the nave of the building, supported on the substantial internal post settings, flanked by a pair of lower, and less steeply pitched, roofs over each aisle. Some, slight, evidence for building and roofing materials comes from the Phase 2.5 deposits potentially contemporary with the final use and demolition/destruction of the building (see Table 29). This includes the relatively large number of iron nails - presumably derived from the timber framing of the structure - and the small quantities of painted wall plaster and mortar recovered from the fills of the structure's post pipes and from the finds-rich dumps found in the upper profile of ditch **754**, immediately to the west of the structure. Evidence for roofing material is ambiguous: quantities of tegulae and imbrex were recovered amongst the c. 9kg of CBM recovered from midden/dark earth 430, as well as very small quantities of roofing slate (Collyweston slate), albeit that this material was generally in a very fragmentary/abraded condition. Given that it is far from certain that the material from these deposits derived exclusively from activity associated with the aisled building, as opposed to representing a more general area of maddening/deposition, none of this material need necessarily have derived from Building 815.
- 4.3.7 Dating evidence for the construction of the building was scarce. Nine sherds of pottery were found incorporated into the fabric of the wall itself, including one small sherd of an Alice Holt Farnham coarseware vessel dated to c. AD 200-400. The very small assemblage of pottery (36 sherds) from the packing fills of the post holes also included material post-dating the 2nd century AD, including a sherd of Hadham reduced ware and a sherd from an imported Moselkeramik black-slipped ware beaker dated to c. AD 180-250, whilst the pottery derived from the original floor/levelling layer in the interior of the building (522) consisted of a small quantity of undiagnostic coarse wares. This suggests a construction date no earlier than the early 3rd century AD, and whilst imprecise, this is important in terms of demonstrating that the building does not belong to the relatively early, 2nd century, group of aisled structures from sites in the region such as Langdale Hale (Structure 6) and Vicars Farm (see C. Evans *et al* 2013, 76).
- 4.3.8 The most secure contexts associated with the end of the use of the building are internal layer 807 (which seems to have accumulated during the use of the building when the internal posts were still upstanding) and the deposits infilling the postpipes (closely associated with the building's destruction/demolition); the pottery from these contexts is dominated by poorly dated coarseware but includes small quantities of material dated to the 3rd and 4th centuries, including sherds of Oxfordshire red-slipped ware dated to c. AD 240-400. More usefully, the radiocarbon date acquired on charred grain from postpipe **774** suggests that these deposits are likely to date to the mid to late 4th century, providing a date of cal AD 325-416 at 75.5% confidence. Consistent with this, a single early 3rd century coin from layer 807 (SF 91) provides a *terminus post quem* for the later use of the structure. Both the finds rich dumps from ditch **754** to the west for the structure and the midden dark/earth of Test Pit Area 2

also provided plentiful dateable finds, although their direct association with the building is less certain than is the case for the internal layers and post setting of the structure itself. These deposits produced a series of mid/late 4th century coins (see Table 29 and App B.2) and the large pottery assemblage from deposit 430 clearly largely dates to the 4th century (see App. B.8).

- 4.3.9 Against all of this evidence for a mid to late 4th century date for the final use and destruction of the building is the single aberrant radiocarbon date on a neonate burial interred into a small pit/scoop (**813**) cut into layer 807. Providing a date range of cal AD 5-130 at 92% probability, this date is clearly unacceptably early, not only for the final phases of the building's use, but also considerably predating the earliest date at which the building is likely to have been constructed. Given the weight of other dating evidence for this phase of the building (and in consideration of the fact that it is very unlikely that the sample could derive from curated 'ancestral' human remains), the authors have chosen, not without some reservations, to regard this date as anomalous.
- 4.3.10 Leaving this issue aside, it seems certain that use of the aisled building continued into use into the later part of the 4th century. The longevity of the structure can only be guessed at. It is possible that the entire sequence spanned a relatively short period during the 4th century, but a more extended history is perhaps more likely given that that individual aisled buildings at Orton Hall Farm have been shown to have remained in use for over 200 years (Mackreth 1996), and that similarly extended use-lives of well over a century can be inferred for other structures in the region (C. Evans *et al* 2013, 75-6).
- 4.3.11 On the basis of the very large quantities of charred grain from the fills of the postpipes associated with the building, it is thought probable that its abandonment/disuse was occasioned by a major structural fire, with burnt debris being incorporated into the postpipe fills following the removal of the remains of the posts during the demolition of the upstanding, fire-gutted, elements of the building. A very similar sequence of deposits was found associated with a rectilinear post-built structure (probably an aisled building) at Great Holt Farm Essex, where analogous fills very rich in charred grain were found within what were interpreted as 'extraction cuts' dug into the post settings to remove the remnants of the charred upright timber posts from the structure following a catastrophic fire (Germany 2003). Experimental archaeological studies have shown that fires in largely timber-built structures (especially those with organic roofing material) develop in a very different way to that of modern, masonry-built structures, and that, whilst very destructive, they are concentrated in the roof space and are 'characterised by the survival of charred roofing elements...[and]...frequent survival of upstanding walls' (Harrison 2012, 123). This kind of scenario, with the upstanding heavily charred posts of the building surviving a conflagration, and with little evidence for direct heating/burning of the masonry footings, would be consistent with the character and sequence of the remains associated with the Upware building.

### *Function and use*

- 4.3.12 Interpretation of the function of the building rests essentially on the character of the finds assemblages and environmental evidence recovered from the deposits associated with its final use and abandonment/demolition (Table 29). Despite the small size of the assemblage, the recovery of painted wall plaster from the fills of the structure's post pipes (and from adjacent ditch **756**) is of major significance in providing evidence for domestic use of the structure. This plaster appears to have been simply decorated using a restricted range of pigments (see App. B.12) and need not imply an especially high status, but its presence clearly indicates that a part of the structure had been furnished for domestic use at some point in its use-life (see Smith *et al* 2016, 56 and *passim*). Domestic activity may also be implied by the recovery of what could be described as 'personal' items of metalwork, including two finger rings and a copper alloy pin from the post pipe fills.
- 4.3.13 Aside from these hints of domestic activity, the character of the finds and environmental evidence suggest that a major function of the building was storage, perhaps particularly for grain. This is of course most clearly evinced by the massive assemblages of charred grain from the postpipe fills (Fig. 11b). Fosberry's analysis of this material (App. C.3) makes it clear that it represents fully processed (albeit insect damaged) grain, with no evidence for crop processing taking place inside the structure, and her preferred interpretation is that they represent the remains of accidentally burnt stocks of stored grain, perhaps ultimately destined for export as well as local/on-site consumption.
- 4.3.14 An emphasis on the storage of agricultural goods/consumables is also indicated by Brudenell's analysis of the vessel forms associated with the building – with the pottery from the deposits summarised in Table 29 including a disproportionately high proportion of large Horningsea storage jars (App. B.8). Much of this material derived from the very large assemblage of pottery from midden-like deposit 430, and thus may not necessarily be directly associated with the building. However, the same pattern applies to the smaller amounts of material recovered from the internal surface of the building and the post pipe fills, including two very large sherds (629g) recovered from the surface of internal layer 807. The nature of the products stored in such Horningsea storage jars, which include very large vessels sometimes measuring up to 0.6m in height, has not yet been established (see J. Evans 2013, 57-59) and whilst it is possible they were used to store grain (see Fosberry, App. C.3) it seems equally likely that they held other, processed, food stuffs (such as flour) or liquids.
- 4.3.15 Given that researchers have suggested that many aisled buildings were internally partitioned, multifunctional structures (see above, summarised by Smith *et al* 2016, 67), it seems entirely possible that the Upware building was made up of separate rooms/bays including a domestic space and storage facilities – perhaps even a dedicated granary. Equally, however, the use of the structure may have changed over time, perhaps with an initial domestic function later giving way to storage. Ultimately the evidence from the site cannot distinguish between these possibilities, but a chronological change in the use of the building would resonate with the sequence of aisled buildings from sites in the region including Rectory Farm, Godmanchester,

where buildings probably originally including domestic spaces appear later to have been used for grain drying and processing (Lyons 2019).

#### 4.4 Economy, agriculture, and the wider landscape

*with Hayley Foster*

- 4.4.1 With abundant evidence for agrarian production and for animal husbandry, there can be little doubt of the essentially agricultural nature of the settlement at Upware. This is reinforced by the relative lack of evidence for other industrial/craft-type activities; small quantities of slag may hint at some small scale metalworking, while the recovery of fragments of fired clay kiln plates attests to on-site or nearby pottery production. However, there is no indication that such activities were undertaken at any scale, at least in the part of the site exposed during the excavation.
- 4.4.2 Evidence for livestock husbandry associated with the Roman settlement comes from the relatively substantial assemblage (NISP=642) of faunal remains from Phase 2.1-2.5 contexts (App. C.2). Over 70% of these derived from Phase 2.4 and 2.5 contexts, with almost a third of the assemblage deriving from deposits closely associated with the disuse/abandonment of Building 815 (see Table 29). Much of this evidence thus relates to the later phases of Roman activity in the later 3rd and 4th centuries.
- 4.4.3 In the context of Martyn Allen's recent review of faunal assemblages from rural settlements in the fens and adjacent areas (Allen 2017, 94-5), the representation of the main species of domestic stock seems entirely typical of mid to late Roman sites in this region, with cattle accounting for close to or over 50% of the material from each phase, followed by sheep/goat at between 10-30% of NISP. Other species including horse and dog are present in smaller numbers, whilst bird bones include those of domestic fowl. The, at least occasional, exploitation of the wetlands/river adjacent to the site is implied by the presence of small numbers of fish bone, including eel.
- 4.4.4 Age and sex data are consistent with the breeding of stock on site and suggest that cattle were likely to have been exploited for meat, dairying and traction, and that sheep were kept for meat and wool. In light of the site's location in terms of patterns of interregional trade and exchange along the waterways of the southern fens (see below, Section 4.7), it is important to consider any evidence that surplus meat or livestock may have been exported from the site. This issue can be explored to some extent by analysis of body representation – with a low representation of meat-bearing elements compared to axial/cranial elements potentially indicating the export of meaty joints. In lieu of any detailed regional-scale analyses of these patterns, a provisional comparison is made here between the cattle bone from Phase 2.5 contexts at Upware with broadly contemporaneous assemblages from 4th century contexts from two sites at Colne Fen, Earith (Table 30). Significantly, one of the Colne Fen sites – the major inland port/village at the Camp Ground – has been previously argued to have been a major exporter of meat, based largely on the low proportion of meat-bearing bones in the assemblage (Higbee 2013, 375; Evans *et al* 2013, 430). The quantified comparisons of these sites in Table 30 provides support for the idea that the Camp Ground saw large scale export of meaty joints/dressed carcasses - with a very high portion of 'waste' cranial elements and extremities - and it is notable that

such elements are also better represented in the assemblage from the farmstead at Langdale Hale than at Upware. Whilst such patterns are deserving of more sustained and systematic treatment at a regional scale, on this basis it seems that there is little evidence for the transport of meat from Upware – although of course this does not preclude the possibility that some livestock left the site ‘on the hoof’.

|                           | Camp Ground<br>Phase IV | Langdale Hale<br>Phase III | Upware Phase<br>2.5 |
|---------------------------|-------------------------|----------------------------|---------------------|
| Cattle bone NISP          | 351                     | 171                        | 178                 |
| % cranial and extremities | 96.2%                   | 71.4%                      | 63.4%               |

*Table 30. The percentage of cranial elements and extremities in the cattle bone assemblages from 4th century phases at Upware, Langdale Hale and the Camp Ground.*

*(Figures for Langdale Hale and the Camp Ground have been calculated by HF based on data from Higbee 2013, tables 2.25 and 4.26)*

- 4.4.5 Evidence for agrarian production also derived largely from the later phases of the site’s use, notably in the form of the very rich assemblages of charred grain from the aisled building and from the clay-lined pit (**512**) exposed within Enclosure 526 (Phase 2.5). Although the composition of the charred grain assemblages from within the aisled building showed some variation (App. C.3; Fig. 11b) they were all heavily dominated by wheat grain and, although diagnostic chaff elements were rare, those that were present strongly suggest that the crop was overwhelmingly dominated by spelt wheat, with a minor element of emmer wheat and barley. The samples taken from clay-lined pit **512**, did, however, produce one assemblage that was heavily dominated by barley. Based on its morphology, the clay-lined pit itself was initially interpreted as a corn-dryer, but Fosberry (App. C.3) notes both the lack of *in situ* heating and some evidence from the samples (in the form of oosphores found in freshwater habitats) that it may have held standing water, suggesting that it is perhaps more likely to have been used as a steeping tank for grain malting. Further evidence of crop processing/consumption is provided by finds of quernstone (App. B.5) – most notably the large fragment of what was probably a small millstone from Phase 2.4 pit/postpad **663**.
- 4.4.6 In combination, the economic evidence from the site suggests an emphasis on cattle husbandry coupled with arable farming concentrating on the cultivation of spelt wheat. This is entirely consistent with the results of recent work which has suggested that the wider region of the southern and western fens and adjacent areas saw the development of economic strategies specifically geared towards the production of large surpluses of spelt wheat through the extensification of arable agriculture during the mid-late Roman period (Allen and Lodwick 2017). These strategies appear to have relied heavily on animal-drawn tillage (*ibid.*), and some indication of the importance of cattle for traction at Upware is implied by the age distribution of the faunal remains (see Foster, App. C.2).
- 4.4.7 As noted above, any agricultural holdings associated with the settlement must have lain to the north, on the higher ground of the Upware ‘promontory’, and it must be assumed that exploitation of these relatively restricted areas of dryland in the

immediate environs of the site were intensively exploited. Evidence for other foci of Roman settlement is known from elsewhere on the promontory, to the north of the site, where a string of sites lying close to the floodplain of the River Cam were identified during the Fenland Survey (Hall 1996, 76-9, fig. 37). None of these sites have seen excavation and most are attested only by scatters of pottery and occasional metal finds, but one site is associated with the surviving earthworks of paddocks and enclosures, and another with the cropmarks of double ditched rectangular enclosure (Fenland Survey Sites 8 and 9) – these probably represent significant settlements/farmsteads equivalent to that at Old School Lane.

## 4.5 Funerary activity and ritual

- 4.5.1 Any formal cemetery associated with settlement must have lain beyond the area of excavation, and evidence for funerary/ritual activity was restricted to isolated burials, mostly of peri/neonatal individuals (App. C.1).
- 4.5.2 The only adult remains were the two skeletons (both adult males) recovered from ditch 399 (Phase 2.4). Although isolated inhumation burials are a relatively common feature of Roman rural settlements in the region (*e.g.* Dodwell 2013), it is difficult to parallel this kind of double inhumation, which seems likely to have occurred as a single interment (although this is impossible to determine unequivocally).
- 4.5.3 In contrast, the character and location of the remains of at least four peri-neonatal burials found across the site are much more in keeping with patterns of infant burial in Romano-British settlement contexts. Three of these burials were associated with the cluster of features found within Phase 2.4 Enclosure 399 (Fig. 13), and, notwithstanding the seemingly aberrant radiocarbon determination discussed above, the fourth was found in a small scoop (**813**) cut into the later internal layer of the aisled building (Phase 2.5). Another interment in the area of the aisled building might be represented by a disarticulated neonatal bone from the fill of postpipe **843**. What is significant here is the close association of these burials with buildings/structures, most obviously in the case of the material associated with the aisled building, but also in respect to those from Enclosure 399: one of the features immediately adjacent to the burials appears to have represented a substantial post pad (**663**) and it is very possible that a structure, albeit one leaving few subsurface traces, was located in this area.
- 4.5.4 A strong association between neonatal/infant burials and domestic structures has been widely documented across Roman Britain (Moore 2009) and is well-attested locally with, for example, Roman structures at Stonea and the Camp Ground being associated with infant burials (Jackson and Potter 1996, 191; Evans *et al* 2013, 230-2). This recurrent association between buildings and infant burials has been suggested to relate to specific rituals associated with the foundation and closure of individual buildings (Moore 2009), and in this context the deposit of articulated calf remains recovered from the post pad associated with the burials in Enclosure 399 seems likely to represent a similar ritual/votive deposit, but here utilising a young animal.

## 4.6 Communication and exchange

- 4.6.1 The topographical location of the site, at the southern tip of the Upware 'promontory', hard up against the fen edge and within a matter of a hundred metres from the course

of the River Cam, is significant in terms of understanding the site's place in contemporary exchange and communication networks. Notwithstanding that elements of the Roman settlement are likely to have extended further north onto the higher ground of ridge, the presence of a dense network of enclosures here must reflect on the importance of access and proximity to the low lying ground of the fen/river floodplain. There is no evidence that this choice of location was dictated by the intensive exploitation of wetland/riverine resources (*i.e.* fishing, fowling *etc.*) and instead it seems very clear that it can only have related to access to the major transport/communication artery represented by the River Cam and its associated contemporary watercourses. The importance of waterborne transport for Romano-British communities in the southern fenland has long been recognised and has seen considerable attention in recent years, most notably in the context of the investigation of the production and distribution of Horningsea Ware in the region and in relation to the excavation of the huge 'village-port' at the Camp Ground, Earith (J. Evans *et al* 2017; C. Evans *et al* 2013; see also Smith 2016, 192-207).

- 4.6.2 A simplified location map of the site in the context of the contemporary fen edge and major transport communication routes is provided here as Fig. 21. Notwithstanding the importance of the road network, represented locally by Akeman Street, the critical role of the navigable rivers in the region in terms of the transport of goods is made clear by the extensive Romano-British 'settlement/industrial enclave' at Waterbeach/Horningsea, laying astride the River Cam around and upstream of its junction with the Old Tillage (formerly known as the Cambridgeshire Car Dyke) - the artificial Roman watercourse linking the Cam to the Old West River and ultimately to the Lower Ouse to the west.
- 4.6.3 Aside from the extraordinary complexes of cropmarks attesting to intensive settlement of this riverine corridor (see J. Evans *et al* 2017, fig. 3.1), small scale excavations at the junction of the Cam and Old Tillage have revealed evidence for large structures probably representing wharfside warehouses for storing grain and other goods destined for transshipment along the watercourses (Macaulay 1997; J. Evans *et al* 2017, 25-31). Other settlements in the region were also closely tied to this system of navigable waterways, most obviously the Roman town at Cambridge (*Duroliponte*), but including a series of other major sites including the possible small town located further north on the Cam at Camel Road, Littleport (Macaulay 2002; J. Evans *et al* 2017, 21), the extensive settlement complex astride the Old Tillage at Bullocks Haste, Cottenham (Phillips 1970, 124) and, further west still, the 'inland port' at Colne Fen (C. Evans *et al* 2013). More locally, this relationship can be seen in the distribution of settlements on the Upware promontory itself where, as noted above, known sites lie very close to the contemporary floodplain/fen edge (Hall 1996, fig. 37).
- 4.6.4 The extent to which the movement of goods along these transport links may have been influenced or controlled by the Roman state remains a matter of debate and, although the traditional model of much of the fenland lying with an extensive Imperial Estate has been subject to sustained critique in recent years (see J. Evans *et al* 2017, 126-128 for a recent review), it seems likely that there was at least some degree of state involvement in the production and procurement of agricultural products from the

region for the provision of the Roman military (C. Evans *et al* 2013, 451; J. Evans *et al* 2017, 50; Allen and Lodwick 2017, 153-4).

- 4.6.5 Aside from indicating the site's close relationship to these important regional networks, its specific location also warrants some discussion on the origin of the artificial watercourse/drain of Reach Lode, which in its modern form joins the River Cam immediately to the south of the site and runs south-eastwards across drained fenland to the chalk escarpment at Reach (see Fig. 21). Reach Lode is the northern most of the well-known Cambridgeshire Lodes which cross this part of the southern fens, the origins of which have been the subject of long-standing debate. The present course of Reach Lode, probably cut in the mid-18th century, appears to follow a very similar course to an earlier iteration of the channel, Fowler's 'Old Reach Lode' (Fowler 1932, 113-4) and, from the early 20th century, a Roman date was assumed for its construction on the basis of the collection of Roman pottery from along its course (McKenney Hughes 1913, 142-3; Fox 1923, 180-81).
- 4.6.6 In recent years, however, there has been a decisive shift in opinion towards a later date for the origin of the lodes. David Hall (1996) has noted that the unstratified pottery recovered from along the banks of the Reach Lode may simply represent residual material and he has also pointed to the lack of evidence for Roman settlement/activity at their landward ends, concluding that a Late Saxon or early medieval date is more likely on the basis of their known use during the medieval period and their close relationships to the medieval fen edge villages, an interpretation subsequently followed and reiterated by Susan Oosthuizen (2000, 2017). In this context, the results of the excavation described here are of some importance. The discovery of a substantial Roman settlement at the north-east end of Reach Lode, immediately adjacent to its junction with the River Cam, at least partially redresses the lack of evidence for Roman activity associated with the lodes which formed one of Hall's major objections to a Roman date. This should encourage a reappraisal of the possibility of a Roman origin for this watercourse, which could have provided a link between the Cam Valley and the south-eastern fen edge, where Roman settlements relatively close to its landfall include the villa complex north of Reach Bridge, Swaffham Prior (Atkinson 1893; Malim 2006).
- 4.6.7 Regardless of the status of Reach Lode, tangible evidence for the site's relationship to the networks of exchange within the region is provided most clearly by the pottery assemblage (App. B.8). Locally/regionally produced pottery imported to the site is well-represented, most notably in the form of Horningsea Ware, shell-tempered coarse wares and Nene Valley colour-coated vessels, whilst a range of finewares deriving from outside of the region are also present. Whilst compared to other contemporary rural settlements, the composition of the assemblage is by no means exceptional, the diversity of fabrics and the slightly elevated proportion of finewares provide at least some hint that the site may have occupied something of a privileged place within regional exchange networks during the 3rd and 4th centuries. Given the emphasis researchers have placed on the importance of the transshipment of agricultural produce on the regional river/canal network (see above), and the evidence of large-scale cereal production/storage at the site, it seems likely that it was largely

the production of surplus grain that tied the Upware settlement into this network of exchange and transportation.

## 4.7 Significance

- 4.7.1 The excavations are of considerable regional and local significance in having uncovered part of major rural Roman settlement occupied from the early/md 2nd century AD into the later 4th century AD. The most significant element of the site was the well-preserved remains of an aisled building, which appears to have been used both for domestic habitation and for the storage of grain and perhaps other commodities.
- 4.7.2 The location of the site, strategically positioned close to the course of the River Cam, provides additional evidence for the importance of exchange and transport links along the navigable waterways of the fenlands in this period, and the excavation represents the first intrusive investigation of a Roman site on the Upware promontory that commands this stretch of the river. Given that the settlement clearly extended further to the east and north of the site, there is clear potential for further work in the area to provide more information on the scale, layout and character of the site. Whilst the survival of such remains is likely to have been impacted in places by the construction of residential properties along part of the modern road frontages (see Fig. 1), this provides an opportunity for further research/community-driven work and highlights the potential for further development within the village to encounter significant remains.

## APPENDIX A CONTEXT INVENTORY

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 1       |     | layer    | topsoil      |       |         |       |        |         |       |
| 3       |     | layer    | Natural      |       |         |       |        |         |       |
| 4       | 4   | cut      | ditch        | 2.4   |         | 528   |        | 1.52    | 0.3   |
| 5       | 4   | fill     | ditch        | 2.4   |         | 528   |        |         |       |
| 6       | 6   | cut      | ditch        | 2.1   |         | 317   |        | 1.4     | 0.6   |
| 7       | 6   | fill     | ditch        | 2.1   |         | 317   |        |         |       |
| 8       | 6   | fill     | ditch        | 2.1   |         | 317   |        |         |       |
| 9       | 9   | cut      | ditch        | 3     |         | 297   |        | 0.5     | 0.13  |
| 10      | 10  | fill     | ditch        | 3     |         | 297   |        |         |       |
| 11      | 11  | cut      | ditch        | 2.3   |         | 286   |        |         |       |
| 12      | 11  | fill     | ditch        | 2.3   |         | 286   |        |         |       |
| 13      | 11  | fill     | ditch        | 2.3   |         | 286   |        |         |       |
| 14      | 14  | cut      | gully        | 2.3   |         | 53    |        | 0.45    | 0.12  |
| 15      | 14  | fill     | gully        | 2.3   |         | 53    |        |         |       |
| 16      | 16  | cut      | ditch        | 2.3   |         | 53    |        | 0.8     | 0.25  |
| 17      | 16  | fill     | ditch        | 2.3   |         | 53    |        |         |       |
| 18      | 18  | cut      | gully        | 2.3   |         | 171   |        | 0.55    | 0.12  |
| 19      | 18  | fill     | gully        | 2.3   |         | 171   |        |         |       |
| 20      | 20  | cut      | ditch        | 2.5   |         | 526   |        | 1.35    | 0.48  |
| 21      | 20  | fill     | ditch        | 2.5   |         | 526   |        |         |       |
| 22      | 22  | cut      | ditch        | 2.1   |         | 639   |        | 1.28    | 0.68  |
| 23      | 22  | fill     | ditch        | 2.1   |         | 639   |        |         |       |
| 24      | 22  | fill     | ditch        | 2.1   |         | 639   |        |         |       |
| 25      | 25  | cut      | ditch        | 2.4   |         | 399   |        |         |       |
| 26      | 25  | fill     | ditch        | 2.4   |         | 399   |        |         |       |
| 27      | 25  | fill     | ditch        | 2.4   |         | 399   |        |         |       |
| 28      | 25  | fill     | ditch        | 2.4   |         | 399   |        |         |       |
| 29      | 29  | cut      | ditch        | 2.1   |         | 752   |        | 1.16    | 0.24  |
| 30      | 29  | fill     | ditch        | 2.1   |         | 752   |        | 1.16    | 0.24  |
| 31      | 31  | cut      | ditch        | 2.1   |         | 877   |        | 0.86    | 0.36  |
| 32      | 31  | fill     | ditch        | 2.1   |         | 877   |        | 0.86    | 0.36  |
| 33      | 33  | cut      | pit          | 0     |         | 0     |        | 1.3     | 0.18  |
| 34      | 33  | fill     | pit          | 0     |         | 0     |        |         |       |
| 35      | 35  | cut      | ditch        | 2.3   |         | 286   |        | 1       | 3     |
| 36      | 35  | fill     | ditch        | 2.3   |         | 286   |        |         |       |
| 37      | 35  | fill     | ditch        | 2.3   |         | 286   |        |         |       |
| 38      | 38  | cut      | ditch        | 2.4   |         | 282   |        | 0.88    | 0.4   |
| 39      | 38  | fill     | ditch        | 2.4   |         | 282   |        |         |       |
| 40      | 38  | fill     | ditch        | 2.4   |         | 282   |        |         |       |
| 41      | 41  | cut      | ditch        | 2.4   |         | 282   |        | 0.6     | 0.16  |
| 42      | 41  | fill     | ditch        | 2.4   |         | 282   |        |         |       |
| 43      | 43  | cut      | ditch        | 2.1   |         | 59    |        | 1.6     | 0.52  |
| 44      | 43  | fill     | ditch        | 2.1   |         | 59    |        |         |       |
| 45      | 43  | fill     | ditch        | 2.1   |         | 59    |        |         |       |
| 46      | 46  | cut      | ditch        | 2.2   |         | 69    |        | 1.08    | 0.62  |
| 47      | 46  | fill     | ditch        | 2.2   |         | 69    |        |         |       |
| 48      | 46  | fill     | ditch        | 2.2   |         | 69    |        |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 49      | 46  | fill     | ditch        | 2.2   |         | 69    |        |         |       |
| 50      |     | layer    | topsoil      | 0     |         | 0     |        |         | 0.25  |
| 51      |     | layer    | Subsoil      | 0     |         | 0     |        |         | 0.28  |
| 52      |     | layer    | Natural      | 0     |         | 0     |        |         |       |
| 53      | 53  | cut      | ditch        | 2.3   |         | 53    |        | 0.5     | 0.28  |
| 54      | 53  | fill     | ditch        | 2.3   |         | 53    |        | 0.5     | 0.1   |
| 55      | 53  | fill     | ditch        | 2.3   |         | 53    |        | 0.45    | 0.24  |
| 56      | 53  | fill     | ditch        | 2.3   |         | 53    |        | 0.06    | 0.08  |
| 59      | 59  | cut      | ditch        | 2.1   |         | 59    |        | 2.2     | 0.46  |
| 60      | 59  | fill     | ditch        | 2.1   |         | 59    | 0      | 1.64    | 0.12  |
| 61      | 61  | cut      | pit          | 2.3   |         | 0     | 0.71   | 0.9     | 0.2   |
| 62      | 61  | fill     | pit          | 2.3   |         | 0     | 0      | 0.7     | 0.2   |
| 63      | 61  | fill     | pit          | 2.3   |         | 0     | 0      | 0.2     | 0.2   |
| 64      | 59  | fill     | ditch        | 2.1   |         | 59    | 0      | 1.28    | 0.1   |
| 65      | 59  | fill     | ditch        | 2.1   |         | 59    | 0      | 1.7     | 0.18  |
| 66      | 59  | fill     | ditch        | 2.1   |         | 59    | 0      | 2.1     | 0.32  |
| 67      | 67  | cut      | ditch        | 3     |         | 67    | 0      | 0.55    | 0.2   |
| 68      | 67  | fill     | ditch        | 3     |         | 67    | 0      | 0.55    | 0.2   |
| 69      | 69  | cut      | ditch        | 2.2   |         | 69    | 0      | 0.8     | 0.42  |
| 70      | 69  | fill     | ditch        | 2.2   |         | 69    | 0      | 0.8     | 0.42  |
| 71      | 71  | cut      | ditch        | 3     |         | 67    | 0      | 0.5     | 0.1   |
| 72      | 71  | fill     | ditch        | 3     |         | 67    | 0      | 0.5     | 0.1   |
| 73      | 73  | cut      | post hole    | 2.3   |         | 0     | 0.33   | 0.26    | 0.18  |
| 74      | 73  | fill     | post hole    | 2.3   |         | 0     | 0.33   | 0.26    | 0.18  |
| 75      | 75  | cut      | ditch        | 2.3   |         | 53    | 0      | 0.3     | 0.08  |
| 76      | 75  | fill     | ditch        | 2.3   |         | 53    | 0      | 0.3     | 0.08  |
| 77      | 77  | cut      | pit          | 2.3   |         | 0     | 1.88   | 0.78    | 0.33  |
| 78      | 77  | fill     | pit          | 2.3   |         | 0     | 1.88   | 0.78    | 0.33  |
| 79      | 79  | cut      | ditch        | 2.3   |         | 79    | 0      | 1.8     | 0.38  |
| 80      | 79  | fill     | ditch        | 2.3   |         | 79    | 0      | 1.8     | 0.24  |
| 81      | 79  | fill     | ditch        | 2.3   |         | 79    | 0      | 0.68    | 0.07  |
| 82      | 82  | cut      | ditch        | 2.3   |         | 82    | 0      | 1.24    | 0.61  |
| 83      | 82  | fill     | ditch        | 2.3   |         | 82    | 0      | 0.74    | 0.21  |
| 84      | 82  | fill     | ditch        | 2.3   |         | 82    | 0      | 0.78    | 0.14  |
| 85      | 85  | cut      | ditch        | 2.3   |         | 53    | 0      | 0.36    | 0.11  |
| 86      | 85  | fill     | ditch        | 2.3   |         | 53    | 0      | 0.36    | 0.11  |
| 87      | 87  | cut      | ditch        | 2.3   |         | 53    | 0      | 0.42    | 0.23  |
| 88      | 87  | fill     | ditch        | 2.3   |         | 53    | 0      | 0.42    | 0.22  |
| 89      | 87  | fill     | ditch        | 2.3   |         | 53    | 0      | 0.05    | 0.08  |
| 90      | 79  | fill     | ditch        | 2.3   |         | 79    | 0      | 0.47    | 0.1   |
| 91      | 82  | fill     | ditch        | 2.3   |         | 82    | 0      | 0.47    | 0.08  |
| 92      | 92  | cut      | pit          | 2.4   |         | 0     | 0.9    | 0.9     | 0.18  |
| 93      | 92  | fill     | pit          | 2.4   |         | 0     | 0      | 0.68    | 0.06  |
| 94      | 92  | fill     | pit          | 2.4   |         | 0     | 0.9    | 0.9     | 0.16  |
| 95      | 95  | cut      | pit          | 2.1   |         | 0     | 0.36   | 0.3     | 0.15  |
| 96      | 95  | fill     | pit          | 2.1   |         | 0     | 0.36   | 0.3     | 0.15  |
| 97      | 97  | cut      | pit          | 2.1   |         | 0     | 0.34   | 0.32    | 0.07  |
| 98      | 97  | fill     | pit          | 2.1   |         | 0     | 0.34   | 0.32    | 0.07  |
| 99      | 99  | cut      | ditch        | 2.3   |         | 99    | 0      | 1       | 0.38  |
| 100     | 99  | fill     | ditch        | 2.3   |         | 99    | 0      | 1       | 0.38  |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 101     | 101 | cut      | ditch        | 2.3   |         | 82    | 0      | 0.76    | 0.26  |
| 102     | 101 | fill     | ditch        | 2.3   |         | 82    | 0      | 0.2     | 0.26  |
| 103     | 101 | fill     | ditch        | 2.3   |         | 82    | 0      | 0.64    | 0.24  |
| 104     | 104 | cut      | ditch        | 2.3   |         | 79    | 0      | 1.22    | 0.18  |
| 105     | 104 | fill     | ditch        | 2.3   |         | 79    | 0      | 1.22    | 0.18  |
| 106     | 104 | fill     | ditch        | 2.3   |         | 79    | 0      | 0.72    | 0.17  |
| 107     | 107 | cut      | ditch        | 3     |         | 67    | 0      |         |       |
| 108     | 107 | fill     | ditch        | 3     |         | 67    | 0      | 0.28    | 0.2   |
| 109     | 109 | cut      | post hole    | 2.4   |         | 0     | 0.22   | 0.23    | 0.14  |
| 110     | 109 | fill     | post hole    | 2.4   |         | 0     | 0.22   | 0.23    | 0.14  |
| 111     | 111 | cut      | post hole    | 2.4   |         | 0     | 0.15   | 0.18    | 0.12  |
| 112     | 111 | fill     | post hole    | 2.4   |         | 0     | 0.15   | 0.18    | 0.12  |
| 113     | 113 | cut      | post hole    | 2.4   |         | 0     | 0.23   | 0.26    | 0.25  |
| 114     | 113 | fill     | post hole    | 2.4   |         | 0     | 0.23   | 0.26    | 0.25  |
| 115     | 115 | cut      | pit          | 2.4   |         | 0     | 0.28   | 0.28    | 0.13  |
| 116     | 115 | fill     | pit          | 2.4   |         | 0     | 0.28   | 0.28    | 0.13  |
| 117     | 117 | cut      | post hole    | 2.4   |         | 0     | 0.2    | 0.24    | 0.08  |
| 118     | 117 | fill     | post hole    | 2.4   |         | 0     | 0.2    | 0.24    | 0.08  |
| 119     | 119 | cut      | post hole    | 2.4   |         | 0     | 0.23   | 0.24    | 0.26  |
| 120     | 119 | fill     | post hole    | 2.4   |         | 0     | 0.23   | 0.24    | 0.26  |
| 121     | 121 | cut      | ditch        | 2.4   |         | 121   | 0      | 0.5     | 0.26  |
| 122     | 121 | fill     | ditch        | 2.4   |         | 121   | 0      | 0.09    | 0.2   |
| 123     | 121 | fill     | ditch        | 2.4   |         | 121   | 0      | 0.41    | 0.2   |
| 124     | 124 | cut      | ditch        | 2.3   |         | 79    | 0      | 0.23    | 0.2   |
| 125     | 124 | fill     | ditch        | 2.3   |         | 79    | 0      | 0.23    | 0.2   |
| 126     | 126 | cut      | ditch        | 2.3   |         | 99    | 0      | 0.6     | 0.16  |
| 127     | 126 | fill     | ditch        | 2.3   |         | 99    | 0      | 0.6     | 0.16  |
| 128     | 128 | cut      | ditch        | 2.3   |         | 99    | 0      | 0.55    | 0.17  |
| 129     | 128 | fill     | ditch        | 2.3   |         | 99    | 0      | 0.55    | 0.17  |
| 130     | 130 | cut      | ditch        | 3     |         | 130   | 0      | 0.4     | 0.05  |
| 131     | 130 | fill     | ditch        | 3     |         | 130   | 0      | 0.4     | 0.05  |
| 132     | 132 | cut      | ditch        | 2.4   |         | 121   | 0      | 0.5     | 0.2   |
| 133     | 132 | fill     | ditch        | 2.4   |         | 121   | 0      | 0.5     | 0.2   |
| 134     | 0   | layer    | natural      | 0     |         | 0     | 0      | 3.4     | 0.15  |
| 135     | 0   | layer    | natural      | 0     |         | 0     | 0      | 12.02   | 0.25  |
| 136     | 0   | layer    | natural      | 0     |         | 0     | 0      | 0.9     | 0.22  |
| 137     | 0   | layer    | natural      | 0     |         | 0     | 0      |         | 0.2   |
| 138     | 0   | layer    | natural      | 0     |         | 0     | 0      |         | 0.12  |
| 139     | 139 | cut      | ditch        | 2.4   |         | 121   | 0      | 0.5     | 0.2   |
| 140     | 139 | fill     | ditch        | 2.4   |         | 121   | 0      | 0.5     | 0.2   |
| 141     | 141 | cut      | ditch        | 2.4   |         | 141   | 0      | 0.1     | 0.08  |
| 142     | 141 | fill     | ditch        | 2.4   |         | 141   | 0      |         | 0.08  |
| 143     | 143 | cut      | Post hole    | 2.3   |         | 0     | 0      | 0.28    | 0.2   |
| 144     | 143 | fill     | post hole    | 2.3   |         | 0     | 0      | 0.28    | 0.2   |
| 145     | 145 | cut      | post hole    | 2.3   |         | 0     | 0      | 0.2     | 0.2   |
| 146     | 145 | fill     | post hole    | 2.3   |         | 0     | 0      | 0.2     | 0.2   |
| 147     | 147 | cut      | ditch        | 2.3   |         | 82    | 0      | 1.2     | 0.4   |
| 148     | 147 | fill     | ditch        | 2.3   |         | 82    | 0      | 1.08    | 0.28  |
| 149     | 147 | fill     | ditch        | 2.3   |         | 82    | 0      | 1.2     | 0.13  |
| 150     | 150 | cut      | ditch        | 2.3   |         | 79    | 0      | 0.4     | 0.22  |

| Context | Cut | Category | Feature Type  | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|---------------|-------|---------|-------|--------|---------|-------|
| 151     | 150 | fill     | ditch         | 2.3   |         | 79    | 0      |         | 0.15  |
| 152     | 150 | fill     | ditch         | 2.3   |         | 79    | 0      |         | 0.1   |
| 153     | 153 | cut      | pit           | 2.1   |         | 0     | 2      | 1.22    | 0.22  |
| 154     | 153 | fill     | pit           | 2.1   |         | 0     | 2      | 1.22    | 0.22  |
| 155     | 155 | cut      | ditch         | 2.3   |         | 99    | 0      | 0.9     | 0.24  |
| 156     | 155 | fill     | ditch         | 2.3   |         | 99    | 0      | 0.9     | 0.24  |
| 157     | 0   | VOID     | VOID          |       |         | 0     | 0      | 0.74    | 0.12  |
| 158     |     | VOID     | VOID          |       |         | 0     | 0      |         |       |
| 159     | 159 | cut      | lozenge       | 2.4   |         | 0     | 1.52   | 0.54    | 0.19  |
| 160     | 159 | fill     | lozenge       | 2.4   |         | 0     | 1.52   | 0.54    | 0.19  |
| 161     | 161 | cut      | post hole     | 2.4   |         | 0     | 0.24   | 0.22    | 0.19  |
| 162     | 161 | fill     | post hole     | 2.4   |         | 0     | 0.24   | 0.22    | 0.19  |
| 163     | 163 | cut      | post hole     | 2.4   |         | 0     | 0.24   | 0.21    | 0.09  |
| 164     | 163 | fill     | post hole     | 2.4   |         | 0     | 0.24   | 0.21    | 0.09  |
| 165     | 165 | cut      | Natural       | 0     |         | 0     | 0      | 0.7     | 0.12  |
| 166     | 165 | fill     | Natural       | 0     |         | 0     | 0      | 0.7     | 0.12  |
| 167     | 167 | cut      | pit           | 2.4   |         | 0     | 0.52   | 0.6     | 0.2   |
| 168     | 167 | fill     | pit           | 2.4   |         | 0     | 0.52   | 0.6     | 0.2   |
| 169     | 169 | cut      | pit           | 2.1   |         | 0     | 1.3    | 2.4     | 0.12  |
| 170     | 169 | fill     | pit           | 2.1   |         | 0     | 0      |         | 0.12  |
| 171     | 171 | cut      | ditch         | 2.3   |         | 171   | 0      | 1.5     | 0.5   |
| 172     | 171 | fill     | ditch         | 2.3   |         | 171   | 0      |         | 0.22  |
| 173     | 171 | fill     | ditch         | 2.3   |         | 171   | 0      | 1.5     | 0.26  |
| 174     | 174 | cut      | ditch         | 2.3   |         | 99    | 0      | 1.4     | 0.36  |
| 175     | 174 | fill     | ditch         | 2.3   |         | 99    | 0      |         | 0.22  |
| 176     | 174 | fill     | ditch         | 2.3   |         | 99    | 0      | 1.4     | 0.16  |
| 177     | 177 | cut      | ditch         | 3     |         | 130   | 0      | 0.66    | 0.15  |
| 178     | 177 | fill     | ditch         | 3     |         | 130   | 0      | 0.66    | 0.15  |
| 179     | 179 | cut      | Ditch         | 2.4   |         | 179   | 0      | 0.45    | 0.15  |
| 180     | 179 | fill     | Ditch         | 2.4   |         | 179   | 0      | 0.45    | 0.15  |
| 181     | 181 | cut      | pit           | 2.4   |         | 181   | 0.45   | 0.53    | 0.15  |
| 182     | 181 | fill     | pit           | 2.4   |         | 181   | 0.45   | 0.53    | 0.15  |
| 183     | 183 | cut      | lozenge       | 2.4   |         | 0     | 0.5    | 0.36    | 0.13  |
| 184     | 183 | fill     | lozenge       | 2.4   |         | 0     | 0.5    | 0.36    | 0.13  |
| 185     | 185 | cut      | lozenge       | 2.4   |         | 0     | 0.22   | 0.18    | 0.1   |
| 186     | 185 | fill     | lozenge       | 2.4   |         | 0     | 0.22   | 0.18    | 0.1   |
| 187     | 187 | cut      | pit           | 2.4   |         | 0     | 0.45   | 0.46    | 0.11  |
| 188     | 187 | fill     | pit           | 2.4   |         | 0     | 0.45   | 0.46    | 0.11  |
| 189     | 189 | cut      | ditch         | 2.3   |         | 171   | 0      | 1.5     | 0.55  |
| 190     | 189 | fill     | ditch         | 2.3   |         | 171   | 0      |         | 0.32  |
| 191     | 189 | fill     | ditch         | 2.3   |         | 171   | 0      |         | 0.23  |
| 192     | 192 | cut      | pit           | 2.3   |         | 0     | 1.2    | 0.9     | 0.17  |
| 193     | 192 | fill     | pit           | 2.3   |         | 0     | 1.2    | 0.9     | 0.17  |
| 194     | 194 | cut      | ditch         | 2.3   |         | 194   | 0      | 1.84    | 0.46  |
| 195     | 194 | fill     | ditch         | 2.3   |         | 194   | 0      | 1.04    | 0.17  |
| 196     | 194 | fill     | ditch         | 2.3   |         | 194   | 0      | 1.4     | 0.2   |
| 197     | 194 | fill     | ditch         | 2.3   |         | 194   | 0      | 1.06    | 0.24  |
| 198     | 198 | cut      | post hole     | 2.4   |         | 0     | 0.75   | 0.45    | 0.1   |
| 199     | 198 | fill     | post hole     | 2.4   |         | 0     | 0.75   | 0.45    | 0.1   |
| 200     | 200 | cut      | post hole (?) | 2.4   |         | 0     | 0.7    | 0.42    | 0.25  |

| Context | Cut | Category | Feature Type        | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|---------------------|-------|---------|-------|--------|---------|-------|
| 201     | 200 | fill     | post hole           | 2.4   |         | 0     | 0.7    | 0.42    | 0.25  |
| 202     | 202 | cut      | post hole/small pit | 2.4   |         | 0     | 0      | 0.38    | 0.06  |
| 203     | 202 | fill     | post hole/small pit | 2.4   |         | 0     | 0      | 0.38    | 0.06  |
| 204     | 204 | cut      | Ditch terminus      | 3     |         | 130   | 0      | 0.62    | 0.13  |
| 205     | 204 | fill     | Ditch terminus      | 3     |         | 130   | 0      | 0.62    | 0.13  |
| 206     | 206 | cut      | pit                 | 2.1   |         | 0     | 0      | 0.66    | 0.24  |
| 207     | 206 | fill     | pit                 | 2.1   |         | 0     | 0      | 0.66    | 0.24  |
| 208     | 208 | cut      | ditch               | 2.4   |         | 208   | 0      | 0.58    | 0.29  |
| 209     | 208 | fill     | ditch               | 2.4   |         | 208   | 0      | 0.58    | 0.29  |
| 210     | 210 | cut      | pit                 | 2.4   |         | 0     | 0.38   | 0.33    | 0.09  |
| 211     | 210 | fill     | pit                 | 2.4   |         | 0     | 0.38   | 0.33    | 0.04  |
| 212     | 210 | fill     | natural             |       |         | 0     | 0.38   | 0.33    | 0.09  |
| 213     | 213 | cut      | pit                 | 2.1   |         | 0     | 0.56   | 0.6     | 0.35  |
| 214     | 213 | fill     | pit                 | 0     |         | 0     | 0      | 0.4     | 0.2   |
| 215     | 213 | fill     | pit                 | 2.1   |         | 0     | 0      |         |       |
| 216     | 216 | cut      | pit                 | 2.1   |         | 0     | 1.2    | 0.38    | 0.28  |
| 217     | 216 | fill     | pit                 | 2.1   |         | 0     | 0      | 0.38    | 0.38  |
| 218     | 216 | fill     | pit                 | 2.1   |         | 0     | 0      | 0.38    | 0.13  |
| 219     | 216 | fill     | pit                 | 2.1   |         | 0     | 0      |         | 0.14  |
| 220     | 220 | cut      | gully               | 2.4   |         | 0     | 1.7    | 0.2     | 0.04  |
| 221     | 220 | fill     | gully               | 2.4   |         | 0     | 0      | 0.2     | 0.04  |
| 222     | 222 | cut      | lozenge             | 2.1   |         | 222   | 0      | 0.22    | 0.04  |
| 223     | 222 | fill     | lozenge             | 2.1   |         | 222   | 0      | 0.22    | 0.04  |
| 224     | 224 | cut      | ditch               | 2.3   |         | 99    | 0      | 1.2     | 0.36  |
| 225     | 224 | fill     | ditch               | 2.3   |         | 99    | 0      | 1.2     | 0.36  |
| 226     | 226 | cut      | lozenge             | 2.1   |         | 222   | 0      | 0.28    | 0.1   |
| 227     | 226 | fill     | lozenge             | 2.1   |         | 222   | 0      | 0.28    | 0.1   |
| 228     | 228 | cut      | lozenge             | 2.1   |         | 222   | 0      | 0.28    | 0.1   |
| 229     | 228 | fill     | lozenge             | 2.1   |         | 222   | 0      | 0.28    | 0.1   |
| 230     | 230 | cut      | pit                 | 2.1   |         | 0     | 0.82   | 0.82    | 0.12  |
| 231     | 230 | fill     | pit                 | 2.1   |         | 0     | 0      | 0.82    | 0.12  |
| 232     | 232 | cut      | ditch               | 2.3   |         | 194   | 0      |         | 0.35  |
| 233     | 232 | fill     | ditch               | 2.3   |         | 194   | 0      |         | 0.35  |
| 234     | 234 | cut      | ditch               | 2.3   |         | 99    | 0      | 1.3     | 0.35  |
| 235     | 234 | fill     | ditch               | 2.3   |         | 99    | 0      | 1.3     | 0.35  |
| 236     | 236 | cut      | post hole           | 2.1   |         | 0     | 0.3    | 0.3     | 0.1   |
| 237     | 236 | fill     | post hole           | 2.1   |         | 0     | 0      | 0.3     | 0.1   |
| 238     | 238 | cut      | post hole           | 2.1   |         | 0     | 0.3    | 0.3     | 0.7   |
| 239     | 238 | fill     | post hole           | 2.1   |         | 0     | 0      | 0.3     | 0.7   |
| 240     | 240 | cut      | pit                 | 2.1   |         | 0     | 0      | 0.9     | 0.27  |
| 241     | 240 | fill     | pit                 | 2.1   |         | 0     | 0      |         | 0.24  |
| 242     | 240 | fill     | pit                 | 2.1   |         | 0     | 0      |         | 0.03  |
| 243     | 243 | cut      | pit                 | 2.1   |         | 0     | 0.65   | 0.3     | 0.06  |
| 244     | 243 | fill     | pit                 | 2.1   |         | 0     | 0      | 0.3     | 0.06  |
| 245     | 245 | cut      | cremation           | 2.4   |         | 0     | 0.62   | 0.5     | 0.3   |
| 246     | 245 | fill     | cremation           | 2.4   |         | 0     | 0.62   | 0.5     | 0.26  |
| 247     | 245 | fill     | cremation           | 2.4   |         | 0     | 0.4    | 0.37    | 0.14  |
| 248     | 248 | cut      | post hole           | 2.4   |         | 0     | 0.23   | 0.22    | 0.08  |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 249     | 248 | fill     | post hole    | 2.4   |         | 0     | 0      | 0.22    | 0.08  |
| 250     | 0   | VOID     | pit          | 2.1   |         | 0     | 2.85   | 0.79    | 0.39  |
| 251     | 250 | VOID     | pit          | 2.1   |         | 0     | 0      | 0.79    | 0.39  |
| 252     | 252 | cut      | post hole    | 2.4   |         | 0     | 0.25   | 0.25    | 0.25  |
| 253     | 252 | fill     | post hole    | 2.4   |         | 0     | 0      | 0.25    | 0.25  |
| 254     | 254 | cut      | ditch        | 2.3   |         | 99    | 0      | 0.6     | 0.16  |
| 255     | 254 | fill     | ditch        | 2.3   |         | 99    | 0      | 0.6     | 0.16  |
| 256     | 256 | cut      | pit          | 2.1   |         | 0     | 0.7    | 0.52    | 0.14  |
| 257     | 256 | fill     | pit          | 2.1   |         | 0     | 0.7    | 0.5     | 0.14  |
| 258     | 258 | cut      | post hole    | 2.4   |         | 0     | 0.3    | 0.25    | 0.13  |
| 259     | 258 | fill     | post hole    | 2.4   |         | 0     | 0.3    | 0.25    | 0.13  |
| 260     | 260 | cut      | post hole    | 2.4   |         | 0     | 0.45   | 0.5     | 0.15  |
| 261     | 260 | fill     | post hole    | 2.4   |         | 0     | 0      | 0.5     | 0.15  |
| 262     | 264 | fill     | ditch        | 2.3   |         | 79    | 0      | 1.34    | 0.32  |
| 263     | 265 | fill     | ditch        | 2.4   |         | 121   | 0      | 0.85    | 0.22  |
| 264     | 264 | cut      | ditch        | 2.3   |         | 79    | 0      | 1.34    | 0.32  |
| 265     | 265 | cut      | ditch        | 2.4   |         | 121   | 0      | 0.85    | 0.23  |
| 266     | 266 | cut      | ditch        | 2.4   |         | 141   | 0      | 0.35    | 0.06  |
| 267     | 266 | fill     | ditch        | 2.4   |         | 141   | 0      | 0.35    | 0.06  |
| 268     | 268 | cut      | ditch        | 2.3   |         | 79    | 0      | 0.25    | 0.32  |
| 269     | 268 | fill     | ditch        | 2.3   |         | 79    | 0      |         |       |
| 270     | 270 | cut      | ditch        | 3     |         | 130   | 0      | 1       | 0.1   |
| 271     | 270 | fill     | ditch        | 3     |         | 130   | 0      | 0.8     | 0.1   |
| 272     | 272 | cut      | pit          | 2.1   |         | 0     | 1.2    | 0.68    | 0.21  |
| 273     | 272 | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 274     | 274 | cut      | ditch        | 2.3   |         | 79    | 0      | 0.84    | 0.4   |
| 275     | 274 | fill     | ditch        | 2.3   |         | 79    | 0      |         |       |
| 276     | 274 | fill     | ditch        | 2.3   |         | 79    | 0      |         |       |
| 282     | 282 | cut      | ditch        | 2.4   |         | 282   | 0      | 0.6     | 0.06  |
| 283     | 282 | fill     | ditch        | 2.4   |         | 282   | 0      | 0.6     | 0.06  |
| 284     | 284 | cut      | post hole    | 2.2   |         | 0     | 0.17   | 0.18    | 0.04  |
| 286     | 286 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.8     | 0.36  |
| 287     | 286 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 288     | 286 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 289     | 286 | fill     | ditch        | 2.3   |         | 286   | 0      | 0.35    | 0.2   |
| 290     | 290 | cut      | ditch        | 2.1   |         | 290   | 0      | 0.36    | 0.16  |
| 291     | 290 | fill     | ditch        | 2.1   |         | 290   | 0      | 0.36    | 0.16  |
| 292     | 292 | cut      | post hole    | 2.4   |         | 292   | 0.24   | 0.24    | 0.12  |
| 293     | 292 | fill     | post hole    | 2.4   |         | 292   | 0.24   | 0.24    | 0.12  |
| 294     | 292 | fill     | post hole    | 2.4   |         | 292   | 0      |         |       |
| 295     | 295 | cut      | ditch        | 2.3   |         | 295   | 0      | 0.38    | 0.5   |
| 296     | 295 | fill     | ditch        | 2.3   |         | 295   | 0      |         |       |
| 297     | 297 | cut      | ditch        | 3     |         | 297   | 0      | 0.7     | 0.35  |
| 298     | 297 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 299     | 297 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 300     | 300 | cut      | pit          | 2.4   |         | 0     | 3.7    | 1.15    | 0.14  |
| 301     | 300 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 302     | 303 | fill     | ditch        | 2.3   |         | 53    | 0      |         |       |
| 303     | 303 | cut      | ditch        | 2.3   |         | 53    | 0      | 0.39    | 0.09  |
| 304     | 305 | fill     | ditch        | 2.3   |         | 53    | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 305     | 305 | cut      | ditch        | 2.3   |         | 53    | 0      | 0.22    | 0.04  |
| 306     | 306 | cut      | ditch        | 3     |         | 297   | 0      | 0.55    | 0.15  |
| 307     | 306 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 308     | 309 | fill     | lozenge      | 0     |         | 0     | 0      |         |       |
| 309     | 309 | cut      | lozenge      | 0     |         | 0     | 1.5    | 0.58    | 0.09  |
| 310     | 312 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 311     | 312 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 312     | 312 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.51    | 0.15  |
| 313     | 314 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 314     | 314 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.53    | 0.11  |
| 315     | 295 | fill     | ditch        | 2.3   |         | 295   | 0      |         |       |
| 316     | 295 | fill     | ditch        | 2.3   |         | 295   | 0      |         |       |
| 317     | 317 | cut      | ditch        | 2.1   |         | 317   | 0      | 0.93    | 0.42  |
| 318     | 317 | fill     | ditch        | 2.1   |         | 317   | 0      |         |       |
| 319     | 319 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.41    | 0.26  |
| 320     | 319 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 321     | 321 | cut      | ditch        | 2.1   |         | 317   | 0      | 0.94    | 0.47  |
| 322     | 321 | fill     | ditch        | 2.1   |         | 317   | 0      |         |       |
| 323     | 323 | cut      | ditch        | 3     |         | 297   | 0      | 0.75    | 0.19  |
| 324     | 323 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 325     | 325 | cut      | pit          | 1     |         | 0     | 0.5    | 0.5     | 0.19  |
| 326     | 325 | fill     | pit          | 1     |         | 0     | 0      |         |       |
| 327     | 327 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.75    | 0.31  |
| 328     | 327 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 329     | 327 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 330     | 330 | cut      | ditch        | 2.3   |         | 295   | 0      | 0.55    | 0.26  |
| 331     | 330 | fill     | ditch        | 2.3   |         | 295   | 0      |         |       |
| 332     | 333 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 333     | 333 | cut      | pit          | 2.4   |         | 0     | 0.24   | 0.22    | 0.02  |
| 334     | 335 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 335     | 335 | cut      | pit          | 2.4   |         | 0     | 0.37   | 0.31    | 0.04  |
| 336     | 336 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.95    | 0.13  |
| 337     | 336 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 338     | 338 | cut      | pit          | 2.3   |         | 0     | 0.54   | 0.67    | 0.1   |
| 339     | 338 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 340     | 340 | cut      | post hole    | 2.3   |         | 0     | 0.49   | 0.53    | 0.44  |
| 341     | 340 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 342     | 340 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 343     | 343 | cut      | post hole    | 2.3   |         | 0     | 0.43   | 0.44    | 0.41  |
| 344     | 343 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 345     | 345 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.65    | 0.17  |
| 346     | 345 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 347     | 340 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 348     | 340 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 349     | 349 | cut      | Post pipe    | 2.3   |         | 0     | 0.23   | 0.19    | 0.3   |
| 350     | 349 | fill     | post pipe    | 2.3   |         | 0     | 0      |         |       |
| 351     | 351 | cut      | ditch        | 2.2   |         | 69    | 0      | 0.6     | 0.1   |
| 352     | 351 | fill     | ditch        | 2.2   |         | 69    | 0      |         |       |
| 353     | 353 | cut      | ditch        | 2.1   |         | 59    | 0      | 0.8     | 0.3   |
| 354     | 353 | fill     | ditch        | 2.1   |         | 59    | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 355     | 353 | fill     | ditch        | 2.1   |         | 59    | 0      |         |       |
| 356     | 356 | cut      | ditch        | 2.1   |         | 59    | 0      | 0.9     | 0.46  |
| 357     | 356 | fill     | ditch        | 2.1   |         | 59    | 0      |         |       |
| 358     | 358 | cut      | ditch        | 2.2   |         | 69    | 0      | 0.94    | 0.4   |
| 359     | 358 | fill     | ditch        | 2.2   |         | 69    | 0      |         |       |
| 360     | 360 | cut      | pit          | 2.4   |         | 0     | 0.58   | 0.55    | 0.16  |
| 361     | 360 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 362     | 362 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.8     | 0.55  |
| 363     | 362 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 364     | 362 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 365     | 365 | cut      | pit          | 2.1   |         | 0     | 0.4    | 0.37    | 0.15  |
| 366     | 365 | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 367     | 365 | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 368     | 368 | cut      | ditch        | 2.2   |         | 69    | 0      | 0.53    | 0.26  |
| 369     | 368 | fill     | ditch        | 2.2   |         | 69    | 0      |         |       |
| 371     | 371 | cut      | hearth/oven  | 2.5   |         | 371   | 1.95   | 1.05    | 0.43  |
| 372     | 0   | layer    | natural      | 0     |         | 0     | 0      |         |       |
| 373     | 371 | fill     | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 374     | 371 | fill     | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 375     | 371 | fill     | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 376     | 371 | fill     | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 378     | 371 | fill     | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 381     | 371 | masonry  | hearth/oven  | 2.5   |         | 371   | 0      |         |       |
| 382     | 382 | cut      | ditch        | 2.3   |         | 382   | 0      | 0.55    | 0.25  |
| 383     | 382 | fill     | ditch        | 2.3   |         | 382   | 0      |         |       |
| 384     | 384 | cut      | ditch        | 2.3   |         | 384   | 0      | 0.7     | 0.09  |
| 385     | 384 | fill     | ditch        | 2.3   |         | 384   | 0      |         |       |
| 386     | 386 | cut      | post hole    | 2.3   |         | 0     | 0.4    | 0.25    | 0.3   |
| 387     | 0   | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 388     | 388 | cut      | post hole    | 2.3   |         | 0     | 0.3    | 0.3     | 0.25  |
| 389     | 388 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 390     | 390 | cut      | pit          | 2.3   |         | 0     | 0.8    | 0.85    | 0.18  |
| 391     | 390 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 392     | 392 | cut      | ditch        | 2.3   |         | 286   | 0      | 1.04    | 0.37  |
| 393     | 392 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 394     | 392 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 395     | 395 | cut      | ditch        | 2.3   |         | 295   | 0      | 0.52    | 0.4   |
| 396     | 395 | fill     | ditch        | 2.3   |         | 295   | 0      |         |       |
| 397     | 397 | cut      | ditch        | 2.3   |         | 397   | 0      | 0.7     | 0.12  |
| 398     | 397 | fill     | ditch        | 2.3   |         | 397   | 0      |         |       |
| 399     | 399 | cut      | ditch        | 2.4   |         | 399   | 0      | 0.9     | 0.44  |
| 400     | 399 | fill     | ditch        | 2.4   |         | 399   | 0      |         |       |
| 401     | 399 | HSR      | skeleton     | 2.4   |         | 399   | 0      |         |       |
| 402     | 399 | HSR      | skeleton     | 2.4   |         | 399   | 0      |         |       |
| 403     | 404 | fill     | ditch        | 2.5   |         | 404   | 0      |         |       |
| 404     | 404 | cut      | ditch        | 2.5   |         | 404   | 0      | 0.7     | 0.19  |
| 406     | 0   | layer    | natural      | 0     |         | 0     | 0      |         |       |
| 407     | 407 | cut      | hearth/oven  | 2.4   |         | 407   | 1.4    | 0.6     | 0.2   |
| 408     | 407 | fill     | hearth/oven  | 2.4   |         | 407   | 0      |         |       |
| 409     | 407 | fill     | hearth/oven  | 2.4   |         | 407   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 410     | 407 | fill     | hearth/oven  | 2.4   |         | 407   | 0      |         |       |
| 411     | 412 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 412     | 412 | cut      | ditch        | 2.5   |         | 412   | 0      | 1.68    | 0.82  |
| 413     | 414 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |
| 414     | 414 | cut      | ditch        | 2.2   |         | 414   | 0      | 1.1     | 0.72  |
| 415     | 416 | fill     | ditch        | 2.4   |         | 416   | 0      |         |       |
| 416     | 416 | cut      | ditch        | 2.4   |         | 416   | 0      | 0.88    | 0.2   |
| 417     | 418 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 418     | 418 | cut      | ditch        | 2.3   |         | 418   | 0      | 0.63    | 0.22  |
| 419     | 421 | fill     | ditch        | 2.5   |         | 421   | 0      |         |       |
| 420     | 421 | fill     | ditch        | 2.5   |         | 421   | 0      |         |       |
| 421     | 421 | cut      | ditch        | 2.5   |         | 421   | 0      | 0.97    | 0.23  |
| 422     | 422 | cut      | pit          | 2.4   |         | 422   | 0.37   | 0.35    | 0.1   |
| 423     | 422 | fill     | pit          | 2.4   |         | 422   | 0      |         |       |
| 424     | 422 | fill     | pit          | 2.4   |         | 422   | 0      |         |       |
| 425     | 425 | cut      | ditch        | 2.3   |         | 425   | 0      | 0.8     | 0.36  |
| 426     | 425 | fill     | ditch        | 2.3   |         | 425   | 0      |         |       |
| 427     | 412 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 428     | 428 | cut      | ditch        | 2.3   |         | 418   | 0      | 0.59    | 0.23  |
| 429     | 428 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 430     | 0   | layer    | layer        | 2.5   |         | 0     | 0      |         |       |
| 431     | 0   | layer    | layer        | 2.5   |         | 0     | 0      |         |       |
| 432     | 0   | layer    | layer        | 2.5   |         | 0     | 0      |         |       |
| 433     | 433 | cut      | ditch        | 2.2   |         | 414   | 0      | 2.2     | 1     |
| 434     | 434 | cut      | ditch        | 2.5   |         | 412   | 0      | 1.86    | 0.5   |
| 435     | 435 | cut      | ditch        | 2.3   |         | 418   | 0      | 1.42    | 0.42  |
| 436     | 436 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.84    | 0.48  |
| 437     | 434 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 438     | 434 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 439     | 434 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 440     | 433 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |
| 441     | 433 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |
| 442     | 433 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |
| 443     | 435 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 444     | 435 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 445     | 436 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 446     | 446 | cut      | ditch        | 2.1   |         | 317   | 0      | 1       | 0.46  |
| 447     | 446 | fill     | ditch        | 2.1   |         | 317   | 0      |         |       |
| 448     | 448 | cut      | well         | 2.5   |         | 0     | 1.05   | 0.86    | 0.68  |
| 449     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 450     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 451     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 452     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 453     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 454     | 448 | fill     | well         | 2.5   |         | 0     | 0      |         |       |
| 455     | 455 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.82    | 0.22  |
| 456     | 456 | cut      | well         | 2.5   |         | 456   | 1.85   | 1.55    | 1.24  |
| 457     | 457 | cut      | post hole    | 2.1   |         | 0     | 0.29   | 0.29    | 0.11  |
| 458     | 457 | fill     | post hole    | 2.1   |         | 0     | 0      |         |       |
| 459     | 455 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 460     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 461     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 462     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 463     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 464     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 465     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 466     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 467     | 456 | fill     | well         | 2.5   |         | 456   | 0      |         |       |
| 468     | 468 | cut      | ditch        | 2.3   |         | 53    | 0      | 0.68    | 0.32  |
| 469     | 468 | fill     | ditch        | 2.3   |         | 53    | 0      |         |       |
| 470     | 468 | fill     | ditch        | 2.3   |         | 53    | 0      |         |       |
| 471     | 471 | cut      | ditch        | 2.3   |         | 471   | 0      | 0.57    | 0.11  |
| 472     | 471 | fill     | ditch        | 2.3   |         | 471   | 0      |         |       |
| 473     | 473 | cut      | ditch        | 2.1   |         | 317   | 0      | 0.84    | 0.31  |
| 474     | 473 | fill     | ditch        | 2.1   |         | 317   | 0      |         |       |
| 475     | 475 | cut      | ditch        | 2.2   |         | 414   | 0      | 1.3     | 0.66  |
| 476     | 475 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |
| 477     | 497 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 478     | 497 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 479     | 497 | fill     | ditch        | 2.5   |         | 412   | 0      |         |       |
| 480     | 480 | cut      | ditch        | 2.3   |         | 418   | 0      | 1.82    | 0.37  |
| 481     | 480 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 482     | 480 | fill     | ditch        | 2.3   |         | 418   | 0      |         |       |
| 483     | 483 | cut      | ditch        | 2.3   |         | 286   | 0      | 0.3     | 0.35  |
| 484     | 483 | fill     | ditch        | 2.3   |         | 286   | 0      |         |       |
| 485     | 485 | cut      | ditch        | 2.5   |         | 485   | 0      | 0.45    | 0.34  |
| 486     | 485 | fill     | ditch        | 2.5   |         | 485   | 0      |         |       |
| 487     | 487 | cut      | ditch        | 2.5   |         | 487   | 0      | 0.44    |       |
| 488     | 487 | fill     | ditch        | 2.5   |         | 487   | 0      |         |       |
| 489     | 489 | cut      | ditch        | 2.5   |         | 489   | 0      | 0.4     | 0.18  |
| 490     | 489 | fill     | ditch        | 2.5   |         | 489   | 0      |         |       |
| 491     | 491 | cut      | ditch        | 2.5   |         | 485   | 0      | 0.3     | 0.36  |
| 492     | 491 | fill     | ditch        | 2.5   |         | 485   | 0      |         |       |
| 493     | 493 | cut      | ditch        | 2.5   |         | 487   | 0      | 0.51    | 0.19  |
| 494     | 493 | fill     | ditch        | 2.5   |         | 487   | 0      |         |       |
| 495     | 495 | cut      | post hole    | 2.3   |         | 0     | 0.2    | 0.3     | 0.16  |
| 496     | 495 | fill     | post hole    | 2.3   |         | 0     | 0      |         |       |
| 497     | 497 | cut      | ditch        | 2.5   |         | 412   | 0      | 0.78    | 0.33  |
| 498     | 498 | cut      | ditch        | 2.4   |         | 498   | 0      | 1       | 0.22  |
| 499     | 498 | fill     | ditch        | 2.4   |         | 498   | 0      |         |       |
| 500     | 498 | fill     | ditch        | 2.4   |         | 498   | 0      |         |       |
| 501     | 498 | fill     | ditch        | 2.4   |         | 498   | 0      |         |       |
| 502     | 502 | cut      | ditch        | 2.3   |         | 502   | 0.97   | 0.24    | 0.12  |
| 503     | 502 | fill     | ditch        | 2.3   |         | 502   | 0      |         |       |
| 504     | 504 | cut      | ditch        | 2.3   |         | 504   | 1.03   | 0.38    | 0.14  |
| 505     | 504 | fill     | ditch        | 2.3   |         | 504   | 0      |         |       |
| 506     | 506 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.57    | 0.08  |
| 507     | 506 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |
| 508     | 508 | cut      | ditch        | 2.4   |         | 312   | 0      | 0.34    | 0.1   |
| 509     | 508 | fill     | ditch        | 2.4   |         | 312   | 0      |         |       |

| Context | Cut | Category | Feature Type       | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------------|-------|---------|-------|--------|---------|-------|
| 510     | 510 | cut      | ditch              | 2.3   |         | 510   | 0      | 0.61    | 0.18  |
| 511     | 510 | fill     | ditch              | 2.3   |         | 510   | 0      |         |       |
| 512     | 512 | cut      | oven               | 2.5   |         | 512   | 2.35   | 1.05    | 0.43  |
| 513     | 513 | cut      | ditch              | 2.4   |         | 498   | 0      | 0.73    | 0.24  |
| 514     | 513 | fill     | ditch              | 2.4   |         | 498   | 0      |         |       |
| 515     | 513 | fill     | ditch              | 2.4   |         | 498   | 0      |         |       |
| 516     | 513 | fill     | ditch              | 2.4   |         | 498   | 0      |         |       |
| 518     | 518 | cut      | natural            | 0     |         | 518   | 0      | 0.7     | 0.4   |
| 519     | 518 | fill     | natural            | 0     |         | 518   | 0      |         |       |
| 521     | 0   | VOID     | VOID               | 0     |         | 0     | 0      |         |       |
| 522     | 0   | layer    | surface (internal) | 2.4   |         | 522   | 0      |         |       |
| 523     | 513 | fill     | ditch              | 2.4   |         | 498   | 0      |         |       |
| 524     | 524 | cut      | ditch              | 2.5   |         | 524   | 0      | 0.82    | 0.29  |
| 525     | 524 | fill     | ditch              | 2.5   |         | 524   | 0      |         |       |
| 526     | 526 | cut      | ditch              | 2.5   |         | 526   | 0      | 1.15    | 0.35  |
| 527     | 526 | fill     | ditch              | 2.5   |         | 526   | 0      |         |       |
| 528     | 528 | cut      | ditch              | 2.4   |         | 528   | 0      | 1.16    | 0.49  |
| 529     | 528 | fill     | ditch              | 2.4   |         | 528   | 0      |         |       |
| 530     | 528 | fill     | ditch              | 2.4   |         | 528   | 0      |         |       |
| 531     | 528 | fill     | ditch              | 2.4   |         | 528   | 0      |         |       |
| 532     | 532 | cut      | ditch              | 2.3   |         | 397   | 0      | 0.38    | 0.21  |
| 533     | 532 | fill     | ditch              | 2.3   |         | 397   | 0      |         |       |
| 534     | 534 | cut      | pit                | 2.3   |         |       | 3.3    | 2.3     | 1.95  |
| 535     | 534 | fill     | pit                | 2.3   |         | 0     | 0      |         |       |
| 536     | 534 | fill     | pit                | 2.3   |         | 0     | 0      |         |       |
| 537     | 534 | fill     | pit                | 2.3   |         | 0     | 0      |         |       |
| 538     | 534 | fill     | pit                | 2.3   |         | 0     | 0      |         |       |
| 542     | 512 | fill     | pit                | 2.5   |         |       | 0      |         |       |
| 543     | 512 | fill     | oven               | 2.5   |         | 512   | 0      |         |       |
| 544     | 512 | fill     | oven               | 2.5   |         | 512   | 0      |         |       |
| 545     | 545 | cut      | post hole          | 2.3   |         | 0     | 0.55   | 0.3     | 0.33  |
| 546     | 545 | fill     | post hole          | 2.3   |         | 0     | 0      |         |       |
| 547     | 545 | fill     | post hole          | 2.3   |         | 0     | 0      |         |       |
| 548     | 548 | cut      | post hole          | 2.3   |         | 0     | 0.31   | 0.35    | 0.22  |
| 549     | 548 | fill     | post hole          | 2.3   |         | 0     | 0      |         |       |
| 550     | 548 | fill     | post hole          | 2.3   |         | 0     | 0      |         |       |
| 551     | 551 | cut      | pit                | 2.4   |         | 551   | 0.5    | 0.49    | 0.08  |
| 552     | 551 | fill     | pit                | 2.4   |         | 551   | 0      |         |       |
| 553     | 553 | cut      | pit                | 2.4   |         | 553   | 0.38   | 0.38    | 0.06  |
| 554     | 553 | fill     | pit                | 2.4   |         | 553   | 0      |         |       |
| 555     | 555 | cut      | pit                | 2.4   |         | 555   | 0.28   | 0.22    | 0.09  |
| 556     | 555 | fill     | pit                | 2.4   |         | 555   | 0      |         |       |
| 557     | 557 | cut      | well               | 2.5   |         | 557   | 0.96   | 0.74    | 0.98  |
| 558     | 557 | fill     | well               | 2.5   |         | 557   | 0      |         |       |
| 559     | 557 | fill     | well               | 2.5   |         | 557   | 0      |         |       |
| 560     | 557 | fill     | well               | 2.5   |         | 557   | 0      |         |       |
| 561     | 557 | fill     | well               | 2.5   |         | 557   | 0      |         |       |
| 562     | 557 | fill     | well               | 2.5   |         | 557   | 0      |         |       |
| 563     | 563 | cut      | ditch              | 2.4   |         | 528   | 0      | 0.2     | 0.06  |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 564     | 563 | fill     | ditch        | 2.4   |         | 528   | 0      |         |       |
| 565     | 565 | cut      | ditch        | 2.3   |         | 425   | 0      | 0.55    | 0.28  |
| 566     | 565 | fill     | ditch        | 2.3   |         | 425   | 0      |         |       |
| 567     | 567 | cut      | pit          | 2.3   |         | 0     | 1.27   | 0.97    | 0.36  |
| 568     | 567 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 569     | 567 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 570     | 567 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 571     | 571 | cut      | pit          | 2.3   |         | 0     | 1.12   | 0.98    | 0.28  |
| 572     | 571 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 573     | 571 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 574     | 510 | fill     | ditch        | 2.3   |         | 510   | 0      |         |       |
| 575     | 575 | cut      | ditch        | 2.3   |         | 575   | 0      | 0.66    | 0.24  |
| 576     | 575 | fill     | ditch        | 2.3   |         | 575   | 0      |         |       |
| 577     | 577 | cut      | ditch        | 2.3   |         | 510   | 0      | 0.55    | 0.24  |
| 578     | 577 | fill     | ditch        | 2.3   |         | 510   | 0      |         |       |
| 579     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 580     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 581     | 754 | fill     | pit          | 2.5   |         | 754   | 0      |         |       |
| 582     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 583     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 584     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 585     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 586     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 587     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 588     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 589     | 589 | cut      | post hole    | 2.4   |         | 589   | 0.36   | 0.37    | 0.16  |
| 590     | 589 | fill     | post hole    | 2.4   |         | 589   | 0      |         |       |
| 591     | 512 | fill     | oven         | 2.5   |         | 512   | 0      |         |       |
| 592     | 592 | cut      | ditch        | 3     |         | 297   | 0      | 0.72    | 0.22  |
| 593     | 592 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 594     | 594 | cut      | ditch        | 2.2   |         | 594   | 0      | 0.62    | 0.22  |
| 595     | 594 | fill     | ditch        | 2.2   |         | 594   | 0      |         |       |
| 596     | 596 | cut      | pit          | 2.1   |         |       | 0.66   | 0.7     | 0.34  |
| 597     | 596 | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 598     | 596 | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 599     | 599 | cut      | pit          | 2.1   |         | 0     | 0.66   | 0.64    | 0.28  |
| 600     | 0   | fill     | pit          | 2.1   |         | 0     | 0      |         |       |
| 601     | 601 | cut      | ditch        | 2.3   |         | 382   | 1.76   | 0.63    | 0.33  |
| 602     | 601 | fill     | ditch        | 2.3   |         | 382   | 0      |         |       |
| 603     | 601 | fill     | ditch        | 2.3   |         | 382   | 0      |         |       |
| 604     | 604 | cut      | ditch        | 2.1   |         | 290   | 0      | 0.25    | 0.11  |
| 605     | 0   | fill     | ditch        | 2.1   |         | 290   | 0      |         |       |
| 606     | 606 | cut      | ditch        | 2.4   |         | 528   | 0      | 1.08    | 0.52  |
| 607     | 606 | fill     | ditch        | 2.4   |         | 528   | 0      |         |       |
| 608     | 606 | fill     | ditch        | 2.4   |         | 528   | 0      |         |       |
| 609     | 609 | cut      | ditch        | 2.5   |         | 524   | 0      | 0.56    | 0.25  |
| 610     | 609 | fill     | ditch        | 2.5   |         | 524   | 0      |         |       |
| 611     | 0   | layer    | alluvium     | 0     |         | 372   | 0      |         | 0.3   |
| 612     | 612 | cut      | ditch        | 2.5   |         | 612   | 0      | 1.45    | 0.57  |
| 613     | 612 | fill     | ditch        | 2.5   |         | 612   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 614     | 612 | fill     | ditch        | 2.5   |         | 612   | 0      |         |       |
| 615     | 612 | fill     | ditch        | 2.5   |         | 612   | 0      |         |       |
| 616     | 612 | fill     | ditch        | 2.5   |         | 612   | 0      |         |       |
| 617     | 756 | fill     | ditch        | 2.5   |         | 756   | 0      |         |       |
| 618     | 756 | fill     | ditch        | 2.5   |         | 756   | 0      |         |       |
| 619     | 756 | fill     | ditch        | 2.5   |         | 756   | 0      |         |       |
| 620     | 0   | Void     | Void         | 0     |         | 0     | 0      |         |       |
| 621     | 621 | cut      | ditch        | 2.4   |         | 528   | 0      | 1.6     | 0.4   |
| 622     | 621 | fill     | ditch        | 2.4   |         | 528   | 0      |         |       |
| 623     | 630 | fill     | ditch        | 2.4   |         | 630   | 0      |         |       |
| 624     | 624 | cut      | ditch        | 2.5   |         | 524   | 0      | 1.24    | 0.15  |
| 625     | 624 | fill     | ditch        | 2.5   |         | 524   | 0      |         |       |
| 626     | 626 | cut      | ditch        | 2.2   |         | 594   | 0.75   | 0.53    | 0.17  |
| 627     | 626 | fill     | ditch        | 2.2   |         | 594   | 0      |         |       |
| 628     | 628 | cut      | ditch        | 3     |         | 297   | 0      | 0.35    | 0.06  |
| 629     | 628 | fill     | ditch        | 3     |         | 297   | 0      |         |       |
| 630     | 630 | cut      | ditch        | 2.4   |         | 630   | 0      |         |       |
| 631     | 632 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 632     | 632 | cut      | pit          | 2.3   |         | 0     | 0.66   | 0.7     | 0.27  |
| 633     | 633 | cut      | ditch        | 2.3   |         | 397   | 0      | 0.63    | 0.19  |
| 634     | 633 | fill     | ditch        | 2.3   |         | 397   | 0      |         |       |
| 635     | 635 | cut      | ditch        | 2.3   |         | 382   | 0      | 0.28    | 0.15  |
| 636     | 635 | fill     | ditch        | 2.3   |         | 382   | 0      |         |       |
| 637     | 637 | cut      | pit          | 2.3   |         | 0     | 0.67   | 0.62    | 0.24  |
| 638     | 637 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 639     | 639 | cut      | ditch        | 2.1   |         | 639   | 0      | 1.47    | 0.62  |
| 640     | 639 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 641     | 639 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 642     | 642 | cut      | ditch        | 2.4   |         | 399   | 0      | 0.64    | 0.27  |
| 643     | 642 | fill     | ditch        | 2.4   |         | 399   | 0      |         |       |
| 644     | 644 | cut      | ditch        | 2.3   |         | 510   | 0      | 0.62    | 0.17  |
| 645     | 644 | fill     | ditch        | 2.3   |         | 510   | 0      |         |       |
| 646     | 646 | cut      | ditch        | 2.1   |         | 639   | 0      | 1.32    | 0.62  |
| 647     | 646 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 648     | 646 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 649     | 649 | cut      | ditch        | 2.3   |         | 510   | 0      | 0.57    | 0.24  |
| 650     | 649 | fill     | ditch        | 2.3   |         | 510   | 0      |         |       |
| 651     | 649 | fill     | ditch        | 2.3   |         | 510   | 0      |         |       |
| 652     | 652 | cut      | ditch        | 2.4   |         | 399   | 0      | 1.05    | 0.34  |
| 653     | 652 | fill     | ditch        | 2.4   |         | 399   | 0      |         |       |
| 654     | 652 | fill     | ditch        | 2.4   |         | 399   | 0      |         |       |
| 655     | 655 | cut      | ditch        | 2.3   |         | 575   | 0      | 0.22    | 0.11  |
| 656     | 655 | fill     | ditch        | 2.3   |         | 575   | 0      |         |       |
| 657     | 639 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 658     | 658 | cut      | ditch        | 2.1   |         | 639   | 0      | 1.4     | 0.76  |
| 659     | 658 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 660     | 658 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 661     | 658 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 662     | 399 | fill     | ditch        | 2.4   |         | 399   | 0      |         |       |
| 663     | 663 | cut      | pit          | 2.4   |         | 0     | 0.7    | 0.7     | 0.2   |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 664     | 663 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 665     | 663 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 666     | 666 | cut      | pit          | 2.4   |         | 0     | 0.76   | 0.76    | 0.23  |
| 667     | 666 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 668     | 666 | fill     | pit          | 2.4   |         | 0     | 0      |         |       |
| 669     | 669 | cut      | post hole    | 2.4   |         | 669   | 0.4    | 0.36    | 0.11  |
| 670     | 669 | fill     | post hole    | 2.4   |         | 669   | 0      |         |       |
| 671     | 671 | cut      | ditch        | 2.5   |         | 526   | 0      | 0.4     | 0.26  |
| 672     | 672 | cut      | ditch        | 2.5   |         | 526   | 0      | 1.28    | 0.52  |
| 673     | 673 | cut      | ditch        | 2.5   |         | 673   | 0      | 1       | 0.28  |
| 674     | 674 | cut      | ditch        | 2.1   |         | 674   | 0      | 0.88    | 0.48  |
| 675     | 675 | cut      | ditch        | 2.1   |         | 674   | 0      | 1.2     | 0.36  |
| 676     | 676 | cut      | ditch        | 2.5   |         | 526   | 0      | 1.4     | 0.44  |
| 677     | 677 | cut      | ditch        | 2.5   |         | 673   | 0      | 0.8     | 0.24  |
| 678     | 678 | cut      | ditch        | 2.3   |         | 678   | 0      | 0.6     | 0.08  |
| 679     | 678 | fill     | ditch        | 2.3   |         | 678   | 0      |         |       |
| 680     | 0   | fill     | deposit      | 2.3   |         | 0     | 0      |         |       |
| 681     | 0   | fill     | deposit      | 2.3   |         | 0     | 0      | 1.23    | 0.08  |
| 682     | 0   | fill     | deposit      | 2.3   |         | 0     | 0      | 0.81    | 0.21  |
| 683     | 0   | fill     | deposit      | 2.3   |         | 0     | 0      | 0.61    | 0.05  |
| 684     | 684 | cut      | tree throw   | 0     |         | 684   | 0      | 1.4     | 0.38  |
| 685     | 671 | fill     | ditch        | 2.5   |         | 526   | 0      |         |       |
| 686     | 672 | fill     | ditch        | 2.5   |         | 526   | 0      |         |       |
| 687     | 673 | fill     | ditch        | 2.5   |         | 673   | 0      | 1       | 0.28  |
| 688     | 674 | fill     | ditch        | 2.1   |         | 674   | 0      | 0.88    | 0.48  |
| 689     | 675 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 690     | 663 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 691     | 691 | cut      | ditch        | 2.5   |         | 526   | 0      | 1.03    | 0.41  |
| 692     | 691 | fill     | ditch        | 2.5   |         | 526   | 0      |         |       |
| 693     | 693 | cut      | ditch        | 2.5   |         | 673   | 0      | 0.43    | 0.18  |
| 694     | 693 | fill     | ditch        | 2.5   |         | 673   | 0      |         |       |
| 695     | 676 | fill     | ditch        | 2.5   |         | 526   | 0      |         |       |
| 696     | 677 | fill     | ditch        | 2.5   |         | 673   | 0      |         |       |
| 697     | 697 | cut      | ditch        | 2.1   |         | 290   | 0      | 0.38    | 0.24  |
| 698     | 697 | fill     | ditch        | 2.1   |         | 290   | 0      |         |       |
| 699     | 699 | cut      | ditch        | 2.1   |         | 290   | 0      | 0.35    | 0.17  |
| 700     | 699 | fill     | ditch        | 2.1   |         | 290   | 0      |         |       |
| 701     | 701 | cut      | ditch        | 2.1   |         | 290   | 0      | 0.36    | 0.14  |
| 702     | 701 | fill     | ditch        | 2.1   |         | 290   | 0      |         |       |
| 703     | 703 | cut      | ditch        | 2.1   |         | 639   | 0      | 0.34    | 0.13  |
| 704     | 703 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 705     | 705 | cut      | pit          | 1     |         | 0     | 0.59   | 0.55    | 0.12  |
| 706     | 705 | fill     | pit          | 1     |         | 0     | 0      |         |       |
| 707     | 684 | fill     | tree throw   | 0     |         | 684   | 0      |         |       |
| 708     | 708 | cut      | pit          | 2.3   |         | 0     | 0.88   | 0.9     | 0.21  |
| 709     | 708 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 710     | 710 | cut      | pit          | 2.3   |         | 0     | 1.37   | 1.3     | 0.25  |
| 711     | 710 | fill     | pit          | 2.3   |         | 0     | 0      |         |       |
| 712     | 712 | cut      | ditch        | 2.2   |         | 594   | 0      | 0.36    | 0.21  |
| 713     | 712 | fill     | ditch        | 2.2   |         | 594   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 714     | 714 | cut      | pit          | 1     |         | 0     | 0.5    | 0.3     | 0.17  |
| 715     | 714 | fill     | pit          | 1     |         | 0     | 0      |         |       |
| 716     | 716 | cut      | ditch        | 2.3   |         | 716   | 0      |         |       |
| 717     | 716 | fill     | ditch        | 2.3   |         | 716   | 0      | 0.4     | 0.12  |
| 718     | 718 | cut      | ditch        | 2.1   |         | 639   | 0      | 1.82    | 0.62  |
| 719     | 0   | layer    | dark earth   | 2.5   |         | 0     | 0      |         |       |
| 720     | 720 | cut      | ditch        | 2.5   |         | 720   | 0      | 0.5     | 0.4   |
| 721     | 720 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 722     | 720 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 723     | 720 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 724     | 724 | cut      | ditch        | 2.5   |         | 720   | 0      | 0.8     | 0.5   |
| 725     | 724 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 726     | 724 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 727     | 724 | fill     | ditch        | 2.5   |         | 720   | 0      |         |       |
| 728     | 728 | cut      | ditch        | 2.5   |         | 673   | 0      | 0.27    | 0.12  |
| 729     | 728 | fill     | ditch        | 2.5   |         | 673   | 0      |         |       |
| 730     | 718 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 731     | 718 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 732     | 718 | fill     | ditch        | 2.1   |         | 639   | 0      |         |       |
| 733     | 734 | fill     | ditch        | 1     | 734     | 734   | 0      |         |       |
|         |     | cut      | ditch        | 1     | 734     | 734   | 0      | 0.23    | 0.05  |
| 735     | 736 | fill     | ditch        | 1     | 734     | 734   | 0      |         |       |
| 736     | 736 | cut      | ditch        | 1     | 734     | 734   | 0      | 0.18    | 0.08  |
| 737     | 737 | cut      | ditch        | 2.5   |         | 737   | 0      | 0.32    | 0.16  |
| 738     | 737 | fill     | ditch        | 2.5   |         | 737   | 0      |         |       |
| 739     | 739 | cut      | ditch        | 2.5   |         | 739   | 0      | 0.48    | 0.21  |
| 740     | 739 | fill     | ditch        | 2.5   |         | 739   | 0      |         |       |
| 741     | 741 | cut      | post hole    | 2.4   |         | 741   | 0.28   | 0.27    | 0.21  |
| 742     | 741 | fill     | post hole    | 2.4   |         | 741   | 0      |         |       |
| 743     | 743 | cut      | post hole    | 2.4   |         | 743   | 0.18   | 0.2     | 0.09  |
| 744     | 743 | fill     | post hole    | 2.4   |         | 743   | 0      |         |       |
| 745     | 745 | cut      | post hole    | 2.4   |         | 745   | 0.25   | 0.27    | 0.13  |
| 746     | 745 | fill     | post hole    | 2.4   |         | 745   | 0      |         |       |
| 747     | 747 | cut      | ditch        | 2.1   |         | 747   | 0      | 0.24    | 0.11  |
| 748     | 747 | fill     | ditch        | 2.1   |         | 747   | 0      |         |       |
| 749     | 749 | cut      | ditch        | 2.1   |         | 674   | 0      | 1.16    | 0.48  |
| 750     | 749 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 751     | 749 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 752     | 752 | cut      | ditch        | 2.1   |         | 752   | 0      | 0.96    | 0.19  |
| 753     | 752 | fill     | ditch        | 2.1   |         | 752   | 0      |         |       |
| 754     | 754 | cut      | pit          | 2.5   |         | 754   | 0.71   | 0.57    | 0.43  |
| 755     | 0   | layer    | deposit      | 2.5   |         | 0     | 0      |         |       |
| 756     | 756 | cut      | ditch        | 2.5   |         | 756   | 0      | 1.15    | 0.3   |
| 757     | 0   | layer    | floor        | 2.4   |         | 0     | 1      | 1       | 0.12  |
| 758     | 758 | cut      | post hole    | 2.4   |         | 758   | 0.26   | 0.25    | 0.08  |
| 759     | 758 | fill     | post hole    | 2.4   |         | 758   | 0      |         |       |
| 760     | 760 | cut      | post hole    | 2.4   |         | 760   | 0.24   | 0.2     | 0.09  |
| 761     | 760 | fill     | post hole    | 2.4   |         | 760   | 0      |         |       |
| 762     | 762 | cut      | ditch        | 2.2   |         | 414   | 1.1    | 0.94    | 0.63  |
| 763     | 762 | fill     | ditch        | 2.2   |         | 414   | 0      |         |       |

| Context | Cut | Category | Feature Type       | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------------|-------|---------|-------|--------|---------|-------|
| 764     | 762 | fill     | ditch              | 2.2   |         | 414   | 0      |         |       |
| 765     | 762 | fill     | ditch              | 2.2   |         | 414   | 0      |         |       |
| 766     | 766 | cut      | ditch              | 2.4   |         | 416   | 0      | 0.64    | 0.12  |
| 767     | 766 | fill     | ditch              | 2.4   |         | 416   | 0      |         |       |
| 768     | 768 | cut      | ditch              | 2.5   |         | 412   | 0      | 0.5     | 0.13  |
| 769     | 768 | fill     | ditch              | 2.5   |         | 412   | 0      |         |       |
| 770     | 756 | fill     | ditch              | 2.5   |         | 756   | 0      |         |       |
| 771     | 756 | fill     | ditch              | 2.5   |         | 756   | 0      |         |       |
| 772     | 756 | fill     | ditch              | 2.5   |         | 756   | 0      |         |       |
| 773     | 421 | fill     | ditch              | 2.5   |         | 421   | 0      |         | 0.15  |
| 774     | 774 | cut      | Post pipe          | 2.5   |         | 774   | 1.35   | 1.02    | 0.8   |
| 775     | 774 | fill     | Post pipe          | 2.5   |         | 774   | 0      |         | 0.47  |
| 776     | 774 | fill     | Post pipe          | 2.5   |         | 774   | 0      |         |       |
| 777     | 774 | fill     | Post pipe          | 2.5   |         | 774   | 0      |         | 0.11  |
| 778     | 778 | cut      | Post pipe          | 2.5   |         | 778   | 0.73   | 0.72    | 1.12  |
| 779     | 778 | fill     | Post pipe          | 2.5   |         | 778   | 0      |         | 1.12  |
| 780     | 780 | cut      | pit/hearth         | 2.5   |         | 780   | 1.64   | 1.11    | 0.12  |
| 781     | 780 | fill     | pit/hearth         | 2.5   |         | 780   | 0      |         |       |
| 782     | 0   | fill     | wall               | 2.4   |         | 815   | 0      |         |       |
| 783     | 783 | cut      | ditch              | 2.3   |         | 678   | 0      | 0.19    | 0.27  |
| 784     | 783 | fill     | ditch              | 2.3   |         | 678   | 0      |         |       |
| 785     | 785 | cut      | ditch              | 2.3   |         | 785   | 0      | 0.51    | 0.2   |
| 786     | 785 | fill     | ditch              | 2.3   |         | 785   | 0      |         |       |
| 787     | 787 | cut      | ditch              | 3     |         | 787   | 0      | 0.73    | 0.13  |
| 788     | 787 | fill     | ditch              | 3     |         | 787   | 0      |         |       |
| 789     | 789 | cut      | Post pipe          | 2.5   |         | 789   | 0.5    | 0.5     | 0.7   |
| 790     | 789 | fill     | Post pipe          | 2.5   |         | 789   | 0      |         | 0.27  |
| 791     | 883 | fill     | Post setting       | 2.4   |         | 789   | 0      |         | 0.7   |
| 792     | 789 | fill     | Post pipe          | 2.5   |         | 789   | 0      |         | 0.49  |
| 793     | 793 | cut      | hollow/rooting     | 3     |         | 0     | 1.02   | 0.87    | 0.1   |
| 794     | 793 | fill     | hollow/rooting     | 3     |         | 0     | 0      |         | 0.1   |
| 795     | 795 | cut      | Hollow             | 2.5   |         | 0     | 1.06   | 0.92    | 0.11  |
| 796     | 795 | fill     | Hollow             | 2.5   |         | 0     | 0      |         | 0.08  |
| 797     | 795 | fill     | Hollow             | 3     |         | 0     | 0      |         | 0.06  |
| 798     | 0   | Void     | Void               | 0     |         | 0     | 0      |         |       |
| 799     | 0   | Void     | Void               | 0     |         | 0     | 0      |         |       |
| 800     | 800 | cut      | ditch              | 2.1   |         | 752   | 0      | 1       | 0.33  |
| 801     | 800 | fill     | ditch              | 2.1   |         | 752   | 0      |         | 0.33  |
| 802     | 520 | void     | void               | 0     |         | 0     | 0      |         | 0.28  |
| 803     | 800 | fill     | ditch              | 2.1   |         | 752   | 0      |         | 0.35  |
| 804     | 0   | void     | void               | 0     |         | 0     | 0      |         |       |
| 805     | 805 | cut      | ditch              | 1     |         | 805   | 0.97   | 0.4     | 0.2   |
| 806     | 805 | fill     | ditch              | 1     |         | 805   | 0      |         |       |
| 807     | 0   | layer    | surface (internal) | 2.5   |         | 0     | 0      |         |       |
| 808     | 808 | cut      | ditch              | 3     |         | 787   | 0      | 0.6     | 0.21  |
| 809     | 808 | fill     | ditch              | 3     |         | 787   | 0      |         | 0.21  |
| 810     | 808 | fill     | ditch              | 3     |         | 787   | 0      |         |       |
| 811     | 780 | fill     | hearth             | 2.3   |         | 780   | 0      |         | 0.11  |

| Context | Cut | Category | Feature Type          | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|-----------------------|-------|---------|-------|--------|---------|-------|
| 812     | 0   | layer    | surface (internal)    | 2.5   |         | 0     | 0      |         | 0.15  |
| 813     | 813 | cut      | Hollow                | 2.5   |         | 0     | 0.42   | 0.38    | 0.07  |
| 814     | 813 | fill     | Hollow                | 2.5   |         | 0     | 0      |         |       |
| 815     | 0   | masonry  | wall                  | 2.4   |         | 0     | 0      |         |       |
| 816     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 817     | 817 | cut      | ditch                 | 2.5   |         | 756   | 0      |         | 0.84  |
| 818     | 817 | fill     | ditch                 | 2.5   |         | 756   | 0      |         | 0.1   |
| 819     | 817 | fill     | ditch                 | 2.5   |         | 756   | 0      |         |       |
| 820     | 817 | fill     | ditch                 | 2.5   |         | 756   | 0      |         |       |
| 821     | 817 | fill     | ditch                 | 2.5   |         | 756   | 0      |         |       |
| 822     | 804 |          |                       | 2.1   |         | 0     | 0      |         |       |
| 823     | 825 | fill     | Hollow                | 2.5   |         | 0     | 0      |         |       |
| 824     | 825 | fill     | Hollow                | 2.5   |         | 0     | 0      |         |       |
| 825     | 825 | cut      | Hollow                | 2.5   |         | 0     | 0      |         |       |
| 826     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 827     | 827 | cut      | post pipe             | 2.5   |         | 827   | 0.4    | 0.39    | 1.15  |
| 828     | 827 | fill     | post pipe             | 2.5   |         | 827   | 0      |         |       |
| 829     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 830     | 898 | fill     | post setting          | 2.4   |         | 0     | 0      |         |       |
| 831     | 833 | fill     | Hollow                | 3     |         | 0     | 0      |         |       |
| 832     | 833 | fill     | Hollow                | 3     |         | 0     | 0      |         |       |
| 833     | 833 | cut      | Hollow                | 3     |         | 0     | 0.34   | 0.33    | 0.03  |
| 834     | 0   | layer    | deposit/layer in barn | 2.5   |         | 0     | 0      |         |       |
| 835     | 787 | fill     | ditch                 | 3     |         | 787   |        |         |       |
| 836     | 836 | cut      | post hole             | 1     |         | 0     | 0.24   | 0.2     | 0.13  |
| 837     | 836 | fill     | post hole             | 1     |         | 0     | 0      |         |       |
| 838     | 838 | cut      | post hole             | 1     |         | 0     | 0.18   | 0.18    | 0.09  |
| 839     | 838 | fill     | post hole             | 1     |         | 0     | 0      |         |       |
| 840     | 840 | cut      | Hollow/pit            | 2.3   |         | 0     | 0.48   | 0.5     | 0.2   |
| 841     | 840 | fill     | Hollow/pit            | 2.3   |         | 0     | 0      |         |       |
| 842     | 666 | HSR      | pit                   | 2.4   |         | 0     | 0      |         |       |
| 843     | 843 | cut      | post pipe             | 2.5   |         | 843   | 0.39   | 0.38    | 0.78  |
| 844     | 843 | fill     | post pipe             | 2.5   |         | 843   | 0      |         | 0     |
| 845     | 845 | cut      | post pipe             | 2.5   |         | 845   | 0.56   | 0.4     | 0.54  |
| 846     | 845 | fill     | post pipe             | 2.5   |         | 845   | 0      |         |       |
| 847     | 845 | fill     | post pipe             | 2.5   |         | 845   | 0      |         |       |
| 848     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 849     | 849 | cut      | Hollow                | 2.3   |         | 0     | 0.96   | 0.7     | 0.12  |
| 850     | 849 | fill     | Hollow                | 2.3   |         | 0     | 0      |         |       |
| 851     | 851 | cut      | post hole             | 2.4   |         | 0     | 0.23   | 0.24    | 0.07  |
| 852     | 851 | fill     | post hole             | 2.4   |         | 0     | 0      |         |       |
| 854     | 0   | Void     | Void                  | 0     |         | 0     | 0      |         |       |
| 855     | 855 | cut      | ditch                 | 3     |         | 855   | 0      | 0.8     | 0.12  |
| 856     | 855 | fill     | ditch                 | 3     |         | 855   | 0      |         |       |
| 857     | 857 | cut      | ditch                 | 3     |         | 857   |        | 0.63    | 0.33  |
| 858     | 857 | fill     | ditch                 | 3     |         | 857   | 0      |         |       |
| 859     | 857 | fill     | ditch                 | 3     |         | 857   | 0      |         |       |
| 860     | 860 | cut      | pit?                  | 2.1   |         | 0     | 0.3    | 0.24    | 0.33  |

| Context | Cut | Category | Feature Type          | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|-----------------------|-------|---------|-------|--------|---------|-------|
| 861     | 860 | fill     | pit?                  | 2.1   |         | 0     | 0      |         |       |
| 862     | 862 | cut      | ditch/pit             | 2.1   |         | 862   | 0      | 0.2     | 0.18  |
| 863     | 862 | fill     | ditch/pit             | 2.1   |         | 862   | 0      |         |       |
| 864     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 865     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 866     | 0   | layer    | deposit/layer in barn | 2.5   |         | 0     | 0      | 0.15    | 0.1   |
| 867     | 867 | cut      | ditch                 | 1     |         | 867   | 1.2    | 0.7     | 0.34  |
| 868     | 867 | fill     | ditch                 | 1     |         | 867   | 0      |         |       |
| 869     | 867 | fill     | ditch                 | 1     |         | 867   | 0      |         |       |
| 870     | 870 | cut      | ditch                 | 3     |         | 857   | 0      | 0.8     | 0.28  |
| 871     | 870 | fill     | ditch                 | 3     |         | 857   | 0      |         |       |
| 872     | 870 | fill     | ditch                 | 3     |         | 857   | 0      |         |       |
| 873     | 873 | cut      | pit                   | 2.2   |         | 0     | 1.12   | 1.3     | 0.89  |
| 874     | 873 | fill     | pit                   | 2.2   |         | 0     | 0      |         |       |
| 875     | 873 | fill     | pit                   | 2.2   |         | 0     | 0      |         |       |
| 876     | 873 | fill     | pit                   | 2.2   |         | 0     | 0      |         |       |
| 877     | 877 | cut      | ditch                 | 2.1   |         | 877   | 0      | 0.75    | 0.58  |
| 878     | 877 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 879     | 879 | cut      | ditch                 | 1     |         | 879   | 0      | 0.48    | 0.18  |
| 880     | 879 | fill     | ditch                 | 1     |         | 879   | 0      |         |       |
| 881     | 877 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 882     | 877 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 883     | 883 | cut      | post setting          | 2.4   |         | 789   | 1.51   | 1.19    | 0.7   |
| 884     | 884 | cut      | post setting          | 2.4   |         | 845   | 1.3    | 1.25    | 0.45  |
| 885     | 884 | fill     | post setting          | 2.4   |         | 0     | 0      |         |       |
| 886     | 884 | fill     | post setting          | 2.4   |         | 0     | 0      |         |       |
| 887     | 0   | void     | void                  | 0     |         | 0     | 0      |         |       |
| 888     | 888 | cut      | post setting          | 2.4   |         | 774   | 1.39   | 1.4     | 0.5   |
| 889     | 888 | fill     | post setting          | 2.4   |         | 774   | 0      |         |       |
| 890     | 891 | fill     | post setting          | 2.4   |         | 778   | 0      |         |       |
| 891     | 891 | cut      | post setting          | 2.4   |         | 778   | 1.48   | 1.32    | 0.81  |
| 892     | 892 | cut      | ditch                 | 2.1   |         | 752   | 0      | 0.7     | 0.55  |
| 893     | 892 | fill     | ditch                 | 2.1   |         | 752   | 0      |         |       |
| 894     | 894 | cut      | natural               | 0     |         | 0     | 0      | 0.7     | 0.36  |
| 895     | 894 | fill     | natural               | 0     |         | 0     | 0      |         |       |
| 896     | 896 | cut      | post setting          | 2.4   |         | 843   | 1.25   | 1.2     | 0.68  |
| 897     | 896 | fill     | post setting          | 2.4   |         | 0     | 0      |         |       |
| 898     | 898 | cut      | post setting          | 2.4   |         | 829   | 1.25   | 0.76    | 1.18  |
| 899     | 898 | fill     | post setting          | 2.4   |         | 829   | 0      |         |       |
| 900     | 901 | fill     | Hollow                | 2.5   |         | 0     | 0      |         | 0.12  |
| 901     | 901 | cut      | Hollow                | 2.5   |         | 0     | 0      |         |       |
| 902     | 903 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 903     | 903 | cut      | ditch                 | 2.1   |         | 877   | 0      | 0.9     | 0.18  |
| 904     | 904 | cut      | ditch                 | 2.5   |         | 904   | 0      | 0.37    | 0.11  |
| 905     | 904 | fill     | ditch                 | 2.5   |         | 904   | 0      |         |       |
| 906     | 906 | cut      | ditch                 | 2.1   |         | 877   | 0      | 0.93    | 0.42  |
| 907     | 906 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 908     | 906 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |
| 909     | 906 | fill     | ditch                 | 2.1   |         | 877   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 910     | 906 | fill     | ditch        | 2.1   |         | 877   | 0      |         |       |
| 911     | 911 | cut      | ditch        | 2.1   |         | 877   | 0      | 0.82    | 0.32  |
| 912     | 911 | fill     | ditch        | 2.1   |         | 877   | 0      |         |       |
| 913     | 911 | fill     | ditch        | 2.1   |         | 877   | 0      |         |       |
| 914     | 914 | cut      | ditch        | 2.1   |         | 877   | 0      | 0.6     | 0.3   |
| 915     | 914 | fill     | ditch        | 2.1   |         | 877   | 0      |         |       |
| 916     | 914 | fill     | ditch        | 2.1   |         | 877   | 0      |         |       |
| 917     | 917 | cut      | ditch        | 2.1   |         | 674   | 0      | 0.84    | 0.37  |
| 918     | 917 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 919     | 917 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 920     | 920 | cut      | ditch        | 2.1   |         | 674   | 0      | 0.89    | 0.55  |
| 921     | 920 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 922     | 920 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 923     | 923 | cut      | ditch        | 2.1   |         | 752   | 0      | 0.65    | 0.2   |
| 924     | 923 | fill     | ditch        | 2.1   |         | 752   | 0      |         |       |
| 925     | 926 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 926     | 926 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.22    | 0.12  |
| 927     | 928 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 928     | 928 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.3     | 0.08  |
| 929     | 930 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 930     | 930 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.22    | 0.14  |
| 931     | 931 | cut      | pit          | 1     |         | 0     | 0.84   | 0.76    | 0.38  |
| 932     | 931 | fill     | pit          | 1     |         | 0     | 0      |         |       |
| 933     | 931 | fill     | pit          | 1     |         | 0     | 0      |         |       |
| 934     | 934 | cut      | ditch        | 1     |         | 867   | 1.2    | 0.6     | 0.26  |
| 935     | 934 | fill     | ditch        | 1     |         | 867   | 0      |         |       |
| 936     | 934 | fill     | ditch        | 1     |         | 867   | 0      |         |       |
| 937     | 937 | cut      | ditch        | 2.1   |         | 674   | 0      |         | 0.2   |
| 938     | 937 | fill     | ditch        | 2.1   |         | 674   | 0      |         |       |
| 939     | 939 | cut      | ditch        | 2.5   |         | 756   | 0      | 1.39    | 0.39  |
| 940     | 939 | fill     | ditch        | 2.5   |         | 756   | 0      |         |       |
| 941     | 939 | fill     | ditch        | 2.5   |         | 756   | 0      |         |       |
| 942     | 942 | cut      | ditch        | 2.1   |         | 752   | 0      |         |       |
| 943     | 944 | fill     | ditch        | 2.1   |         | 752   | 0      |         |       |
| 944     | 944 | fill     | ditch        | 2.1   |         | 752   | 0      |         |       |
| 945     | 946 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 946     | 946 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.26    | 0.07  |
| 947     | 948 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 948     | 948 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.22    | 0.12  |
| 949     | 950 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 950     | 950 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.27    | 0.07  |
| 951     | 952 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 952     | 952 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.25    | 0.09  |
| 953     | 954 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 954     | 954 | cut      | ring gully   | 1     | 926     | 926   | 0      | 0.3     | 0.08  |
| 955     | 956 | fill     | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 956     | 956 | cut      | ring gully   | 1     | 926     | 926   | 0      |         |       |
| 957     | 957 | cut      | ditch        | 2.3   |         | 502   | 0      |         |       |
| 958     | 957 | fill     | ditch        | 2.3   |         | 502   | 0      |         |       |
| 959     | 959 | cut      | ditch        | 2.3   |         | 504   | 0      |         |       |

| Context | Cut | Category | Feature Type | Phase | Feature | Group | Length | Breadth | Depth |
|---------|-----|----------|--------------|-------|---------|-------|--------|---------|-------|
| 960     | 959 | fill     | ditch        | 2.3   |         | 504   | 0      |         |       |

## APPENDIX B FINDS REPORTS

### B.1 Metalwork

*By Denis Sami*

#### *Introduction*

- B.1.1 The metalwork assemblage consists of 142 fragments relating to a total of 134 artefacts recovered from the subsoil and archaeological features including post-pits and deposits associated with the aisled building, ditches, pits and layers. The group comprises copper alloy (CuA), iron (Fe) and lead (Pb) artefacts and it is used here to develop further understanding of the character of the different activities that occurred on the site through its chronological phases (Table 31).
- B.1.2 The bulk of the assemblage dates to the Roman period, with a single item of Early Anglo-Saxon date (a spearhead) being found (in Phase 2.5, layer 719). Some artefacts can be attributed to the post-medieval and modern periods, while other items (including the collection of lead waste) are of indeterminate date.
- B.1.3 The metalwork includes personal possessions (knives), jewellery/decorative items (bracelets, brooches, buckles, buttons, finger rings, pins), weaponry (spear head, musket balls), practical items (horse shoes, keys, loops, nails, pot mends, weights) and items associated with personal hygiene (tweezers).
- B.1.4 The ironwork is dominated by nails (64 items). Nine items were identified as a specific artefact type, while seven items remain unidentifiable to type.

| Metal | No. Artefact | % of No. artefact |
|-------|--------------|-------------------|
| CuA   | 17           | 12.69%            |
| Fe    | 79           | 58.96%            |
| Pb    | 38           | 28.36%            |
| Total | 134          | 100.00%           |

*Table 31. Quantity of artefacts by metal type*

- B.1.5 The assemblage overall is in poor condition; most of the artefacts are fragmented and incomplete. The finds have heavy encrustation and are oxidised due to the adverse conditions of the soil.
- B.1.6 A total of 92 artefacts (68.66%) were recovered from archaeological features, providing information on the character of the site and its phases (Table 32).
- B.1.7 The remaining artefacts were recovered through metal-detecting.

| Phase | No. artefact | % No. artefact |
|-------|--------------|----------------|
| 0     | 42           | 31.34%         |
| 2.1   | 5            | 3.73%          |
| 2.2   | 2            | 1.49%          |
| 2.3   | 15           | 11.19%         |
| 2.4   | 12           | 8.96%          |
| 2.5   | 54           | 40.30%         |
| 3     | 4            | 2.99%          |
| Total | 134          | 100.00%        |

Table 32. Quantification of metalwork by site phase

## Methodology

- B.1.8 The metalwork was examined in accordance with the OA East metalwork finds standard based on the guidance of the Historical Metallurgy Society (HMS, Datasheets 104 and 108), the *Archaeometallurgy Guidelines for Best Practice* (Historic England 2015) and the *Guidelines for the Storage and Display of Archaeological Metalwork* (English Heritage/Historic England 2013).
- B.1.9 The catalogue of Roman ironwork at the British Museum published by Manning (1989) is used here as the main reference in the discussion and description of iron artefacts, while the Portable Antiquities Scheme (PAS) database was consulted for finds not reported in Manning's work.
- B.1.10 Copper-alloy artefacts were compared with similar artefacts published in the catalogue of the metalwork from the excavation in Colchester (Crummy 1983). Guiraud's study of Roman finger rings in Gaul (1989) provides a straightforward typology of Roman rings and this scheme was applied to the description of rings SF14, 97 and 164.
- B.1.11 The material was classified according to Crummy's 1983 categories. The items were catalogued and the details are tabulated below.
- B.1.12 Finds both from excavation and samples were quantified using an Access database. A single Excel spreadsheet was used to enter details and measurements of each artefact; this database was interrogated to compile statistics. All metal finds were counted, weighed when relevant and classified on a context by context basis. The catalogue is organised by context number.
- B.1.13 The metalwork and archive (Excel/Access databases) are curated by OAE until formal deposition.

## The Assemblage

### Copper alloy

- B.1.14 A total of 16 copper-alloy artefacts were recovered during the project. Despite being incomplete and oxidised it was possible to identify 13 Roman artefacts and 3 modern

items. Nothing in the Roman group dated to before the 2nd century, with most of the finds being of Late Roman date.

- B.1.15 Two groups of artefacts were identified, namely objects of personal adornment (Table 33) and items for personal hygiene represented by one incomplete tweezer's arm.

| Dress accessories |     |
|-------------------|-----|
| Artefact type     | No. |
| Bracelet          | 3   |
| Brooch            | 1   |
| Finger ring       | 4   |
| Pin               | 3   |

*Table 33. Typology of copper-alloy items*

- B.1.16 Objects of personal adornment (in the form of bracelets, a brooch, four finger rings of different typologies and three pins) represent the bulk of the copper-alloy group.
- B.1.17 Bracelets are represented by a simple strip of copper alloy (SF98) and two double stranded types (SF120 and 148), all from Late Roman contexts. These were popular items, well represented in Middle to Late Roman sites and have a broad chronology spanning from c.AD 200 to c. 410 with possible later use (Crummy 1983, 38-39, fig. 41, no. 1628). From approximately the 3rd century, bracelets appear to have been distinctive indicators of gender identity and are associated with females (Swift 2011).
- B.1.18 Chronologically compatible with Phase 2.4 is a disc brooch (SF107) which retains blue conical glass (Fig. 25). This is a well-known item type (Hattat 1982, 167) which was widely distributed in the country between c.AD 200 to c.350 and, although Allison (2013, 71) suggests that brooches were more frequently used by women, these items were also worn by men.
- B.1.19 There are four finger rings in the assemblage. One from top-soil (SF14) presents a recessed oval bezel originally hosting a stone or intaglio and has traverse grooves decorating the hoop. This ring can be compared with Guiraud Type 4a, mainly dating to the 3rd and 4th century. A second ring (SF97) from ditch fill 383 in Phase 2.3 is made from a thin undecorated wire of metal with a D-shaped cross-section similar to Guiraud Type 8. In Gaul, these types of rings are mainly concentrated in contexts of the 1st to the 3rd centuries and a similar chronology can be suggested for the ring from Upware. A third ring (SF69), although covered with iron encrustation, appears to be cast in copper-alloy. This is a solid and plain Guiraud type 2.h dating approximately from the 2nd to the 3rd century and it is therefore compatible with the site's Early Roman Phase 2.2. Such rings are not very common in Britain, with no similar artefacts being found during the excavations in Colchester (Crummy 1983, 45-50) and this type of ring is currently absent in the Portable Antiquities Scheme database.
- B.1.20 Finally, ring (SF164) from a post-pipe in Phase 2.5 is decorated with a dark blue circular intaglio with a representation of a standing figure (Fig. 25). The intaglio is mounted into an octagonal bezel stepping into incomplete and poorly preserved shoulders. The shape of the bezel and the shoulder identify this ring as a Guiraud Type 3 or 4 dating to the late Roman period.

B.1.21 Three copper-alloy hair pins were also found. The complete pin with a conical head (SF 103; Fig. 25) is very similar to the pin found in Felsham, Suffolk and reported to the PAS (SF-7436AD). Pin SF112 (Fig. 25) is a Crummy Type 5 with a groove below a flattened spherical head: this form dates in Colchester to the 2nd century (Crummy 1983, 30, n.492). With a simple plano-convex head, pin SF177 can be identified with a Cool Type 1e. Such finds are commonly documented in Roman East Anglia (Cool 1990).

| SF  | Context | Phase | Feature      | Artefact     | Condition  | Description                                                                                                                                                                                                                                   | Length (mm) | Width (mm) | Thick(mm) | Diam. (mm) |
|-----|---------|-------|--------------|--------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|-----------|------------|
| 14  | 51      | 0     | sub-soil     | finger ring  | incomplete | incomplete finger ring with a circular recessed bezel. D cross-section loop decorated with transverse grooves beside each shoulder                                                                                                            | 0           | 9.2        | 1.3       | 17.7       |
| 44  | 51      | 0     | sub-soil     | knife handle | incomplete | straight tang with rectangular cross-section stepping into a missing blade. A guard of possible iron steel separate the blade from the tang and a shapeless oxidised lead pommel fixed the grip to the tang.                                  | 114.4       | 25.1       | 13.2      | 0          |
| 59  | 51      | 0     | sub-soil     | pipe         | incomplete | part of a modern pipe with circular cross-section                                                                                                                                                                                             | 44.5        | 0          | 10.1      | 0          |
| 97  | 383     | 2.3   | ditch        | finger ring  | incomplete | a possible finger ring made of a plain undecorated wire of metal                                                                                                                                                                              |             |            | 0.6       | 0          |
| 98  | 439     | 2.5   | ditch        | bracelet     | incomplete | a possible bracelet made with a narrow undecorated strip of metal                                                                                                                                                                             | 45.2        | 1.9        | 0.8       | 0          |
| 99  | 440     | 2.2   | ditch        | unidentified | incomplete | a very thin shapeless leaf of copper-alloy. Originally an iron component was riveted to the leaf through a small circular in section rivet                                                                                                    | 23.4        | 17.1       | 8.8       | 0          |
| 103 | 51      | 0     | sub-soil     | pin          | complete   | slightly conical head decorated with two lines describing a triangle. A stepped neck develops into a tapering stem with circular cross-section                                                                                                | 91.3        | 2.8        | 7.8       | 3.23       |
| 106 | 526     | 2.5   | ditch        | unidentified | incomplete | a very thin and shapeless sheet of metal                                                                                                                                                                                                      | 30.1        | 24.2       | 0.6       |            |
| 107 | 642     | 2.4   | ditch        | brooch       | incomplete | bossed centre plate brooch. The boss is conical in shape and made in dark blue and green glass. The base is circular and decorated with two raised concentric circular ridges. The catch-plate is covered by encrustation and the pin missing | 0           | 0          | 12.6      | 22.4       |
| 112 | 51      | 0     | sub-soil     | pin          | complete   | sub-spherical discoidal head with a collar below the head above the shaft. The shaft has circular cross-section                                                                                                                               | 63.6        | 2.6        | 7.2       | 0          |
| 116 | 69      | 2.2   | ditch        | finger ring  | complete   | corroded finger ring with rectangular plain, flattened bezel. The loop narrows from the shoulder to the opposite side of the hoop                                                                                                             | 0           | 5.8        | 2.5       | 22.1       |
| 120 | 522     | 2.4   | layer        | bracelet     | incomplete | a fragment of double-stranded bracelet with sub-square cross-section                                                                                                                                                                          | 52.4        | 0          | 2.9       | 0          |
| 148 | 687     | 2.5   | ditch        | bracelet     | incomplete | a fragment of thick double-stranded bracelet with oval cross-section                                                                                                                                                                          | 52.2        | 0          | 6.5       | 0          |
| 154 | 99999   | 0     | unstratified | button       | complete   | circular plain plate with circular loop                                                                                                                                                                                                       | 0           | 0          | 8.1       | 16.8       |
| 164 | 775     | 2.5   | post-pipe    | finger ring  | incomplete | a dark blue glass circular intaglio representing a standing figure it is inserted into an octagonal bezel stepped into the remain of two large and possibly elaborated shoulders                                                              | 16.2        | 10.8       | 6.1       | 0          |
| 177 | 847     | 2.5   | post-pipe    | pin          | incomplete | a pin with globular head slightly flattened at the base. The shaft is tapering and square in cross-section                                                                                                                                    | 30.8        | 2.5        | 8.1       | 0          |
| 190 | 430     | 2.5   | layer        | tweezers     | incomplete | rectangular band of metal. Only one arm is preserved                                                                                                                                                                                          | 27.1        | 4.1        | 0.3       | 0          |

Table 32. Catalogue of copper-alloy artefacts

## Iron

B.1.22 Ironwork was recorded in each of the site phases, with an evident concentration in Phase 2.5 (Table 35). The bulk of the assemblage consists of fragments of nails (64). Other items relating to industrial or domestic activity were also identified, while seven artefacts remain unidentified as a result of their poor preservation.

| Phase | No. artefact |
|-------|--------------|
| 0     | 14           |
| 2.1   | 2            |
| 2.3   | 10           |
| 2.4   | 10           |
| 2.5   | 41           |
| 3     | 2            |
| Total | 79           |

Table 35. Quantity of iron artefacts by site phase

B.1.23 The identified nails belong to Manning Type 2b, with a sub-circular head and tapering square cross-section. The longest nail is SF88 from wall 782 in Phase 2.4, with an approximate length of 100 mm, and the smallest is a rivet from Sample 84 with a size of 8mm. The average length of nails is, however, 44.9 mm denoting items used in substantial architectural wooden structures. Some nails are clenched a few centimetres below the head, suggesting that they are possibly nails that were used in plank-built structures such as doors, shutters or even furniture of large dimensions. Other examples (such as SF172) are clenched 80 mm below the head, suggesting a more architectural element use, perhaps for superstructures. Other nails (see for example complete nail SF141) provide, given their sinuous and deformed stems, potential evidence of removal from the wood, perhaps with the intention of re-forging or reuse as scrap metal.

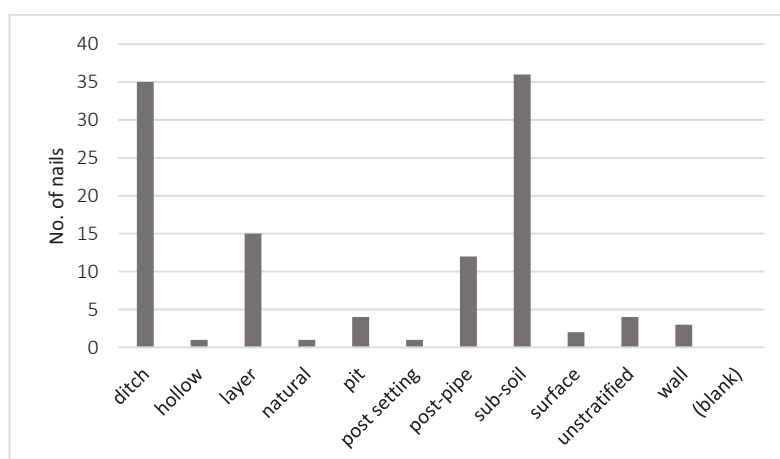


Figure B.1.1. Quantity of nails by feature/deposit type

B.1.24 Of note is an early Anglo-Saxon incomplete spearhead of Swanton type H1 (Swanton 1973, 101-07) dating to c.AD 450-c.550. Despite the absence of Anglo-Saxon pottery suggesting a continuity in the activity of the settlement, the spearhead may suggest that the area was visited in the Anglo-Saxon period, perhaps for hunting.

| SF  | Context | Phase | Feature      | Artefact     | No. artefact | Condition  | Description                                                                                                                                                  | Length (mm) | Width (mm) | Thickness (mm) |
|-----|---------|-------|--------------|--------------|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|----------------|
| 22  | 106     | 2.3   | ditch        | nail         | 1            | incomplete | tapering shaft with square cross-section                                                                                                                     | 32.8        | 4.1        | -              |
| 27  | 156     | 2.3   | ditch        | nail         | 3            | incomplete | three fragments of tapering shafts with square cross-section                                                                                                 | -           | -          | -              |
| 29  | 191     | 2.3   | ditch        | nail         | 1            | incomplete | tapering shaft with sub-square cross-section                                                                                                                 | 43.9        | 5.5        | -              |
| 35  | 158     | 0     | sub-soil     | unidentified | 1            | incomplete | three shapeless lumps of metal                                                                                                                               | -           | -          | -              |
| 41  | 51      | 0     | sub-soil     | loop         | 1            | incomplete | a broken ring of a chain                                                                                                                                     | 77.8        | 44.5       | 12.8           |
| 42  | 51      | 0     | sub-soil     | buckle       | 1            | incomplete | D shaped frame with narrowed bar                                                                                                                             | 46.8        | 24.1       | 8.1            |
| 78  | 51      | 0     | sub-soil     | horseshoe    | 1            | incomplete | a very encrusted part of the toe and branch                                                                                                                  | 118.3       | 128.9      | 7.8            |
| 83  | 51      | 0     | sub-soil     | nail         | 1            | incomplete | small tapering shaft with square cross-section and sub circular flat head                                                                                    | 21.5        | 4.3        | 9.4            |
| 84  | 51      | 0     | sub-soil     | knife        | 1            | incomplete | incomplete tang with rectangular cross section stepping into a short, wide blade with its back slopping at an angle joining a strait and curved cutting edge | 84.5        | 44.7       | 3.9            |
| 88  | 782     | 2.4   | wall         | nail         | 1            | incomplete | long tapering shaft with sub-square cross section and sub-square head                                                                                        | 144.9       | 8.3        | -              |
| 93  | 400     | 2.4   | ditch        | nail         | 1            | incomplete | tapering shaft with sub-square cross-section. Triangular head. Possibly a horseshoe nail                                                                     | 40.6        | 5.1        | -              |
| 100 | 445     | 2.3   | ditch        | nail         | 1            | incomplete | tapering shaft with sub-square cross-section and square head                                                                                                 | -           | -          | -              |
| 101 | 51      | 0     | sub-soil     | nail         | 1            | incomplete | Shaft with sub-square cross-section and rectangular head                                                                                                     | 36.2        | 4.5        | -              |
| 102 | 51      | 0     | sub-soil     | nail         | 1            | incomplete | tapering shaft with sub-square cross-section                                                                                                                 | 51.4        | 12.1       | -              |
| 105 | 99999   | 0     | sub-soil     | nail         | 1            | incomplete | a possible short shaft with sub-square cross-section                                                                                                         | 20.1        | 3.9        | -              |
| 108 | 51      | 0     | sub-soil     | nail         | 1            | incomplete | tapering shaft with sub-square cross-section. Triangular head. Possibly a horseshoe nail                                                                     | 38.8        | 6.1        | -              |
| 111 | 51      | 0     | sub-soil     | nail         | 2            | incomplete | tapering shaft with sub-rectangular cross-section and rectangular head                                                                                       | 44.5        | 4.8        | -              |
| 121 | 522     | 2.4   | layer        | nail         | 1            | incomplete | short tapering shaft with sub-square cross-section                                                                                                           | 28.2        | 5.6        | -              |
| 131 | 430     | 2.5   | layer        | unidentified | 1            | incomplete | a shapeless lump of metal                                                                                                                                    | 23.5        | 17.5       | 12.4           |
| 132 | 617     | 2.5   | ditch        | unidentified | 1            | incomplete | part of a thick strip of metal with rectangular cross-section                                                                                                | 30.2        | 17.8       | -              |
| 134 | 617     | 2.5   | ditch        | nail         | 1            | incomplete | bent, tapering shaft with square cross-section and sub-circular flat head                                                                                    | 46.4        | 7.1        | 12.1           |
| 156 | 99999   | 0     | unstratified | pin          | 1            | incomplete | a thin pin possibly from a brooch                                                                                                                            | 22.3        | 0.3        | -              |
| 160 | 727     | 2.5   | ditch        | nail         | 1            | incomplete | short tapering shaft                                                                                                                                         | 29.2        | 4.5        | -              |
| 163 | 619     | 2.5   | ditch        | nail         | 3            | incomplete | three fragments of shaft with sub-square cross-section                                                                                                       | -           | -          | -              |
| 165 | 779     | 2.5   | post-pipe    | nail         | 2            | incomplete | two fragments of tapering shafts with square cross-section. One with sub-square flat head                                                                    | -           | -          | -              |

| SF  | Context | Phase | Feature      | Artefact     | No. artefact | Condition  | Description                                                                                                       | Length (mm) | Width (mm) | Thickness (mm) |
|-----|---------|-------|--------------|--------------|--------------|------------|-------------------------------------------------------------------------------------------------------------------|-------------|------------|----------------|
| 166 | 779     | 2.5   | post-pipe    | unidentified | 1            | incomplete | three fragments of a metal strip                                                                                  | 92.3        | 22.2       | 2.5            |
| 167 | 788     | 3     | ditch        | key?         | 1            | incomplete | incomplete circular bow sent horizontally respect a double-sided bit                                              | 64.5        | 20.9       | -              |
| 170 | 522     | 2.4   | surface      | nail         | 1            | incomplete | four fragments of shafts                                                                                          | -           | -          | -              |
| 171 | 522     | 2.4   | layer        | nail         | 1            | incomplete | two fragments of tapering shaft with square cross-section. One with sub-square flat head                          | -           | -          | -              |
| 172 | 819     | 2.5   | ditch        | nail         | 1            | incomplete | long tapering shaft with sub-square cross section and sub-square head                                             | 96.5        | 11.4       | 26.2           |
| 173 | 821     | 2.5   | ditch        | nail         | 2            | incomplete | Two tapering shafts with square cross-section and sub-circular flat heads                                         | -           | -          | -              |
| 176 | 844     | 2.5   | post-pipe    | nail         | 2            | incomplete | two fragments of tapering shafts with square cross-section. One with sub-square flat head                         | -           | -          | -              |
| 178 | 815     | 2.4   | wall         | unidentified | 1            | incomplete | a short rod of metal with rectangular cross-section                                                               | 25.2        | 6.8        | 3.3            |
| 182 | 941     | 2.5   | ditch        | nail         | 1            | incomplete | slightly bent tapering shaft with square cross-section                                                            | 34.2        | 4.1        | -              |
| 183 | 844     | 2.5   | post-pipe    | nail         | 1            | incomplete | tapering shaft with square cross-section and sub-square head                                                      | 87.1        | 7.1        | -              |
| 192 | 522     | 2.4   | surface      | nail         | 1            | incomplete | tapering shaft with sub-square cross-section and square head                                                      | 28.1        | 7.9        | -              |
| 193 | 815     | 2.4   | wall         | nail         | 2            | incomplete | two fragments of shaft                                                                                            | -           | -          | -              |
| 194 | 430     | 2.5   | layer        | unidentified | 1            | incomplete | strip of metal with one long edge slightly tapering                                                               | 41.2        | 13.9       | 3.1            |
| 195 | 430     | 2.5   | layer        | nail         | 3            | incomplete | three fragments of shafts                                                                                         | -           | -          | -              |
| 196 | 430     | 2.5   | layer        | nail         | 2            | incomplete | fragment of a shaft with sub-square cross-section                                                                 | -           | -          | -              |
| 197 | 430     | 2.5   | layer        | nail         | 1            | incomplete | tapering shaft with square cross-section and sub-circular flat head                                               | 43.9        | 8.3        | 22.4           |
| 197 | 430     | 2.5   | layer        | nail         | 1            | incomplete | tapering shaft with square cross-section and sub-circular flat head                                               | -           | -          | -              |
| 198 | 899     | 2.4   | post setting | nail         | 1            | incomplete | tapering shaft with square cross-section                                                                          | 44.5        | 5.6        | -              |
| 199 | 828     | 2.5   | post-pipe    | nail         | 1            | incomplete | tapering shaft with square cross-section and sub circular flat head                                               | 57.4        | 7.1        | 16.2           |
| 200 | 792     | 2.5   | post-pipe    | nail         | 1            | incomplete | tapering shaft with sub-square cross-section                                                                      | 35.2        | 5.3        | -              |
| 201 | 792     | 2.5   | post-pipe    | unidentified | 1            | incomplete | an iron rod with possible rectangular section bent to form a loop                                                 | 49.3        | 38.2       | 7.5            |
| 202 | 579     | 2.5   | pit          | nail         | 1            | incomplete | a possible short shaft with sub-square cross-section                                                              | 24.3        | 2.9        | -              |
| 203 | 719     | 2.5   | layer        | nail         | 1            | incomplete | small fragment of a shaft with sub-square cross section                                                           | -           | -          | -              |
| 204 | 719     | 2.5   | layer        | spear-head   | 1            | incomplete | incomplete split circular socket (16.2 mm) tapering into a slender angular, concave blade with lageniform section | 99.5        | 39.7       | 8.8            |
| 205 | 51      | 0     | sub-soil     | horse-shoe   | 1            | incomplete | a very encrusted part of the toe and branch                                                                       | 124.3       | 111.4      | 8.9            |
| 208 | 846     | 2.5   | ditch        | nail         | 1            | incomplete | tapering shaft with sub-square cross-section                                                                      | 32.4        | 5.6        | -              |
| 209 | 847     | 2.5   | post-pipe    | nail         | 1            | incomplete | tapering shaft with square cross-section                                                                          | 39.2        | 6.5        | -              |
| 210 | 828     | 2.5   | post-pipe    | nail         | 5            | incomplete | five fragments of shafts                                                                                          | -           | -          | -              |
| 211 | 786     | 2.3   | ditch        | nail         | 4            | incomplete | four fragments of tapering shafts with square cross-section                                                       | -           | -          | -              |
| 212 | 821     | 2.5   | ditch        | nail         | 1            | incomplete | very encrusted shaft with possible sub-square cross-section                                                       | 39.2        | 13.2       | -              |

| SF  | Context | Phase | Feature   | Artefact | No. artefact | Condition  | Description                                                         | Length (mm) | Width (mm) | Thickness (mm) |
|-----|---------|-------|-----------|----------|--------------|------------|---------------------------------------------------------------------|-------------|------------|----------------|
| 213 | 779     | 2.5   | post-pipe | nail     | 1            | incomplete | tapering shaft with square cross-section and sub-square head        | 55.1        | 5.1        | -              |
| 214 | 685     | 2.5   | ditch     | nail     | 1            | incomplete | tapering shaft with square cross-section and sub-circular flat head | 39.2        | 5.5        | 10.2           |
| 219 | 794     | 3     | hollow    | nail     | 1            | complete   | short tapering shaft with square cross-section                      | 24.9        | 2.8        | -              |
| 522 | 207     | 2.1   | Pit       | nail     | 1            | incomplete | Tapering shaft with sub-square cross section                        | -           | -          | -              |

Table 36. Catalogue of iron artefacts

## Lead

B.1.25 There are 38 lead items amongst the metalwork, of which only 16 came from archaeological features. Very little leadwork is documented in Phase 2.1, with the majority being recovered from contexts in Phase 2.5 (Table 37). Two plano-convex weights (SF15 and 16 both from Phase 2.3) and a pot mend (SF17) are the only Roman lead artefacts identified. A musket ball (SF117) from a ditch in Phase 2.1 is clearly intrusive. The remaining items are shapeless lumps of lead that cannot be identified.

| Phase        | No. artefact |
|--------------|--------------|
| 2.1          | 3            |
| 2.3          | 4            |
| 2.5          | 7            |
| 3            | 2            |
| <b>Total</b> | <b>16</b>    |

Table 37. Quantification of lead items from phased contexts

| SF | Context | Phase | Feature  | Material | Artefact     | Quantity | No. artefact | Description                                                              | Length (mm) | Width (mm) | Thickness (mm) | Diam. (mm) | Weight (gr) |
|----|---------|-------|----------|----------|--------------|----------|--------------|--------------------------------------------------------------------------|-------------|------------|----------------|------------|-------------|
| 7  | 80      | 2.3   | ditch    | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                | 31.3        | 20.5       | 2.3            | 0          | 9.02        |
| 12 | 51      | 0     | sub-soil | Pb       | unidentified | 1        | 1            | a short foil of metal folded to form a pipe                              | 13.2        | 5.5        | 0              | 0          | 3.2         |
| 15 | 99      | 2.3   | ditch    | Pb       | weight       | 1        | 1            | a plano-convex weight with a vertical central square hole                | 20.1        | 0          | 12.1           | 0          | 28.94       |
| 16 | 173     | 2.3   | ditch    | Pb       | weight       | 1        | 1            | plano-convex weight with vertical, central circular hole                 | 22.3        | 0          | 12.1           | 0          | 25.81       |
| 17 | 173     | 2.3   | ditch    | Pb       | pot mend     | 1        | 1            | the pot mend comprises two sub-oval disc joined by a thick shank         | 25.3        | 0          | 12.3           | 0          | 4399        |
| 46 | 51      | 0     | sub-soil | Pb       | unidentified | 1        | 1            | a rod of metal slightly tapering and with a sub-triangular cross-section | 43.2        | 12.4       | 8.1            | 0          | 26.82       |
| 48 | 51      | 0     | sub-soil | Pb       | unidentified | 1        | 1            | a shapeless melted lump of metal                                         | 0           | 0          | 0              | 0          | 106.12      |

| SF  | Context | Phase | Feature      | Material | Artefact     | Quantity | No. artefact | Description                                                                      | Length (mm) | Width (mm) | Thickness (mm) | Diam. (mm) | Weight (gr) |
|-----|---------|-------|--------------|----------|--------------|----------|--------------|----------------------------------------------------------------------------------|-------------|------------|----------------|------------|-------------|
| 49  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 15.83       |
| 51  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 8.2         |
| 52  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a possible net weight made with a rolled sheet of metal                          | 34.4        | 6.5        | 0              | 0          | 12.3        |
| 53  | 51      | 0     | sub-soil     | Pb       | weight       | 1        | 1            | A possible net weight made of a folded up thick strip of metal                   | 15.1        | 15.2       | 6.5            | 0          | 41.92       |
| 57  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 10.65       |
| 62  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | elongated irregular oval strip of metal tapering at one end                      | 37.5        | 9.9        | 5.1            | 0          | 9.72        |
| 63  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless thick sheet of metal                                                 | 45.2        | 29.9       | 4.2            | 0          | 34.21       |
| 65  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 16.62       |
| 68  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 264.03      |
| 69  | 51      | 0     | sub-soil     | Pb       | musket ball  | 1        | 1            | a sub-spherical musket ball                                                      | 0           | 0          | 0              | 11.3       | 25.18       |
| 70  | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 15.06       |
| 73  | 51      | 0     | sub-soil     | Pb       | weight       | 1        | 1            | a vaguely pyramidal shape weight with a transversal hole                         | 25.2        | 20.1       | 15.2           | 0          | 21.9        |
| 90  | 807     | 2.5   | layer        | Pb       | unidentified | 1        | 1            | a shapeless leaf of metal                                                        | 36.3        | 40.2       | 1.9            | 0          | 12.69       |
| 110 | 297     | 3     | ditch        | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 10.47       |
| 114 | 412     | 2.5   | ditch        | Pb       | unidentified | 1        | 1            | a shapeless fragment of metal                                                    | 15.4        | 11.2       | 2.9            | 0          | 2.24        |
| 117 | 59      | 2.1   | ditch        | Pb       | musket ball  | 1        | 1            | a spherical ball                                                                 | 0           | 0          | 0              | 10.5       | 7.97        |
| 118 | 297     | 3     | ditch        | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 21.8        | 16.3       | 2.6            | 0          | 7.52        |
| 126 | 430     | 2.5   | layer        | Pb       | unidentified | 1        | 1            | a shapeless lump of melted metal                                                 | 0           | 0          | 0              | 0          | 45.33       |
| 127 | 430     | 2.5   | layer        | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 3.94        |
| 135 | 894     | 0     | natural      | Pb       | unidentified | 1        | 1            | a rolled-up leaf of metal                                                        | 19.5        | 6.5        | 0              | 0          | 3.57        |
| 137 | 617     | 2.5   | ditch        | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 72.05       |
| 143 | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a weight made from a rolled-up sheet of metal. The two ends are slightly rounded | 49.6        | 0          | 0              | 10.3       | 31.45       |
| 145 | 617     | 2.5   | ditch        | Pb       | unidentified | 2        | 2            | two lumps of metal                                                               | 0           | 0          | 0              | 0          | 0           |
| 146 | 218     | 2.1   | pit          | Pb       | unidentified | 1        | 1            | a shapeless sheet of metal                                                       | 0           | 0          | 0              | 0          | 1.12.09     |
| 147 | 218     | 2.1   | pit          | Pb       | unidentified | 1        | 1            | a leaf of metal folded at one side                                               | 23.6        | 26.7       | 4.9            | 0          | 6.29        |
| 188 | 9999    | 0     | unstratified | Pb       | unidentified | 1        | 1            | shapeless foil of metal                                                          | 27.2        | 19.3       | 1.8            | 0          | 7.2         |
| 189 | 9999    | 0     | unstratified | Pb       | unidentified | 1        | 1            | plain D shaped artefact                                                          | 23.1        | 23.8       | 2.1            |            | 8.68        |
| 215 | 51      | 0     | sub-soil     | Pb       | unidentified | 1        | 1            | a shapeless lump of metal                                                        | 0           | 0          | 0              | 0          | 415.2       |

| SF  | Context | Phase | Feature  | Material | Artefact     | Quantity | No. artefact | Description                                                             | Length (mm) | Width (mm) | Thickness (mm) | Diam. (mm) | Weight (gr) |
|-----|---------|-------|----------|----------|--------------|----------|--------------|-------------------------------------------------------------------------|-------------|------------|----------------|------------|-------------|
| 216 | 51      | 0     | sub-soil | Pb       | unidentified | 1        | 1            | a shapeless thick sheet of metal with a small circular hole on one side | 0           | 0          | 0              | 0          | 132.07      |
| 217 | 51      | 0     | sub-soil | Pb       | unidentified | 1        | 1            | a shapeless thick sheet of metal                                        | 0           | 0          | 0              | 0          | 103.07      |

Table 38. Catalogue of lead artefacts

## Discussion

B.1.26 Taken as a whole, the Roman metalwork assemblage does not fully represent the whole spectrum of material which might be associated with a typical rural settlement assemblage of the period. There is no clear evidence of tools employed in agricultural, craft/industrial or even domestic activities. The lead weights are the only potential indication of possible weaving and textile production, while knife SF 84 could perhaps point to cooking or food processing on the site. However, such items were multifunctional objects used in different activities and their occurrence within the assemblage is very low and limited to sub-soil recovery.

B.1.27 The copper-alloy artefacts indicate a relatively high status for part of the community settled on the site, particularly during the Late Roman period. This suggestion seems to be confirmed by the group of coins which mostly date to the 2nd half of the 4th century (see the coin report, App. B.2). When the quantity of metalwork and coins found by site phases is compared, a distinct correlation emerges between the two groups of artefacts, supporting the suggestion of flourishing activity on the site in the late 4th century (Fig. B.1.2).

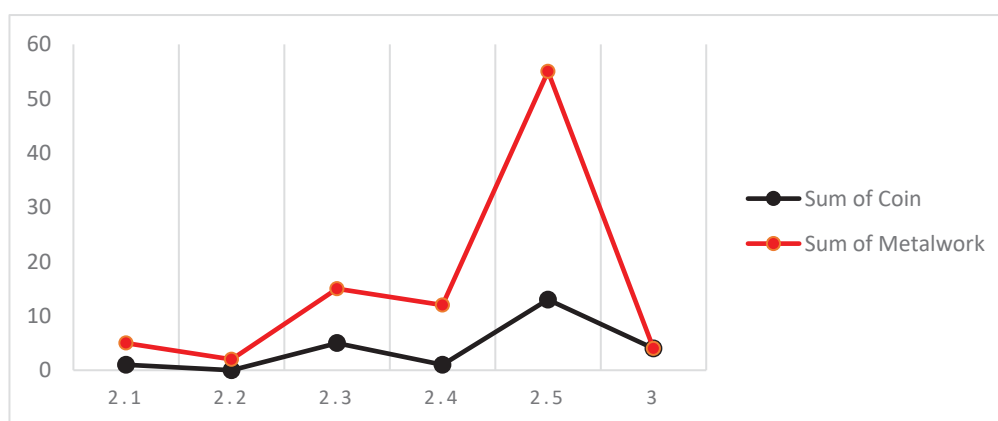


Fig. B.1.2. Comparison between the quantity of metalwork and coins by site phase

B.1.28 The presence of the Anglo-Saxon spearhead from the Phase 2.5 midden deposit is of note, since it may suggest that the former Roman buildings remained visible and partly accessible in the 5th/6th century. Although classified here as a weapon, it may equally have been used in hunting.

## B.2 Coins

By Denis Sami

### Introduction

- B.2.1 A total of 53 Roman coins was recovered from top-soil metal-detecting and excavation of archaeological features. In addition, a single modern coin was found. The assemblage has been used in this report to clarify the chronological background of the Roman settlement and to assess the economic trends of the local community through coin-use, exchange and loss.
- B.2.2 Most of the coins are extremely worn and present heavy oxidation due to adverse soil conditions, meaning that it was only possible to identify the ruler or house of rulers for 23 coins (46.9%). However, for 24 coins (48.9%) it was possible to provide a reference based on Reece's coin periods (1995). When unidentified, coins were assigned to broad chronologies on the basis of their weight and size.

### Methodology

- B.2.3 Volumes 7 to 9 of the *Roman Imperial Coinage* were used in the identification of the Roman assemblage, together with the *Late Roman Bronze Coinage* by Bruck (2015). The identification of the 3rd century coins was further integrated with the recently published volume on the Cunetio and Normanby hoards (Bland 2018).
- B.2.4 Following identification, the assemblage was divided according to Richard Reece's chronological periods (1995) and subsequently formatted for statistical and comparative analysis following the *per mill value* methodology - whereby the total number of coins in each of Reece's periods is divided by the total number of coins in the assemblage, and multiplied by 1000 (Walton 2010, 50).
- B.2.5 The works of Philippa Walton (2011), Richard Reece (1995 and 2002) and *The Rural Settlement of Roman Britain: an online resource* (Allen et al 2015) provided background information for discussion of the assemblage.
- B.2.6 Coins both from excavation and samples were quantified using an Access database. A single Excel spreadsheet was used to enter details and measurements of each single coin; this database was interrogated to compile statistics. All coins were counted, weighed and classified by context. The catalogue is organised by context number. A summary catalogue of the Excel database is included below (Table 42).

### Factual data

- B.2.7 Half of the assemblage was metal-detected from top- and sub-soil. The remaining coins were recovered from archaeological features, namely ditches and layers (Table 39).

| Feature  | Quantity | %      |
|----------|----------|--------|
| ditch    | 20       | 37.74% |
| layer    | 4        | 7.55%  |
| sub-soil | 24       | 45.28% |

|              |           |                |
|--------------|-----------|----------------|
| top-soil     | 5         | 9.43%          |
| <b>Total</b> | <b>53</b> | <b>100.00%</b> |

*Table 39. Quantity of coins by feature/deposit type*

B.2.8 The majority of coins from phased contexts were recovered from Middle to Late Roman contexts attributed to Phases 2.3-2.5 (Table 40).

| Phase        | Quantity  | %              |
|--------------|-----------|----------------|
| 0            | 29        | 54.72%         |
| 2.1          | 1         | 1.89%          |
| 2.3          | 5         | 9.43%          |
| 2.4          | 1         | 1.89%          |
| 2.5          | 13        | 24.53%         |
| 3            | 4         | 7.55%          |
| <b>Total</b> | <b>53</b> | <b>100.00%</b> |

*Table 40. Quantity of coins by phase*

B.2.9 The earliest identified coin is a silver denarius of Elagabalus dating to AD 221. However, three poorly preserved and unidentified coins can be attributed to the late 1st or 2nd century, corroborating a possible Early/Middle Roman foundation of the settlement. However, there is no numismatic evidence of a pre-Boudiccan activity on the site.

B.2.10 The latest coin is a REPARATIO - REI PVB (SF125) dating to AD 379-387. In addition, the clipped siliqua (SF66) is of a kind that may have been circulating into the early or mid-5th century.

B.2.11 The assemblage shows an increasing loss of coins between c. AD 260-75, followed by a drop in the very late 3rd century. The 3rd century is followed by a phase of a slowly increasing quantity of lost coins, reaching its peak in the second half of the 4th century during the Valentinianic period (Table 41; Fig. B.2.1).

| Chronology          | Archaeological feature |          |           |          |           |
|---------------------|------------------------|----------|-----------|----------|-----------|
| Reece period        | ditch                  | layer    | sub-soil  | top-soil | Total     |
| <b>7</b> (138-161)  | -                      | -        | 1         | -        | 1         |
| <b>10</b> (193-222) | -                      | 1        | -         | -        | 1         |
| <b>13</b> (260-75)  | -                      | -        | 5         | 1        | 6         |
| <b>14</b> (275-96)  | 2                      | -        | 1         | -        | 3         |
| <b>15</b> (296-317) | 1                      | -        | -         | -        | 1         |
| <b>16</b> (317-330) | -                      | -        | 3         | -        | 3         |
| <b>17</b> (330-348) | 3                      | -        | 1         | -        | 4         |
| <b>18</b> (348-364) | 4                      | 1        | 2         | -        | 7         |
| <b>19</b> (364-378) | 1                      | 1        | 5         | -        | 7         |
| <b>20</b> (378-388) | 1                      | -        | -         | -        | 1         |
| unidentified        | 8                      | 1        | 5         | 4        | 18        |
| <b>Total</b>        | <b>20</b>              | <b>4</b> | <b>24</b> | <b>5</b> | <b>53</b> |

*Table 31. The coin assemblage subdivided by Reece's periods and deposit/feature type*

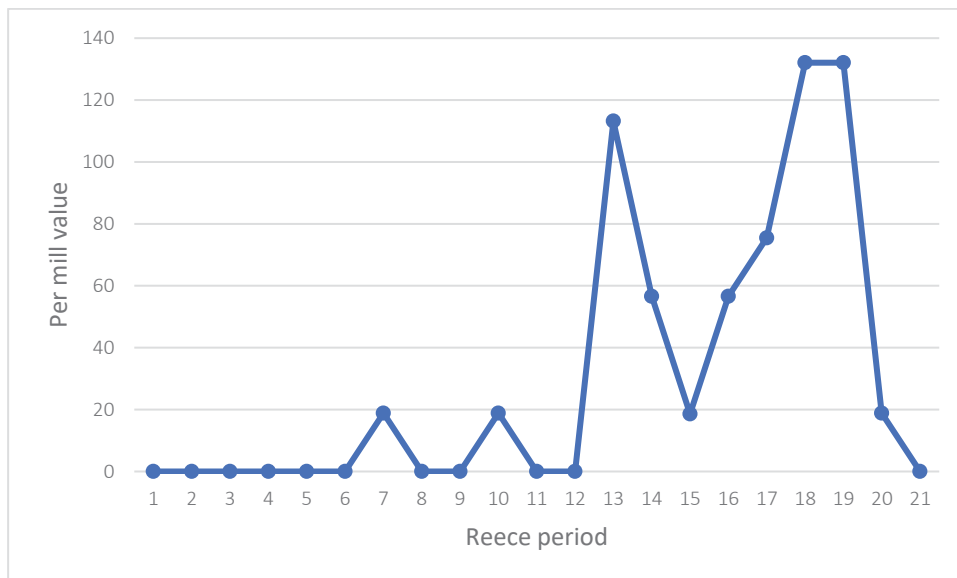


Fig. B.2.1. Per mill value (after Walton 2011) profile of the Upware assemblage

## Discussion

- B.2.12 The coin from period 7 (AD 138-161) was found in the top-soil, while the coin from period 10 (AD 193-222) was recovered from a layer assigned to Phase 2.5, a late Roman deposit, suggesting that it was residual. The reliability of the numismatic evidence for the early centuries of the Roman period settlement at Upware therefore needs to be interpreted with caution and, despite the presence of these coins (which could have circulated during periods 7 and 10), a later date for their loss/deposition is possible.
- B.2.13 A successful agricultural policy may explain the increase in the coin loss during period 13 (AD 260-275), despite the political and military instability of those years - which appears to not have affected the settlement of Upware. A similar trend is documented in the coin assemblage from other sites in the region, as at West Row, Suffolk, while elsewhere, such as at Waterbeach Waste Management Park, such an increase appears only later in period 14 (AD 275-296) (Fig. B.2.2).
- B.2.14 Similarly, the peak of coin loss in period 17-19 (AD 330-378) provides possible evidence of successful agricultural production in the area during the mid-4th century AD. The Upware per mill value profile exhibits a different result from those recorded at nearby sites including Waterbeach, Arbury and West Row in Suffolk - all within a 30km of radius from the site (Fig. B.2.2). At Waterbeach and West Row a peak is evident in period 17 (AD 330-348) followed by a drop in periods 18 (AD 348-364), 19 (AD 364-378) and 20 (AD 378-388). In Upware, the positive phase began in period 16 (AD 317-330) and increased to finally reach its apex in period 18, continuing in period 19. This can be explained by a longer period of agricultural wealth and monetary exchange compared to other nearby centres. The late 4th century positive phase in Upware is also reflected by the good quality and relatively high status of the copper-alloy assemblage (see Appendix B.1).
- B.2.15 On a national scale, the pattern observed in Upware between periods 17 and 19 reflects the tendency of coin loss documented in farms and villa sites across the country (Walton 2011, 186-187, fig. 63). This tendency is interpreted as a general

abandonment of urbanised contexts in favour of rural settlements in the late 4th century followed by a return to towns in period 21 (AD 388-402) (Walton 2011, 73).

B.2.16 At Upware, the dramatic drop in coin loss in period 20 and the lack of numismatic evidence for period 21, confirm the suggestion of a shift from rural-focused monetary economy to more nucleated and urban contexts, possibly centred in *Duroliponte* (Cambridge).

B.2.17 Finally, it is thought that clipped 4th century siliquae circulated from the second half of the 4th century, accounting for 29% of the assemblage in period 18 (AD 348-64), 42% in period 19 (AD 364-78) 56% in period 20 (AD 378-88) to reach 78% in period 21 (AD 388-402) (Walton 2011, 199-200). The lack of coins from period 21 suggests that the clipped siliqua of Constantine II dating to AD 353-60 (SF66) was probably lost between periods 19 and 21, however, its circulation could have extended into the early decades of the 5th century.

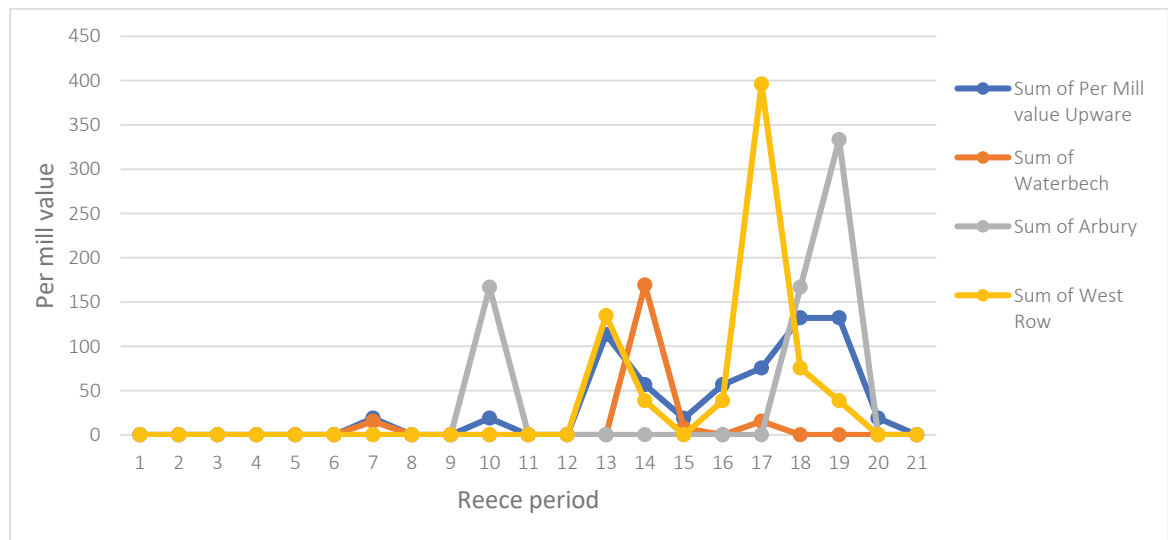


Figure B.2.2. Comparative per mill value profiles of coin assemblages from Upware, Waterbeach, Arbury and West Row.

Data for these comparative sites have been taken from the Roman Rural Settlement Project Online Resource (Allen et al 2015). Specific site references (not consulted for this report) are as follows: Waterbeach (Waste Management Park), Ranson 2008, Slater 2009, Tabor 2010; Arbury, Dickens and Collins 2011; West Row (Beeches Road), Gill 2001, Muldowney 2010, Craven 2010, Brooks 2012.

Table 42. (Below) Catalogue of the coins

| SF no. | Context | Site phase | Feature  | Denom.          | Alloy | Min Date | Max Date | Reece Period | Authority                              | Ob. description                              | Obv. legend              | Rev. description                                                                                                                     | Rev. legend                      | Wt (g) | Diam (mm) | Thick (mm) |
|--------|---------|------------|----------|-----------------|-------|----------|----------|--------------|----------------------------------------|----------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|------------|
| 1      | 51      | 0          | sub-soil | AE4             | CuA   | 347      | 348      | 17           | Constans                               | pearl-diademed, draped, cuirassed bust right | CONSTAN-S PF AVG         | two Victories standing facing with wreaths held aloft, D in centre                                                                   | VICTORIAE DD AVGGQ NN            | 1.34   | 16.3      | 3          |
| 2      | 51      | 0          | sub-soil | radiate         | CuA   | 275      | 285      | 14           | Barabrous Radiate                      | illegible                                    | illegible                | illegible                                                                                                                            | illegible                        | 1.39   | 16        | 2.3        |
| 4      | 51      | 0          | sub-soil | AE3             | CuA   | 322      | 325      | 16           | Constantine I                          | laureate head right                          | CONSTANTINVS AVG         | Victory advancing right, holding trophy on right arm, branch in left hand, spurning captive seated on ground right, head turned back | [SARMATIA-DE]VICTA               | 2.81   | 22.1      | 3.1        |
| 6      | 60      | 2.1        | ditch    | AE3             | CuA   |          |          | Unid.        | Uncertain Ruler,                       | illegible                                    | illegible                | illegible                                                                                                                            | illegible                        | 1.41   | 18.3      | 0.3        |
| 8      | 80      | 2.3        | ditch    | AE4             | CuA   | 355      | 361      | 18           | Constans II copy                       | illegible                                    | illegible                | illegible                                                                                                                            | illegible                        | 0.91   | 10.1      | 1.1        |
| 9      | 51      | 0          | sub-soil | AE3 radiate     | CuA   | 275      | 300      | Unid.        | Uncertain Ruler,                       | bust facing right                            | illegible                | illegible                                                                                                                            | illegible                        | 1.39   | 17.1      | 0.5        |
| 10     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 364      | 378      | 19           | Valentinian I                          | pearl-diademed, draped, cuirassed bust right | [VAL]ENTINI ANU[S]       | Victory advancing left, holding wreath and palm                                                                                      | illegible SECVRITAS REI PVBLICAE | 1.24   | 12.9      | 1.1        |
| 11     | 51      | 0          | sub-soil | AE4 nummus      | CuA   | 364      | 378      | 19           | Valentinian; Valens; Gratian;          | pearl-diademed, draped, cuirassed bust right | illegible                | Victory advancing left, holding wreath and palm                                                                                      | illegible SECVRITAS REI PVBLICAE | 1.31   | 12.1      | 2.6        |
| 40     | 51      | 0          | sub-soil | AE4 nummus      | CuA   | 330      | 400      | Unid.        | Uncertain Ruler,                       | illegible                                    | illegible                | illegible                                                                                                                            | illegible                        | 0.73   | 12.9      | 1.1        |
| 43     | 51      | 0          | sub-soil | AE antoninianus | CuA   | 271      | 274      | 13           | Tetricus I                             | radiate draped bust right                    | [IMP C TETRIC]VS P F AVG | Spes advancing left holding flower and raising hem of skirt                                                                          | [SPES P]VBLICA                   | 2.21   | 17.4      | 1.7        |
| 45     | 51      | 0          | sub-soil | AE4 nummus      | CuA   | 364      | 378      | 19           | Valentinian; Valens; Gratian           | pearl-diademed, draped, cuirassed bust right | illegible                | ?Victory advancing left, holding wreath and palm                                                                                     | illegible SECVRITAS REI PVBLICAE | 2.3    | 15.8      | 1.8        |
| 47     | 51      | 0          | sub-soil | AE3 radiate     | CuA   | 271      | 274      | 13           | Uncertain Ruler,                       | bust radiate facing right                    | illegible                | illegible                                                                                                                            | illegible                        | 2.58   | 19.8      | 1.3        |
| 50     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 330      | 400      | Unid.        | Uncertain Ruler,                       | pearl-diademed, draped, cuirassed bust right | illegible                | illegible                                                                                                                            | illegible                        | 1.11   | 12.5      | 1.6        |
| 54     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 321      | 324      | 16           | Constantine I, Crispus, Constantine II | illegible                                    | illegible                | Globe on altar, inscribed VO/TIS XX or VOT/IS XX; above three stars                                                                  | [BEATA TRAN- QVILLITAS]          | 3.22   | 17.8      | 1.2        |
| 55     | 51      | 0          | sub-soil | AE4             | CuA   | 364      | 378      | 19           | Valentinian; Valens; Gratian           | illegible                                    | illegible                | ?Victory advancing left, holding wreath and palm                                                                                     | illegible SECVRITAS REI PVBLICAE | 1.43   | 11.1      | 2.1        |
| 56     | 51      | 0          | sub-soil | AE 2 nummus     | CuA   | 250      | 400      | Unid.        | Uncertain Ruler,                       | illegible                                    | illegible                | illegible                                                                                                                            | illegible                        | 4.55   | 20.2      | 1.2        |
| 58     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 324      | 329      | 16           | Helena                                 | pearl-diademed, draped, cuirassed bust right | illegible                | illegible SECVRITAS REI PVBLICE                                                                                                      | illegible                        | 2.64   | 18.3      | 1.5        |

| SF no. | Context | Site phase | Feature  | Denom.          | Alloy | Min Date | Max Date | Reece Period | Authority                                               | Ob. description                              | Obv. legend                        | Rev. description                                                                              | Rev. legend                   | Wt (g) | Diam (mm) | Thick (mm) |
|--------|---------|------------|----------|-----------------|-------|----------|----------|--------------|---------------------------------------------------------|----------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------|--------|-----------|------------|
| 61     | 51      | 0          | sub-soil | AE 1 penny      | CuA   | 1729     | 1729     | 0            | George II                                               | Laureate bust left                           | GEORGIUS II REX                    | Seating Britannia                                                                             | BRITANNIA 1729                | 8.72   | 28.4      | 1.4        |
| 64     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 355      | 361      | 18           | Uncertain Ruler,                                        | pearl-diademed, draped, cuirassed bust right | illegible                          | Possibly Soldier spearing horseman                                                            | illegible ?FEL TEMP REPARATIO | 1.57   | 14.9      | 1.1        |
| 66     | 51      | 0          | sub-soil | siliqua         | Ag    | 353      | 360      | 18           | Constantius II                                          | pearl-diademed, draped, cuirassed bust right | DN CONSTANTIUS PF AVG              | VOTIS XXX MVLTI XXXX within wreath. Mintmark                                                  | 1.28                          | 14.1   | 0.7       |            |
| 67     | 51      | 0          | sub-soil | AE1 Sestertius  | CuA   | 50       | 260      | Unid.        | Uncertain Ruler,                                        | illegible                                    | illegible                          | illegible                                                                                     | illegible                     | 20.39  | 32.9      | 4.1        |
| 71     | 297     | 3          | ditch    | AE2 nummus      | CuA   | 352      | 353      | 18           | Constantius II                                          | pearl-diademed, draped, cuirassed bust right | [DN CONSTANTIUS PF AVG]            | Chi-Rho flanked by A and w                                                                    | [SALVS AVG NO]STRI            | 5.06   | 24.1      | 1.4        |
| 81     | 51      | 0          | sub-soil | sestertius      | CuA   | 117      | 192      | 7            | Uncertain Ruler,                                        | laureate head right                          | [.] VS [...]                       | standing figure                                                                               | illegible                     | 4.69   | 20.3      | 1.8        |
| 82     | 51      | 0          | sub-soil | AE antoninianus | CuA   | 271      | 274      | 13           | Tetricus I                                              | radiate, cuirassed bust right                | illegible [IMP C TETRICVS P F AVG] | Victory advancing left, holding wreath and palm                                               | illegible VICTO-RIA AVG       | 2.82   | 17.1      | 1.3        |
| 86     | 51      | 0          | sub-soil | AE antoninianus | CuA   | 260      | 269      | 13           | Postumus                                                | radiate, draped and cuirassed bust right     | illegible                          | standing left figure, holding caduceus and possibly cornucopiae                               | [J]AUG[ ]                     | 1.79   | 16.8      | 1.3        |
| 87     | 51      | 0          | sub-soil | AE3 radiate     | CuA   | 286      | 293      | 13           | Carasius                                                | radiate, draped and cuirassed bust right     | IMP C CARA[VSIVS PF AVG]           | figure standing right                                                                         | illegible                     | 3.27   | 19.7      | 1.2        |
| 89     | 51      | 0          | sub-soil | AE3 nummus      | CuA   | 364      | 378      | 19           | Valentinian; Valens; Gratian                            | pearl-diademed, draped, cuirassed bust right | illegible                          | Victory advancing left, holding wreath and palm                                               | illegible                     | 1.84   | 12.1      | 1.1        |
| 91     | 431     | 2.5        | layer    | Denarius        | Ag    | 221      | 221      | 10           | Elagabalus                                              | laureate head right                          | IMP ANTONINUS PIVS AVG             | Elagabalus standing left by altar, holding club or cypress branch upright, star in left field | PM TR P IIII COS III P        | 2.79   | 19.4      | 1.8        |
| 96     | 411     | 2.5        | ditch    | AE3 nummus      | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                        | illegible                                    | illegible                          | illegible                                                                                     | illegible                     | 2.27   | 16.1      | 1.8        |
| 104    | 673     | 2.5        | ditch    | AE3 nummus?     | CuA   | 250      | 350      | unid.        | Uncertain Ruler,                                        | illegible                                    | illegible                          | illegible                                                                                     | illegible                     | 2.56   | 21.8      | 0.9        |
| 109    | 382     | 2.3        | ditch    | AE3 nummus      | CuA   | 364      | 378      | 19           | Valens, Valentinian I                                   | bust facing right                            | VAL[...]                           | illegible                                                                                     | illegible                     | 1.64   | 17.8      | 1.1        |
| 113    | 524     | 2.5        | ditch    | AE4 nummus      | CuA   | 275      | 285      | 14           | Uncertain Ruler,                                        | illegible                                    | illegible                          | illegible                                                                                     | illegible                     | 0.69   | 13.1      | 1.1        |
| 115    | 412     | 2.5        | ditch    | AE3 nummus      | CuA   | 330      | 335      | 17           | Constantine I, Constantine II, Constantius II, Constans | illegible                                    | illegible                          | two soldiers and two standards                                                                | illegible GLORIA EXERCITVS    | 3.5    | 17.4      | 2.2        |
| 123    | 522     | 2.4        | layer    | AE3 nummus      | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                        | illegible                                    | illegible                          | illegible                                                                                     | illegible                     | 2      | 17.1      | 1.4        |

| SF no. | Context | Site phase | Feature  | Denom.         | Alloy | Min Date | Max Date | Reece Period | Authority                                                 | Ob. description                                 | Obv. legend             | Rev. description                                                               | Rev. legend                 | Wt (g) | Diam (mm) | Thick (mm) |
|--------|---------|------------|----------|----------------|-------|----------|----------|--------------|-----------------------------------------------------------|-------------------------------------------------|-------------------------|--------------------------------------------------------------------------------|-----------------------------|--------|-----------|------------|
| 124    | 430     | 2.5        | layer    | AE4 nummus     | CuA   | 355      | 361      | 18           | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible FEL TEMP copy                                                        | illegible                   | 0.75   | 8.6       | 1.6        |
| 125    | 430     | 2.5        | ditch    | AE3 nummus     | CuA   | 379      | 387      | 20           | Gratian, Valentinian II, Theodosius I, Magnus Maximus     | pearl-diademed, draped and cuirassed bust right | illegible               | emperor standing front, offering hand to kneeling woman on left                | illegible ?REPARATIO REIPVB | 2.11   | 16.3      | 1.7        |
| 128    | 430     | 2.5        | layer    | AE3 nummus     | CuA   | 364      | 378      | 19           | Valens                                                    | pearl-diademed, draped, cuirassed bust right    | DN VALEN-S PF AVG       | Victory walking left holding wreath and palm branch                            | SECVRITAS REI PVBLICAE      | 1.76   | 17.1      | 0.9        |
| 129    | 430     | 2.5        | ditch    | AE4 nummus     | CuA   | 355      | 361      | 18           | Constans II copy                                          | pearl-diademed, draped and cuirassed bust right | FEL TEMP REPARATIO copy | illegible                                                                      | illegible                   | 0.95   | 9.1       | 1.4        |
| 130    | 430     | 2.5        | ditch    | AE4 nummus     | CuA   | 330      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 1.03   | 11.8      | 2.1        |
| 133    | 617     | 2.5        | ditch    | AE3 sestertius | CuA   | 138      | 161      | unid.        | ?Antoninus Pius                                           |                                                 |                         |                                                                                |                             | 7.86   | 22.1      | 2.4        |
| 136    | 603     | 2.3        | ditch    | AE2 nummus     | CuA   | 310      | 316      | 15           | Constantine I; Maximinus II; Licinius I                   | illegible                                       | illegible               | Mars standing facing left                                                      | [MARTI CONSERV]ATOR I       | 1.68   | 20.3      | 1.5        |
| 139    | 617     | 2.5        | ditch    | AE4 nummus     | CuA   | 335      | 341      | 17           | Constantine I and II, Constantius II, Constans, Delmatius | pearl-diademed, draped, cuirassed bust right    | illegible               | two soldiers and one standard                                                  | [GLORIA EX]ERC[ITVS]        | 0.95   | 14.1      | 1.1        |
| 144    | 617     | 2.5        | ditch    | AE3            | CuA   | 347      | 348      | 17           | Constantius II and Constans                               | pearl-diademed, draped and cuirassed bust right | illegible               | Two Victories standing facing each other, holding wreaths ?E between victories | [VICTORIA A]VG[GG]          | 1.51   | 16.2      | 1.2        |
| 152    | 297     | 3          | ditch    | AE4?radiate    | CuA   | 275      | 285      | 14           | Uncertain Ruler,                                          | bust, radiate? Facing right                     | illegible               | illegible                                                                      | illegible                   | 0.67   | 11.9      | 0.9        |
| 153    | 286     | 2.3        | ditch    | AE3 nummus     | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 2.17   | 16.8      | 1.5        |
| 155    | 297     | 3          | ditch    | AE4 nummus     | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 0.89   | 11.3      | 1.2        |
| 157    | 297     | 3          | ditch    | AE4 nummus     | CuA   | 330      | 400      | unid.        | Uncertain Ruler,                                          | pearl-diademed, draped and cuirassed bust right | illegible               | illegible                                                                      | illegible                   | 1.49   | 13.9      | 1.1        |
| 158    | 99999   | 0          | top-soil | AE4 nummus     | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 2      | 13.8      | 2.1        |
| 184    | 99999   | 0          | top-soil | AE2 nummus     | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 2.43   | 18.1      | 2.1        |
| 185    | 482     | 2.3        | ditch    | AE3 nummus     | CuA   | 348      | 351      | 18           | Constantius II and Constans                               | illegible                                       | illegible               | Phoenix standing right on rocky mound                                          | FEL [TEMP REPARATIO]        | 1.22   | 16.3      | 0.9        |
| 186    | 99999   | 0          | top-soil | AE3 nummus     | CuA   | 300      | 400      | unid.        | Uncertain Ruler,                                          | illegible                                       | illegible               | illegible                                                                      | illegible                   | 2.81   | 17.1      | 1.3        |

| SF no. | Context | Site phase | Feature  | Denom.               | Alloy | Min Date | Max Date | Reece Period | Authority        | Ob. description                           | Obv. legend            | Rev. description                                                       | Rev. legend   | Wt (g) | Diam (mm) | Thick (mm) |
|--------|---------|------------|----------|----------------------|-------|----------|----------|--------------|------------------|-------------------------------------------|------------------------|------------------------------------------------------------------------|---------------|--------|-----------|------------|
| 187    | 99999   | 0          | top-soil | AE3 ?radiate         | CuA   | 275      | 300      | unid.        | Uncertain Ruler, | illegible                                 | illegible              | illegible                                                              | illegible     | 2.1    | 17.4      | 1.6        |
| TB C   | 99999   | 0          | top-soil | AE Double Sestertius | CuA   | 260      | 261      | 13           | Postumus         | laureate, draped and cuirassed bust right | IMP C POSTVMVS P F AVG | Victory advancing left, foot on bound captive, holding wreath and palm | VICT-OR-I AVG | 16.22  | 28.3      | 3.1        |

## B.3 Flint

*By Rona Booth*

### *Introduction*

- B.3.1 A total of 109 worked flints (Table 43) and 21 pieces (0.248kg, Table 44) of unworked burnt flint were recovered during the excavation. The flint assemblage has been fully catalogued by context using a simple technological/typological classification, and summary catalogues are provided below.
- B.3.2 Of the group, 44 struck flints and ten unworked burnt flints (0.099 kg) were retrieved from either the topsoil (unstratified), the subsoil (context 51), or from archaeological and geological horizons (contexts 430, 522, 757, 807, 815 and 406) across the site. An additional 65 worked flints and 11 unworked burnt flints (0.149 kg) were recovered from a total of 55 cut features.
- B.3.3 The struck flint was generally thinly distributed, occurring in small clusters of between one and six flints. The unworked burnt flint was recovered from 11 separate cut features in total, and again was thinly distributed.

### *Results and characterisation*

- B.3.4 The raw material mainly consists of mid to dark grey fine-grained flint. Occasional pieces of coarser material also occur. The raw material varies in quality and ranges from fresh and unpatinated to moderately edge damaged, as might be expected from material incorporated into later features. A substantial proportion of the flint exhibits either partial or full recortication. This varies from blue-white to off white in colour. Approximately half the struck flint retained cortical surfaces. These pieces consist mainly of secondary flakes.
- B.3.5 Over 80% of the total struck flint assemblage consists of secondary and tertiary flakes and other diagnostic pieces, and includes 13 retouched items, cores and core fragments. Among the retouched items are three arrowheads.
- B.3.6 The overall assemblage can be assigned to a date range from the Mesolithic to the Early/Mid Neolithic by the presence of narrow flakes, blade like flakes and flakes that exhibit narrow flake scars. A later (later Neolithic to Early Bronze Age) element is almost certainly present, in the form of three thick stubby flakes with plain platforms.
- B.3.7 A total of 13 retouched pieces were recovered from individual contexts, including the aforementioned arrowheads and a notched flake. The more informally retouched items are largely made on blade-like flakes and blades, potentially making them Late Mesolithic to Early Neolithic in date. The cores can also be assigned a broad Late Mesolithic/Early Neolithic date.
- B.3.8 Pit **153** (Phase 2.1) produced an Early Neolithic leaf-shaped arrowhead, with the retouch confined to the edges, although a fresh break means only the tip is present. Two transverse arrowheads of Middle to Late Neolithic date were recovered from ditches **513** and **739** (Phases 2.4 and 2.5 respectively). The example from ditch **739** is

a chisel arrowhead and conforms to Clark's (1934b) type C2: it has damage to its leading edge. The example from ditch **513** conforms less to the type but is almost certainly a chisel arrowhead. These forms are typical of the later Neolithic and often associated with Peterborough Ware or Grooved Ware pottery assemblages.

### *Discussion*

- B.3.9 A moderately sized assemblage of worked and unworked burnt flint was recovered during the excavation. This was widely distributed across the site and occurred as residual material in the fills of cut features, which dated to the Roman period.
- B.3.10 However, strongly diagnostic material within the assemblage demonstrates a significant prehistoric presence at the site, the bulk of which can be attributed to the Mesolithic and earlier Neolithic. A smaller component of Middle to Late Neolithic and potentially Bronze Age material was also recovered.
- B.3.11 Despite its relatively small size, this assemblage is of some significance as it adds to the rich corpus of information pertaining to Mesolithic and Neolithic activity in Upware and its environs. Evidence for Mesolithic activity (CHER 06896), consisting of cores, flakes, blades and microliths, exists in Upware itself, at land just north of Old School Lane, although substantial assemblages of Mesolithic and Neolithic activity occur in the immediate region, especially along the fen edge (Billington 2016).

| Context       | Cut | Feature type | Irregular Waste | Primary Flake | Secondary Flake | Tertiary Flake | Tertiary Blade Like | Secondary blade/let | Tertiary blade/let | Arrowhead | Notched flake | Notched blade | Retouched | Core     | Core fragment | Core rejuvenation flake | Total worked |
|---------------|-----|--------------|-----------------|---------------|-----------------|----------------|---------------------|---------------------|--------------------|-----------|---------------|---------------|-----------|----------|---------------|-------------------------|--------------|
|               |     | unstrat      | 6               |               | 4               | 2              |                     |                     | 5                  |           | 1             |               |           | 1        | 3             |                         | 22           |
| 51            |     | subsoil      |                 |               | 2               |                | 2                   |                     | 1                  |           |               |               |           |          |               | 1                       | 6            |
| 108           | 107 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 154           | 153 | pit          |                 |               |                 |                |                     |                     |                    | 1         |               |               |           |          |               |                         | 1            |
| 175           | 174 | ditch        |                 |               |                 |                | 1                   |                     |                    |           |               |               |           |          |               |                         | 1            |
| 247           | 245 | cremation    |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 307           | 306 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               | 1                       | 2            |
| 308           | 309 | pit          |                 |               | 1               |                |                     | 1                   | 1                  |           |               |               |           |          |               |                         | 3            |
| 320           | 319 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 1            |
| 337           | 336 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               |           | 1        |               |                         | 1            |
| 350           | 349 | post pipe    |                 |               |                 |                |                     |                     | 1                  |           |               |               |           |          |               |                         | 1            |
| 357           | 356 | ditch        |                 |               |                 |                | 1                   |                     |                    |           |               |               |           |          |               |                         | 1            |
| 361           | 360 | pit          |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 383           | 382 | ditch        |                 |               | 1               |                |                     |                     |                    |           |               |               |           | 1        |               |                         | 2            |
| 393           | 392 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 394           | 392 | ditch        |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 400           | 399 | ditch        | 1               |               |                 |                | 2                   |                     |                    |           |               |               |           |          |               |                         | 3            |
| 406           |     | natural      | 2               |               | 4               |                |                     |                     |                    |           |               |               |           |          |               |                         | 6            |
| 410           | 407 | oven         |                 |               |                 | 1              |                     |                     |                    |           |               |               | 1         |          |               |                         | 2            |
| 430           |     | layer        |                 |               |                 |                |                     |                     |                    |           |               |               |           | 1        |               |                         | 1            |
| 438           | 434 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 1            |
| 439           | 434 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 1            |
| 444           | 435 | ditch        |                 |               | 1               |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 2            |
| 460           | 456 | well         |                 |               | 2               |                |                     |                     |                    |           |               | 1             |           |          |               |                         | 3            |
| 463           | 456 | well         |                 |               |                 | 2              |                     |                     |                    |           |               |               |           |          |               |                         | 2            |
| 507           | 506 | ditch        |                 |               |                 |                |                     |                     | 1                  |           |               |               |           |          |               |                         | 1            |
| 516           | 513 | ditch        |                 |               |                 |                |                     |                     |                    | 1         |               |               |           |          |               |                         | 1            |
| 522           |     | layer        |                 | 1             | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 2            |
| 540           | 539 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 566           | 565 | ditch        |                 |               |                 |                |                     | 1                   |                    |           |               |               |           |          |               |                         | 1            |
| 603           | 601 | ditch        |                 |               |                 |                |                     |                     | 1                  |           |               |               |           |          |               |                         | 1            |
| 617           | 756 | ditch        | 1               |               |                 |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 645           | 644 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 657           | 639 | ditch        |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 659           | 658 | ditch        | 2               |               |                 |                | 1                   |                     |                    |           |               |               |           |          |               |                         | 3            |
| 660           | 658 | ditch        | 1               |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 2            |
| 661           | 658 | ditch        | 1               |               |                 |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 668           | 666 | pit          | 1               |               |                 |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 688           | 674 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               | 1         |          | 1             | 1                       | 3            |
| 695           | 676 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 713           | 712 | ditch        | 1               |               |                 |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 2            |
| 723           | 720 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 726           | 724 | ditch        |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 740           | 739 | ditch        |                 |               |                 |                |                     |                     |                    | 1         |               |               |           |          |               |                         | 1            |
| 757           | J1  | floor        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 775           | 774 | post pipe    |                 |               |                 |                |                     |                     |                    |           |               |               |           |          |               | 1                       | 1            |
| 807           |     | layer        |                 |               | 1               | 1              |                     |                     | 1                  |           |               |               |           |          | 2             |                         | 5            |
| 815           |     | masonry      |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 835           | 787 | ditch        |                 |               |                 |                |                     |                     |                    |           |               |               | 1         |          |               |                         | 1            |
| 875           | 873 | pit          |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 876           | 873 | pit          | 1               |               | 1               | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 3            |
| 880           | 879 | pit          |                 |               | 1               |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 910           | 906 | ditch        | 1               |               |                 |                |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| 922           | 920 | ditch        |                 |               |                 | 1              |                     |                     |                    |           |               |               |           |          |               |                         | 1            |
| <b>Totals</b> |     |              | <b>18</b>       | <b>1</b>      | <b>26</b>       | <b>17</b>      | <b>7</b>            | <b>2</b>            | <b>11</b>          | <b>3</b>  | <b>1</b>      | <b>1</b>      | <b>8</b>  | <b>4</b> | <b>6</b>      | <b>4</b>                | <b>109</b>   |

Table 43. Catalogue of worked flint

| Cont. No.    | Feat. No. | Feat Type | Count     | Weight (g) |
|--------------|-----------|-----------|-----------|------------|
|              |           | unstrat   | 2         | 3          |
| 51           |           | sub       | 5         | 77         |
| 100          | 99        | ditch     | 1         | 18         |
| 105          | 104       | ditch     | 1         | -          |
| 156          | 155       | ditch     | 1         | 9          |
| 326          | 325       | pit       | 1         | 13         |
| 352          | 351       | ditch     | 1         | 2          |
| 363          | 362       | ditch     | 1         | 3          |
| 400          | 399       | ditch     | 1         | 49         |
| 488          | 487       | ditch     | 1         | 11         |
| 522          | J4        | layer     | 1         | 10         |
| 659          | 658       | ditch     | 1         | 8          |
| 779          | 778       | post pipe | 1         | 9          |
| 807          |           | layer     | 2         | 9          |
| 856          | 855       | ditch     | 1         | 27         |
| <b>Total</b> |           |           | <b>21</b> | <b>248</b> |

Table 44. Catalogue of unworked burnt flint

## B.4 Shale

By Denis Sami

B.4.1 A single shale object was identified as a spindle-whorl (SF149, context 687, Ditch **526**, intervention **672**; Phase 2.5). The item is likely to date from the Roman period.

| SF. No. | Context | Feature. Type    | Artefact      | Desc.                                                            | Thickness (mm) | Diameter (mm) | Weight (g) | Date |
|---------|---------|------------------|---------------|------------------------------------------------------------------|----------------|---------------|------------|------|
| 149     | 687     | Ditch <b>526</b> | spindle whorl | a plano-convex spindle whorl with central circular hole (6.9 mm) | 11.2           | 36.2          | 17.6<br>8  | RM   |

Table 45. Shale spindle whorl

## B.5 Worked Stone and Building Stone

By Simon Timberlake

### Introduction

B.5.1 A total of 83.03 kg (139 pieces) of stone were recovered from this excavation; of which 52.38kg (22 pieces) consisted of worked stone (quern, millstone, whetstone and hammerstone), another 29.91 kg (90 pieces) consisted of building stone (wall stone, rubblestone and roof slate), and just 0.74 kg (x27 pieces) consisted of burnt stone (unworked). The remainder of the walling stone remained *in situ* and was examined by Dr Simon King who described the composition as more than 99% Upware limestone with negligible amounts of local greensand containing coproliths, imported re-used Hertfordshire puddingstone and flint. The Upware limestone was probably not quarried but rather gathered as field pickings from the immediate vicinity (S. King pers. comm.). Some shaping may have occurred to provide stones of an appropriate size.

## *Methodology*

- B.5.2 All the stone was identified visually using an illuminated x10 magnifying lens and was compared where necessary with an archaeological worked stone reference collection. A petrographic description was undertaken of the lithology of the large rotary quern with a view to sourcing it, but rather than destructive thin section analysis, this was compared in hand specimen with other similar quern material. This proved to be adequate for identification purposes. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of calcitic cement in the rock.

## *Worked Stone*

### *Querns and Millstones*

- B.5.3 The most significant find from this assemblage was the complete but small (0.54 m diameter) upper millstone made of Folkestone Greensand found in the subsoil during machine stripping in the south-west corner of the Northern Area. Alongside the slightly smaller beehive-shaped handmill quern types, these were quarried from the Folkestone Sand that outcrops upon the foreshore at Copt Point, East Wear Bay near Folkestone (Keller 1989). Here, the production of millstones probably post-dates the main period of manufacture of beehive-type querns (almost all of which took place before AD 100 (Green 2016, 2, 17) and, as such, a production date during the 2nd century AD seems likely for the Upware stones. The complete millstone from the site (SF 140) possesses seven harps of furrow dressing, all of which are quite worn, the form of these suggesting local (yet poor quality) re-dressing of the grind surface.
- B.5.4 A small fragment of an upper stone from yet another millstone pair was identified from a different context (664) from post-pad **663** (Phase 2.4). This millstone is in a worn condition, without any trace of furrows, and interestingly the thinned and broken fragment seems then to have been re-used as a small slab saddle quern in the more traditional Iron Age style. This was the only saddle quern recovered from this site, and as such it represents an anomalous find. Its position in a Roman feature identified as a post-pad suggests a tertiary use as a footing for a post in combination with the Upware limestones also found in this feature.
- B.5.5 Another fragment believed to be from the rim of a 'Hunsbury-type' beehive quern made from the same lithological bed of the Folkestone Greensand was recovered from layer 719 (=430), a layer of midden containing rubble not derived from the extant building footings. The presence of this item, alongside the puddingstone quern, suggests a long currency of Romano-British occupation and settlement at Upware, as does the re-use of quern followed by its re-cycling as building material.
- B.5.6 Three fragments of burnt and/or broken-up low-domed beehive quern made of Hertfordshire Puddingstone (a silcrete conglomerate from the uppermost Palaeocene Upnor Formation that was quarried from Late Iron age to Roman times at sites such as Collier's End in Hertfordshire; see Lovell & Tubb 2006) were recovered from contexts 474 (fill of Phase 2.1 Ditch **317**), layer 719 (=807; Phase 2.5) and the building footings (815), in which it seems to have been recycled as walling material. The diameters of these querns (300-350mm) are typically smaller than the other rotaries, yet these

querns were finely made. As a rule, these pre-date the main introduction of the flat gritstone querns, the production of the former all but ceasing by AD 150. One of the broken-up querns from layer 719 shows the negative relief of part of a U-shaped feed pipe or hopper, and as such this resembles Curwen's (1941; Fig.17) 'Hunsbury-type' puddingstone quern from St Albans (Ingle 1994). Before AD 100 within Cambridgeshire, puddingstone querns are more common than the Kentish greensand ones within the south and east areas of the county.

- B.5.7 Over 10.5kg (14 pieces) of the quernstone recovered from the Upware Romano-British settlement consisted of gritstone (Millstone Grit var. Chatsworth Grit?) imported from the Peak District of the Southern Pennines; probably from extraction sites at Wharnecliffe Crag or Rivelin near Sheffield (Challis & Harding 1975; Wright 1988). The date for the use of these discoid-type rotary quern handmills at this site is most likely from the end of the 1st century AD to the 3rd century AD, corresponding with that of the millstone or possibly preceding it.
- B.5.8 Almost all of these quernstones are worn and broken up, and in most cases burnt. The degree of wear from the liberation of grit during use resulted in their becoming very heavily concentrically scored. Many of these discarded stones seem then to have been recycled as building stone.

### *Whetstone*

- B.5.9 At least four of the fragments of worn, broken-up and discarded Millstone Grit quernstone (up to 7kg in total) appear to have been re-used opportunistically as whetstones for the purpose of knife-sharpening. The use of these items for the sharpening of small domestic knives is very evident on account of the many narrow grooves cut along the top and bottom edges of some of these pieces of stone in the act of alternately sharpening, then roughening the blade edges. One piece (SF 19; Fig. 26) with 16 knife grooves upon it seems to have been very well used; the originally flattish top is now worn concave and smooth as a result of the honing of the knife sides.
- B.5.10 Whilst the opportunistic use of suitable broken-up quernstone for this purpose is not rare, the extent of such use in this particular instance is, implying a shortage of, or dispensing with, the more typical Roman whetstone types sourced (Allen 2014). Most manufactured Roman whetstones were made from the Devonian Old Red Sandstone, Pennant Sandstone of the Coal Measures, Wealden Sandstone, Lower Greensand and Sarsens.

### *Hammerstone*

- B.5.11 A single hammerstone from context 83 (ditch **82**, Phase 2.3; SF 20), made from a small quartzite pebble (0.38 kg) and possessing flat worked pounding facets at either end, appears to have been used as a small crushing tool or pestle. This fits neatly into the palm of the hand, and as such may well have been used in conjunction with a small mortar. In all probability this tool, which is probably prehistoric in date, was then re-used, or simply re-deposited in a later feature.

| Cont. No. | S.F. No. | Frag. No. | Dimensions    | Wt (kg) | Upper/lower stone | Est. Diam (mm) | Type               | Geology                       | Note                                                                                      |
|-----------|----------|-----------|---------------|---------|-------------------|----------------|--------------------|-------------------------------|-------------------------------------------------------------------------------------------|
| 51        | 19       | 1         | 140x110x70    | 1.62    | ?                 | -              | ?rotary disc quern | Millstone Grit (fine gr sstn) | <b>B.</b> Re-used as anvil/mortar + whetstone (16 knife sharpening grooves) <sup>5*</sup> |
| 51        | -        | 1         | 120x80x32     | 0.47    | upper?            | 480            | rotary disc quern  | Millstone Grit                | Broken frag re-used as whetstone (5 knife grooves) *                                      |
| 51        | 140      | 1         | 540-530x30-70 | 35.3    | upper             | 540            | millstone          | Folkestone Greensand          | Complete. Possibly re-cut and worn furrows (7 harps) <sup>4*</sup>                        |
| 83        | 20       | 1         | 75x65x43      | 0.38    | n/a               | n/a            | hammerstone        | metaquartzite erratic cobble  | <b>B.</b> Used at both ends. ?prehistoric*                                                |
| 176       | 37       | 1         | 60x40x65      | 0.166   | ?                 | -              | rotary disc quern  | Millstone Grit (fine gr sstn) | Re-used as whetstone (from same quern as <19>) <sup>5</sup>                               |
| 474       | -        | 1         | 150x130x90    | 2.48    | lower?            | 350?           | beehive quern      | Hertfordshire Puddingstone    |                                                                                           |
| 664       | -        | 1         | 230x130x30-50 | 1.76    | upper?            | 500+           | millstone          | Folkestone Greensand          | Frag re-used as saddlequern <sup>5*</sup>                                                 |
| 687a      | -        | 1         | 100x70x25-28  | 0.21    | lower?            | 480+           | rotary disc quern  | Millstone Grit                | <b>B.</b> Point dressed on underside <sup>3</sup>                                         |
| 687b      | 150      | 8         | 220x180x30-40 | 5.185   | lower             | 550            | rotary disc quern  | Millstone Grit                | <b>B.</b> Segmented radial furrows re-used as knife grooves (whetstone) <sup>3-4*</sup>   |
| 688       | 151      | 1         | 200x150x50-60 | 2.781   | lower             | 520            | rotary disc quern  | Millstone Grit                | <b>B.</b> Rotational wear grooves + point dressed <sup>5</sup>                            |
| 719a      | -        | 1         | 70x40x40      | 0.128   | upper             | 450            | beehive quern      | Folkestone Greensand          | <b>B.</b> Rim fragment, well worn <sup>4</sup>                                            |
| 719b      | -        | 1         | 85x45x20      | 0.153   | upper             | 520            | rotary disc quern  | Millstone Grit                | <b>B.</b> Rotational wear grooves, worn <sup>5</sup>                                      |
| 719c      | -        | 1         | 75x120x110    | 1.612   | upper             | 350            | beehive quern      | Hertfordshire Puddingstone    | <b>B.</b> Has c.55mm diam feed-pipe (Curwen type Fig.17) <sup>4</sup>                     |
| 815       | -        | 2         | 60 + 40       | 0.14    | upper             | 300+           | beehive quern      | Hertfordshire Puddingstone    | <b>B.</b> Re-used in wall                                                                 |

Table 46. Catalogue of querns, millstones and other worked stone

Grind surface:1 = little or no wear; 2 = minor wear (patchy); 3 = flattened ridges; 4 = more extensive wear (flattened with some polish); 5 = finely ground polish and rotational grooving (e.g. internal rims of pot querns); B= burnt

## Building Stone

- B.5.12 This assemblage consists mostly of coarse (roughly-fashioned) building stone which shows few if any signs of tooling or the preparation of faces. However, the shaping and sizing of some of these pieces (which includes the working of right-angled faces) can be seen, particularly within some of the imported bioclastic limestones, which includes perhaps Barnack Ragstone and still other Roman quarry sources within the Lincolnshire Limestone (of Rutland/ Northamptonshire). The broad category of stone use/types identified are as follows: shaped freestone and wall-facing stone fashioned from various hard skeletal-cemented bioclastic-oospirite limestones such as from the Inferior Oolite, Lincolnshire Limestone (10.76 kg), rubblestone and packstone used for interior fills of walls and foundations and as post-packing (15.31 kg), and stone roofing slate such as from the Collyweston Slate of Northamptonshire (2.83 kg).
- B.5.13 The majority of these stones were only present as fragments, and may therefore be the result of the working of these on site during the construction of the accompanying Roman building. This is particularly the case with the assemblage of Collyweston slate. There were no complete, or even partially intact slates, and no peg holes were visible (Fig. 26). However, this completely fails to explain why most of the fragments were burnt, as were some fragments of walling stone. It is possible, therefore, that the remains of a burnt-down building became scattered in layers 430/719 in particular, with isolated stones appearing in other contexts. Burning *in situ* may help to explain why the roof slates appear more burnt and broken-up than the wall stone, the latter more typically being associated with sooting (soot stains) rather than the shattering of the rock.
- B.5.14 In view of the Roman production of Swithland Slate in Leicestershire, the distribution of Collyweston Slate during the 2nd – 3rd century AD tends to be skewed southwards rather than to the north. Collyweston slate was certainly the most common, if not the only stone roofing slate used in Roman Cambridgeshire. However, given the lack of surviving slates from Upware, it is only possible to compare the thickness (*i.e.* the splitting dimensions) of these with those from other sites. In fact, the average thickness of those found here (between 10-15cm) is fairly standard for Roman stone-roofed buildings, although they are thinner than the average (15-20cm) found within the more intact assemblages (*e.g.* at North-West Cambridge Site VII, see Timberlake in Evans, C. in prep.).
- B.5.15 Local Corallian Limestone (Upware Limestone - an oolitic bioclastite) was used for the rubblestone cores of the building walls and also as walling stone upon the outside/interior (both included in wall footing 815). This is suggested by the lenticular shaping of the blocks (at 230-240mm x 130mm) which seem to be size-equivalent to some of the Barnack Rag/unidentified Lincolnshire Limestone blocks (<260cm x 160cm) which have probably been crudely-cut as quoins. The Corallian Limestone outcrop at Upware (best exposed within the Dimmock's Cote quarry) consists of both shelly oolitic facies and a harder calcitic coralline limestone containing *Isastrea* sp. coral (known collectively as the West Walton Beds, see Gallois 1988, 24). Examples of both these rocks can be seen within the assemblage of building stone(s) listed below (Table

47). It is interesting, therefore, that several poorly-worked, and not necessarily good quality limestones, have also been imported for use here; suggesting a reliance on traditional sources, but not necessarily an intention to build a building to a high level or standard of finish.

- B.5.16 An as yet unidentified limestone which appears similar to Barnack Rag, but which is composed of a shell debris with very little oolitic content (and most likely therefore Lincolnshire Limestone from the South Lincolnshire/ Northants. region) dominates this small assemblage of imported stone. Accompanying this is a single piece of probable Ketton (but possibly Weldon) stone (see Parsons 1990), plus some other types of coarse local stone (used as rubblestone/packstone) which includes both the local Greensand (Woburn Sands), the junction pebble bed which overlies the Upware Limestone, and fragments of large septaria or 'doggers' derived from the Kimmeridge Clay which lies close to Ely, thus just to the north of the present area.

| Feat. No. | Cont. No. | S.F. No. | Frag. No. | Dimensions       | Wt (kg) | Description                                                 | Geology                       | Use                                    |
|-----------|-----------|----------|-----------|------------------|---------|-------------------------------------------------------------|-------------------------------|----------------------------------------|
| -         | 51        | -        | 1         | 120x130x15       | 0.389   | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate *                        |
| -         | 51        | -        | 1         | 115x130x40       | 0.72    | weathered bioclastic lmstn.                                 | Corallian                     | rubblestone (wall -fill) *             |
| -         | 51        | -        | 1         | 110x70x45        | 0.7     | weathered septarian nodule.                                 | U. Jurassic Kimmeridge        | rough walling stone?                   |
| -         | 51        | -        | 1         | 200x160x50       | 2.98    | crudely-worked oolitic limestone. <b>WB</b>                 | Lincs Lmstn – Ketton?         | imported walling stone                 |
| -         | 127       | -        | 1         | 100x50x10        | 0.119   | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate                          |
| -         | 154       | 28       | 1         | 260x160x100      | 6.5     | rough faced and squared bioclastic lmstn <b>WB</b>          | Lower Lincs Lmstn ≠ Barnack?  | imported building stone (crude quoins) |
| -         | 288       | -        | 1         | 30               | 0.021   | bioclastic limestone. <b>B</b>                              | Lower Lincs Lmstn (= <28>?)   | very burnt-?lining of furnace/hearth*  |
| -         | 288       | -        | 1         | 85x80x40         | 0.339   | bioclastic limestone. <b>B</b>                              | Lower Lincs Lmstn (= <28>?)   | walling stone *                        |
| -         | 296       | -        | 6         | 25-80x12-15      | 0.2     | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate (strongly burnt) *       |
| -         | 381       | 63       | 1         | 100x70x25-28     | 2.42    | broken lenticular slab bioclastic lmstn. <b>W?B</b>         | corallian lmstn (Upware)      | walling stone re-used as hearth lining |
| -         | 381       | 63       | 1         | 220x180x30-40    | 1.56    | brkn & shaped lenticular slab bioclastic lmstn <b>W?</b>    | Corallian Lmstn (Upware)      | rough walling stone *                  |
| -         | 430a      | -        | 2         | 140x100x10-15    | 0.311   | fissile lmstn. <b>WB</b> (x1)                               | Collyweston Slate             | roofing slate                          |
| -         | 430b      | -        | 2         | 50               | 0.06    | frags of skeletal bioclastic lmstn <b>W?</b>                | Lower Lincs Lmstn (= <28>?)   | from walling stone *                   |
| -         | 430c      | -        | 3         | 120x70x15 + 70   | 0.44    | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate *                        |
| E3        | 430d      | -        | 1         | 160x85x17        | 0.39    | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate *                        |
| E1        | 430e      | -        | 1         | 75x45x11         | 0.087   | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate *                        |
| -         | 430f      | -        | 2         | 50 + 60          | 0.089   | frag bioclastic lmstn <b>W?</b>                             | Lower Lincs Lmstn+Corallian   | poss frags rubblestone wall course*    |
| -         | 430g      | -        | 3         | 35-85            | 0.182   | fissile lmstn. <b>WB</b>                                    | Collyweston Slate             | roofing slate *                        |
| -         | 694       | -        | 1         | 100x50x40        | 0.386   | coralline lmstn with <i>Isastrea</i> sp. <b>W?B</b>         | Corallian Lmstn (Upware)      | roughly-faced wall stone *             |
| -         | 719a      | -        | 1         | 55x45x15         | 0.076   | fissile lmstn <b>W</b>                                      | Collyweston Slate             | roofing slate *                        |
| -         | 719b      | -        | 1         | 70x50x30         | 0.088   | bio-oolastite <b>W?</b>                                     | Barnack Lmstn                 | frag non-diag walling stone *          |
| -         | 719c      | -        | 3         | 30-50            | 0.099   | calcareous sstn                                             | basal bed of Woburn Sst?      | rubblestone? *                         |
| -         | 719d      | -        | 1         | 60               | 0.054   | septarian nodule. <b>B</b>                                  | U. Jurassic Kimmeridge        | Calcined *                             |
| -         | 719e      | -        | 1         | 60               | 0.071   | bioclastic lmstn. <b>B</b>                                  | Lower Lincs Lmstn (= <28>?)   | frag walling? *                        |
| -         | 719f      | -        | 1         | 60               | 0.053   | peletoidal/coralline lmstn (w. <i>Isastrea</i> sp) <b>B</b> | Corallian Lmstn (Upware)      |                                        |
| -         | 725       | -        | 1         | 30               | 0.012   | bioclastic lmstn <b>B</b>                                   | Lower Lincs Lmstn (= <28>?)   | *                                      |
| -         | 742       | -        | 2         | 90x70x70         | 0.691   | skeletal bioclastic lmstn <b>WB</b>                         | Lower Lincs Lmstn (= <28>?)   | imported walling stone – faced? *      |
| -         | 807       | -        | 1         | 60               | 0.076   | oolitic bioclastic lmstn <b>B</b>                           | Corallian Lmstn               | *                                      |
| -         | 811       | -        | 4         | 150              | 1.22    | rounded piece of sandstone chert <b>B</b>                   | LGS junction bed              | poss rubblestone walling material *    |
| -         | 811       | -        | 30        | 20-230           | 3.42    | irreg peletoidal/coralline lmst (w. <i>Isastrea</i> )       | Corallian Lmstn?              | poss internal rubblestone walling *    |
| -         | 815       | -        | 5         |                  | 2.48    | unshaped bioclastic lmstn                                   | Corallian Lmstn               | poss rubblestone walling material? *   |
| -         | 815       | -        | 1         | 130x110x80       | 1.52    | bioclastic lmstn                                            | Corallian Lmstn               | walling stone, re-used as hearth? *    |
| -         | 821       | -        | 1         | 90x70x12         | 0.133   | fissile lmstn <b>WB</b>                                     | Collyweston Slate             | roofing slate                          |
| -         | 890       | -        | 4         | 130 + 100        | 1.46    | bioclastic lmstn, sstn w calcite, chert, quartzite <b>B</b> | Corallin +base of LGS+erratic | building stone re-used as post-pack *  |
| -         | 893       | -        | 2         | 110x100x15:80x10 | 0.32    | fissile lmstn <b>WB</b>                                     | Collyweston Slate             | roofing slate *                        |
| -         | 941       | -        | 1         | 60x80x12         | 0.188   | fissile lmstn <b>WB</b>                                     | Collyweston Slate             | roofing slate *                        |

Table 47. Catalogue of building stone. **W**=worked **B**=burnt

## B.6 Waterlogged Wood

*By Laura James*

### **Introduction**

- B.6.1 Assessment of the waterlogged wood aimed to assess the potential of the assemblage in terms of woodworking technology, woodland reconstruction, decay analysis, species identification, dendrochronology, conservation and retention. This report considers a single wood item found at the base of a feature attributed to the 3rd century.
- B.6.2 The material was situated in waterlogged deposits which created the anaerobic conditions necessary for organic preservation. It was recovered from well/waterhole **534** (Phase 2.3) and was a split timber possibly lining the feature. The material was lifted by site staff during the excavation and recorded by Laura James and Leanne Robinson Zeki (OA East) off-site during December 2018.

### **Methodology**

- B.6.3 This document has been produced in accordance with Historic England guidelines for the treatment of waterlogged wood (Brunning 2010) and recommendations made by the Society of Museum Archaeologists (1993) for the retention of waterlogged wood.
- B.6.4 The system of categorisation and interrogation developed by Taylor (2001) has been adopted within this report. The condition scale developed by the Humber Wetlands Project (Van de Noort *et al* 1995, table 15.1) has been used to assess the condition of the wood.

### **Results**

- B.6.5 There was one wood record: a split timber of plank. No artefacts or smaller pieces of primary woodworking debris, such as woodchips, were recovered. The assemblage consists entirely of this moderately large timber recovered from a well/watering hole (**534**; Phase 2.3), which may have been associated with either the use life or disuse of the feature.
- B.6.6 The plank or split timber was found lying horizontally at the base of the well/watering hole **534**. It has been initially identified as oak and is in poor condition. The compression it has experienced has warped one end to a bend. The timber has been split on the tangential face. It is in a delicate condition with cracks running through one end and is in three pieces. The timber is somewhat degraded - Level 2, 'Poor', according to the Humber Wetlands scale - with evidence of wet rot and water wear, which is to be expected from items recovered from such a context.

### **Conclusions**

- B.6.7 The split timber, identified as oak, shows signs of wear along one side of the item that would have occurred in antiquity. Although the recorded taphonomy – including wet

rot and water wear – is related to the items use in the base of wet features. There does not appear to be any evidence such as brown rot or charring which might relate to its use outside of the well.

- B.6.8 Worn grooves in the plank are still visible and look to have been made in the same way as each other, although they are not parallel. It is possible that the grooves along the top side of this plank were made by wear or repetition of an action and the grooves may have been beneficial if the timber were somehow being used in the base of the well for grip.
- B.6.9 The material is of poor quality, straight grained with one knot visible. The timber has been initially identified as oak via a visual inspection. Oak grows in stands and mixed woodland and will also tolerate damp soils. As such, it is likely to have been growing in the vicinity of the site. Oak occurs ubiquitously throughout the prehistoric and historic period as an excellent hard-wearing structural timber that has incredibly wide-ranging uses, including in wet environments such as well linings and revetments. It is an easily worked timber that can be split readily in both planes (Wilson and White 1986; Gale and Cutler 2000).
- B.6.10 The item itself has a poor preservation level. As this was the only wooden artefact recovered from this feature, the likelihood that it was part of a revetment or lining is less likely than that it was simply a discarded piece of timber.

## B.7 Prehistoric Pottery

*By Matt Brudenell*

### Introduction

- B.7.1 An assemblage of prehistoric pottery totalling 89 sherds (814g) was recovered from the excavation, displaying a mean sherd weight (MSW) of 9.1g. The material derived from 41 contexts relating to 34 feature interventions (primarily ditches) and seven layers/deposits (Table 48). The assemblage is dominated by plain abraded handmade body sherds, with the vast majority being recovered alongside Romano-British ceramics from Roman period features. There are very few diagnostic features such as rims and bases, although the material can be broadly (and tentatively) dated on the basis of the character of the fabrics (Tables 49-50).
- B.7.2 The pottery is in a stable condition but is dominated by small sized sherds (79% measuring less than 4cm in diameter), which are commonly abraded.
- B.7.3 This report provides a quantified description of the pottery, a brief discussion, and recommendations for further analysis and retention.

| Context | Cut | Group | Test pit | Feature Type | Phase | Spot date | No. sherds | Wt. (g) | With RB pot? |
|---------|-----|-------|----------|--------------|-------|-----------|------------|---------|--------------|
| 51      | NA  |       | B1       | Subsoil      |       | LBA-EIA   | 2          | 13      |              |
| 156     | 155 | 99    |          | Ditch        | 2.3   | LBA-EIA   | 1          | 5       | Y            |
| 393     | 392 | 286   |          | Ditch        | 2.3   | MIA       | 1          | 4       | Y            |
| 400     | 399 | 399   |          | Ditch        | 2.4   | LBA-EIA   | 1          | 11      | Y            |

| Context | Cut | Group | Test pit | Feature Type     | Phase | Spot date | No. sherds | Wt. (g) | With RB pot? |
|---------|-----|-------|----------|------------------|-------|-----------|------------|---------|--------------|
| 400     | 399 | 399   |          | Ditch            |       | MIA       | 4          | 31      | Y            |
| 419     | 421 | 421   |          | Ditch            | 2.5   | LBA-EIA   | 1          | 6       | Y            |
| 419     | 421 | 421   |          | Ditch            | 2.5   | MIA       | 2          | 58      | Y            |
| 430     | NA  |       | F1       | Dark earth layer | 3     | LBA-EIA   | 1          | 10      | Y            |
| 430     | NA  |       | F4       | Dark earth layer | 3     | MIA       | 1          | 8       | Y            |
| 430     | NA  |       | H1       | Dark earth layer | 3     | LBA-EIA   | 1          | 9       | Y            |
| 430     | NA  |       | H3       | Dark earth layer | 3     | LBA-EIA   | 2          | 22      | Y            |
| 488     | 487 | 487   |          | Ditch            | 2.5   | MIA       | 2          | 3       | Y            |
| 522     | NA  | 522   | J4       | Layer (internal) | 2.4   | MIA       | 3          | 28      | Y            |
| 522     | NA  | 522   | J4       | Layer (internal) | 2.4   | LIA       | 1          | 6       | Y            |
| 522     | NA  | 522   | J5       | Layer (internal) | 2.4   | MIA       | 1          | 9       | Y            |
| 542     | 512 |       |          | Pit              | 2.5   | LBA-EIA   | 1          | 2       | Y            |
| 542     | 512 |       |          | Pit              | 2.5   | MIA       | 1          | 20      | Y            |
| 552     | 551 | 551   |          | Pit              | 2.4   | MIA       | 1          | 7       | Y            |
| 570     | 567 |       |          | Pit              | 2.3   | LBA-EIA   | 1          | 3       |              |
| 608     | 606 | 528   |          | Ditch            | 2.4   | MIA       | 1          | 7       | Y            |
| 622     | 621 | 528   |          | Ditch            | 2.4   | LBA-EIA   | 1          | 4       | Y            |
| 625     | 624 | 524   |          | Ditch            | 2.5   | MIA       | 1          | 6       | Y            |
| 641     | 639 | 639   |          | Ditch            | 2.1   | MIA       | 2          | 8       | Y            |
| 659     | 658 | 639   |          | Ditch            | 2.1   | LBA-EIA   | 1          | 8       | Y            |
| 660     | 658 | 639   |          | Ditch            | 2.1   | E-MBA     | 1          | 5       |              |
| 661     | 658 | 639   |          | Ditch            | 2.1   | LBA-EIA   | 1          | 4       | Y            |
| 680     | NA  |       |          | Deposit          | 2.3   | LBA-EIA   | 1          | 5       | Y            |
| 681     | NA  |       |          | Deposit          | 2.3   | LBA-EIA   | 1          | 1       | Y            |
| 688     | 674 | 674   |          | Ditch            | 2.1   | MIA       | 1          | 23      | Y            |
| 711     | 710 |       |          | Pit              | 2.3   | MIA       | 11         | 241     |              |
| 711     | 710 |       |          | Pit              | 2.3   | LIA       | 1          | 29      |              |
| 717     | 716 | 716   |          | Ditch            | 2.3   | LBA-EIA   | 1          | 4       | Y            |
| 717     | 716 | 716   |          | Ditch            | 2.3   | MIA       | 3          | 3       | Y            |
| 730     | 718 | 639   |          | Ditch            | 2.1   | MIA       | 4          | 20      | Y            |
| 731     | 718 | 639   |          | Ditch            | 2.1   | LBA-EIA   | 1          | 15      | Y            |
| 731     | 718 | 639   |          | Ditch            | 2.1   | MIA       | 1          | 7       | Y            |
| 750     | 749 | 674   |          | Ditch            | 2.1   | LBA-EIA   | 1          | 6       |              |
| 753     | 752 | 752   |          | Ditch            | 2.1   | MIA       | 3          | 26      | Y            |
| 788     | 787 | 787   |          | Ditch            | 3     | LBA-EIA   | 1          | 5       | Y            |
| 788     | 787 | 787   |          | Ditch            | 3     | MIA       | 1          | 4       | Y            |
| 792     | 789 | 789   |          | Post pipe        | 2.5   | LBA-EIA   | 1          | 6       | Y            |
| 794     | 793 |       |          | Hollow           | 3     | MIA       | 1          | 8       | Y            |
| 807     | NA  |       | J2       | Layer (internal) | 2.5   | MIA       | 1          | 5       | Y            |
| 807     | NA  |       | J8       | Layer (internal) | 2.5   | MIA       | 2          | 13      | Y            |
| 826     | NA  |       | J4       |                  |       | MIA       | 1          | 5       |              |
| 835     | 787 | 787   |          | Ditch            | 3     | MIA       | 1          | 15      | Y            |
| 841     | 840 |       |          | Hollow/pit       | 2.3   | LBA-EIA   | 1          | 3       | Y            |
| 856     | 855 | 855   |          | Ditch            | 3     | MIA       | 1          | 6       | Y            |
| 859     | 857 | 857   |          | Ditch            | 3     | MIA       | 1          | 3       | Y            |
| 874     | 873 |       |          | Pit              | 2.2   | LBA-EIA   | 1          | 2       | Y            |
| 919     | 917 | 674   |          | Ditch            | 2.1   | LBA-EIA   | 2          | 8       | Y            |
| 922     | 920 | 674   |          | Ditch            | 2.1   | MIA       | 2          | 4       |              |
| 922     | 920 | 674   |          | Ditch            | 2.1   | E-MBA     | 2          | 21      |              |

| Context      | Cut | Group | Test pit | Feature Type | Phase | Spot date | No. sherds | Wt. (g)    | With RB pot? |
|--------------|-----|-------|----------|--------------|-------|-----------|------------|------------|--------------|
| 933          | 931 |       |          | Pit          | 1     | E-MBA     | 4          | 19         |              |
| 938          | 937 | 674   |          | Ditch        | 2.1   | MIA       | 1          | 10         |              |
| <b>Total</b> |     |       |          |              |       |           | <b>89</b>  | <b>814</b> |              |

*Table 48. Quantification of prehistoric pottery by context*

| Period                     | No. sherds | Wt (g)     |
|----------------------------|------------|------------|
| Early to Middle Bronze age | 7          | 45         |
| LBA-EIA                    | 25         | 152        |
| LIA                        | 2          | 35         |
| MIA                        | 55         | 582        |
| <b>Total</b>               | <b>89</b>  | <b>814</b> |

*Table 49. Quantification of prehistoric pottery period*

## Methodology

- B.7.4 All the pottery has been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (2011). After a full inspection of the assemblage, fabric groups were devised on the basis of dominant inclusion types, their density and modal size. All sherds were counted, weighed (to the nearest whole gramme) and assigned to a fabric group. Sherd type was recorded, along with evidence of surface treatment, decoration, and the presence of soot and/or residue. Rim and base forms were described using a codified system recorded in the catalogue, and were assigned vessel numbers.
- B.7.5 All pottery has been subject to sherd size analysis. Sherds less than 4cm in diameter have been classified as 'small' (70 sherds; 79%); sherds measuring 4-8cm are classified as 'medium' (19 sherds; 21%), and sherds over 8cm in diameter 'large' (no sherds; 0%). The quantified data is presented on an Excel data sheet held with the project archive.

## Fabric series

FQ1: Sparse to common coarse burnt flint (mainly 2-4mm in size) and quartz sand

FQ2: Sparse to common medium burnt flint (mainly 1-2mm in size) and quartz sand

FQ3: Sparse to common fine burnt flint (mainly <1mm in size) and quartz sand

G1: Moderate to common coarse grog (2-6mm in size). Grog contains shell.

Q1: Moderate to common quartz sand. Sherds may contain rare flint, rare linear voids from burnt out organic matter or rare calcareous inclusions.

S1: Common to abundant medium and coarse shell (mainly 1-3mm)

S2: Moderate to common coarse shell (mainly 2-6mm)

S2: Sparse to common fine shell (mainly <1mm)

SQ1: Moderate fine shell (mainly <1mm) and quartz sand

SQ2: Sparse coarse shell (mainly 204mm) and quartz sand

| Fabric       | Fabric group   | No. sherds | Weight (g) | % fabric (by wt.) | MNV      |
|--------------|----------------|------------|------------|-------------------|----------|
| FQ1          | Flint and sand | 12         | 81         | 10.0              | -        |
| FQ2          | Flint and sand | 9          | 48         | 5.9               | 1        |
| FQ3          | Flint and sand | 4          | 23         | 2.8               | 1        |
| G1           | Grog           | 2          | 21         | 2.6               | -        |
| Q1           | Sand           | 36         | 266        | 32.7              | 5        |
| S1           | Shell          | 5          | 24         | 2.9               | -        |
| S2           | Shell          | 12         | 249        | 30.6              | 1        |
| S3           | Shell          | 4          | 8          | 1.0               | -        |
| SQ1          | Shell and sand | 2          | 29         | 3.6               | -        |
| SQ2          | Shell and sand | 3          | 65         | 8.0               | -        |
| <b>Total</b> |                | <b>89</b>  | <b>814</b> | <b>100.1</b>      | <b>8</b> |

Table 50. Quantification of prehistoric pottery by fabric. MNV calculated as the total number of different rims and bases (four rims, four bases)

### Early to Middle Bronze Age pottery

B.7.6 Seven sherds (45g) of pottery are assigned to the Early to Middle Bronze Age on the basis of their fabrics. The sherds derive from context 922 in ditch **674** (two sherds, 21g), pit **931** (four sherds, 19g) and ditch **639** (one sherd, 5g). The pottery from context 922 comprises two sherds in a coarse grog-tempered fabric (fabric G1), while those from pit **931** and ditch **658** are thick-walled sherds containing abundant shell (fabrics S1). The grog-tempered sherds are probably Early or Middle Bronze Age in date (c. 1800-1150 BC), whilst the shell tempered wares may be Middle Bronze Age (c. 1500-1150 BC).

### Late Bronze Age and Early Iron Age pottery

B.7.7 The sherds containing a combination of flint and sand (fabrics FQ1-3) in the assemblage are likely to be Late Bronze Age or Early Iron Age in date (c. 1100-350 BC). These include a total of 25 plain sherds (152g) recovered from 19 contexts. The assemblage includes only two vessel rims (from layer **430** and pit **537**), both of which are plain, flat-topped and relatively undiagnostic. However, several shoulder sherds were recovered including an angular shoulder sherd from deposit 681. This is likely to be Early Iron Age in date.

### Later Iron Age pottery

B.7.8 Pottery assigned to the later Iron Age comprises 67 sherds (617g), and accounts for 75% of the total prehistoric pottery assemblage by count, or 76% by weight. The material is characterised by relatively hard-fired handmade sherds with sand, shell or a combination of shell and sand fabrics (fabrics Q1, S2-3, SQ1-2). Sandy wares dominate, which is typical of the later Iron Age-type tradition in Southern Cambridgeshire. Diagnostic sherds are rare but include two flat-topped sandy ware rims (one from layer **430**, and one from ditch **674**), one of which is decorated with tool impressions on the rim-top. Fragments of four bases were also recovered, the most intact being from pit **710** which yielded 12 sherds weighing 270g – the single largest assemblage of prehistoric pottery. This pit also included a wheel-made base sherd (29g) dating to the Late Iron Age. A second fragment of a wheel-made Late Iron Age

base was recovered from layer **522** (6g). These are the only Late Iron Age wheel-made sherds identified in the assemblage.

- B.7.9 Overall, the later Iron Age pottery can be given a broad date of c. 350 BC-AD 50, although bulk of the material is likely to belong to the period between c. 350-50 BC.

### **Discussion**

- B.7.10 The prehistoric pottery recovered from the excavations constitutes a small assemblage of largely residual material, with the ceramics potentially dating from the Early Bronze Age through to the end of the Iron Age. While an attempt has been made to separate the material by period, there are few diagnostic sherds and the divisions are largely based on the character of the fabrics. This is not always a reliable guide, meaning that the dating offered must be viewed as tentative.
- B.7.11 In general, the pottery was all distributed in the north of the site, with most finds recovered toward the north-east corner (the highest part of the site). There is little sense of any spatial pattern in the distribution of material by date.

## **B.8 Roman Pottery**

*By Katie Brudenell*

### **Introduction**

- B.8.1 A large assemblage of Roman pottery was recovered from Upware, totalling 5948 sherds weighing 97365g and representing an estimated number of vessels (ENV) of 700 and 112.95 EVEs (estimated vessel equivalent), including 349 sherds weighing 5716g from the evaluation phase. All of the pottery was fully analysed and recorded in accordance with the Study Group for Roman Pottery guidelines (Perrin 2011). The assemblage attests to an interesting, predominately later, Roman site, seemingly taking advantage of the nearby river system.

### **Assemblage Chronology**

- B.8.2 Although the pottery spans the Roman period, the pottery evidence suggests that activity prior to the mid-late 2nd century AD was limited and 72.2% of the pottery derives from contexts with a spot date of 3rd-4th century AD and 34% from features with a ceramic date of 4th century AD.
- B.8.3 Whilst approximately 24.4% of the assemblage (by weight) comprised sherds which could only be broadly dated as mid-later Roman (c. AD 100/150-400), due to the relatively generic nature of the fabrics and/or forms, the stratigraphy of the features has allowed this material to be phased. Given that the majority of the assemblage derived from contexts with a Late Roman component, it seems likely that much of the material dated Mid-Late Roman is in fact Late Roman in date (AD 200-400+), especially when the other datable finds (namely coins, see App. B.2) are considered.

| Phase        | No.         | No. %        | Wt(g)        | Wt %         | MNV        | EVE           |
|--------------|-------------|--------------|--------------|--------------|------------|---------------|
| 0            | 599         | 10.1         | 9673         | 9.9          | 70         | 12.23         |
| 1            | 6           | 0.1          | 34           | 0.0          | 1          | 0             |
| 2.1          | 411         | 6.9          | 4288         | 4.4          | 43         | 3.37          |
| 2.2          | 121         | 2.0          | 1953         | 2.0          | 10         | 2.16          |
| 2.3          | 1547        | 26.0         | 20337        | 20.9         | 186        | 20.31         |
| 2.4          | 278         | 4.7          | 4650         | 4.8          | 37         | 5.81          |
| 2.5          | 2864        | 48.2         | 54926        | 56.4         | 338        | 66.86         |
| 3            | 122         | 2.1          | 1504         | 1.5          | 15         | 2.21          |
| <b>TOTAL</b> | <b>5948</b> | <b>100.0</b> | <b>97365</b> | <b>100.0</b> | <b>700</b> | <b>112.95</b> |

Table 51. Quantification of Roman pottery by site phase

B.8.4 The pottery suggests that the site continued in use at least until the later 4th century AD, however, it is unclear from the evidence as to whether activity continued into the early 5th century AD. While no handmade Early Saxon pottery was recovered, it is possible that some of the later fabrics (Nene Valley, Oxfordshire, Hadham) may date beyond the late 4th century AD.

### Assemblage Composition

B.8.5 The condition of the assemblage is varied, with an overall mean weight of 16.4g, which is fairly average for a Roman rural site. That said, there are numerous examples of vessels that can be refitted to form often large, partial and semi-complete vessel profiles. This occurred primarily within contexts, with just one example of a cross-context refit, between contexts in intervention **671**, Ditch **526** (Phase 2.5). Furthermore, the assemblage was generally in good condition, largely due to the fact that the site was not previously developed and was not effected by deep ploughing. This resulted in a number of vessels, which although broken in antiquity, could be refitted to form partial and near complete vessels.

B.8.6 A wide range of vessel fabrics was identified (Table 52) with the assemblage being dominated by coarseware fabrics, which represent 82.7% by sherd count and 86.4% by weight. This group is dominated by sandy greywares and reduced wares, most of which are likely to have been produced locally, although most are unsourced (in particular fabrics CSGW, CSMGW, CSRDU, CSMRDU). The most common sourced coarsewares are Horningsea products which account for 29.4% of the coarseware assemblage (by sherd count) and 24.3% of the total assemblage (1444 sherds, 44105g, 148 ENV, 24.51 EVEs). This includes grey, oxidised, black-slipped, black-burnished and white-slipped varieties. Jars dominate this ware, representing a minimum of 87 vessels, including a minimum of 20 large storage jars (510 sherds, 23093g) with everted, beaded or bifid rims. 83% of the storage jars had combing, occurring on both the exterior and interior of the vessels and 106 sherds had finger wipe marks. The large quantity of Horningsea products is not unsurprising given that the production centre was located just c.6km south-west of the site. Furthermore, the site's location next to the River Cam would have made any waterborne trade of pottery very convenient.

- B.8.7 Shell-tempered wares are also well-represented, totalling 11.2% of the overall assemblage by count (670 sherds, 11265g, MNV 92). This category is dominated by jars (MNV 70), with rim diameters ranging between 10cm to 28cm, with the average of 16.5cm. Other shell-tempered vessel forms include eight flanged bowls and one straight-sided dish. A minimum of six vessels had black-slipped, burnished surfaces, with other decorative techniques comprising combing, tooling and rilling. The source of the shell-tempered wares is likely to be relatively local, with the material seemingly deriving from the same source(s) as those identified at Colne Fen, Earith (Vince in Evans *et al* 2013; 325-328). As with the Horningsea wares, it is possible that river-borne transport played a role in the distribution of this ware.
- B.8.8 Other sourced coarsewares occurred in very small quantities, including two sherds from Mancetter Hartshill mortaria, three Swanspool white-slipped mortaria vessels and one jar, two BB2 sherds and three possible Alice Holt/Farnham sherds. These sherds are indicative of just a few vessels, thus suggesting that this material was not readily available locally, but rather may have arrived at site via different mechanisms. These vessels do, however, highlight the fact that there was access to goods from outside of the local area, even if this was sporadic.
- B.8.9 Romano-British finewares account for 16% of the assemblage by count (11.5% by weight) and within this group, Nene Valley colour-coated wares are the most common group, representing 41.6% of the finewares and 6.6% of the total assemblage (both by sherd count). Nene Valley colour-coated wares occur in a range of forms, with bowls the most common (MNV 19), comprising late Roman beaded, flanged bowls (MNV 9), as well as three imitation samian vessels. Ten jars (MNV) were identified, one of which has a small post-firing perforation in the neck, possibly for suspension, from layer 430. A further example of a post-firing perforation was noted on a Nene Valley imitation Dragendorff (Dr) 36 dish from ditch fill 439, Ditch **412** (Phase 2.5). This vessel also had sooting on the rim top and a worn interior, indicative of being used for grinding. Other Nene Valley vessel forms include a minimum of 12 beakers, eight dishes, three flagons, two lids and one jug. Decorated sherds (rouletting and tooled) from a single, flagon/jug were recovered from contexts 685 and 687 (fills of Ditch **526**, intervention **671**, Phase 2.5), thus representing the only examples of cross feature refits within the assemblage. In total 29.5% of the Nene Valley sherds are decorated, with rouletting, barbotine and painted decoration being most common. Six late Nene Valley parchment wares with painted decoration were noted within the assemblage and a further 20 unsourced colour-coated finewares (207g) were recorded, at least some of which may represent Nene Valley products, but with slightly different fabrics to those vessels commonly associated with this industry.
- B.8.10 Vessels from the Hadham kilns are also well represented, totalling 271 sherds weighing 2877g, thus representing 28.5% of the Romano-British finewares. This includes oxidised (110 sherds, 1271g), reduced (129 sherds, 1229g) and black-burnished ware varieties (23 sherds, 377g). The vessel forms are dominated by beakers, bowls and dishes, and of particular interest are two face pots recovered from Ditch 412 (SF122) and layer 430 (Fig. 24, Nos 13 & 15). Both of these occur in the oxidised fabric and it is of interest that both examples comprise just the decorated face of the vessels

(beakers/flacons), suggesting these pieces were deliberately removed and/or retained.

- B.8.11 Oxfordshire wares although not common, form an element of the Late Roman assemblage, totalling 56 sherds weighing 457g (MNV120). All of the identifiable forms comprise bowls and dishes, including three imitation samian Dr31 vessels, and one imitation Dr38 bowl, which had indented and rouletted decoration. There were also examples of late bowl forms C78 and C79 (Young 1977), which date AD340-400+.
- B.8.12 The remaining 1.4% of the assemblage (2.3% by weight) comprises imported wares (82 sherds, 2163g MNV18). Within this category samian represents the largest group, totalling 59 sherds weighing 712g, with all three production areas represented. It is of note that a number of these sherds appear to be residual, occurring in much later dating contexts and while this could simply be due to truncation of earlier features, it is also possible that some of this material had been curated, or had a long use life. The samian primarily consists of body sherds, those sherds which are diagnostic derive from plain vessels forms such as Dr31 dishes (five sherds, 113g, MNV 2) and Dr33 cups (eight sherds, 97g, MNV 6). The exceptions to this are one sherd from a Dr37 bowl with ovolo decoration from the basal fill of well **448** (fill 449), and a body sherds from an East Gaulish vessel with a partial figure visible from the same context. It is possible that these sherds derive from a single vessel, although they were not refitting. A Dr33 cup with a complete stamp was recovered from well **456** (fill 461), which reads 'NICCTONIM'. This has been identified by S. Wadeson as being produced by the potter MICCIO III. Finally of note is a grafitto letter scratched on the underside of an East Gaulish Dr31r dish from Ditch **171**, (fill 191; SF38).
- B.8.13 Ten Baetican amphora sherds (1422g) were identified, deriving from Dressel 20 vessels, commonly used in the transport of olive oil. Most of this material was fragmented, with no diagnostic sherds present. However, two large body sherds (629g), SF174, were recovered from one of the internal surfaces within the building, from layer (807). The remaining imported wares comprised only very small numbers of sherds, probably reflecting a small number of vessels. This includes five Moselkeramik black-slipped ware sherds (all from beakers), two Argonne colour-coated wares, four Central Gaulish black-slipped wares from indented beakers and one Central Gaulish colour-coated sherd from a further indented beaker.
- B.8.14 Although the assemblage character in terms of fabrics is a typical pattern within rural, Cambridgeshire sites, the percentage of finewares is slightly higher than at other, contemporary sites, *e.g.* Cottenham where finewares represented 8.3% of the assemblage (Anderson 2020), suggesting that the status of this site may be somewhat higher than the average farmstead. The limited quantity and range of imported wares are typical of this region and given that this site peaks in the later Roman period when the quantity of imported wares had declined, this is not unexpected.

| Code | Fabric                  | No. | Wt(g) | MNV | EVE  |
|------|-------------------------|-----|-------|-----|------|
| AHFA | Alice Holt/Farnham      | 3   | 20    | 2   | 0.27 |
| ARGO | Argo colour-coated ware | 2   | 5     | 1   | 0.1  |
| BAET | Baetican amphora        | 3   | 107   | 0   | 0    |

| Code    | Fabric                                                         | No.  | Wt(g) | MNV | EVE   |
|---------|----------------------------------------------------------------|------|-------|-----|-------|
| BAETL   | Baetican amphora (late)                                        | 7    | 1315  | 0   | 0     |
| BB2     | Black-burnished ware 2                                         | 2    | 26    | 0   | 0     |
| BLKSL   | Black-slipped ware (unsourced)                                 | 227  | 2486  | 45  | 4.24  |
| BLKSLM  | Black-slipped ware - micaceous (unsourced)                     | 1    | 7     | 0   | 0     |
| BUFF    | Buff sandy ware (unsourced)                                    | 5    | 50    | 0   | 0     |
| CC      | Colour-coat (unsourced)                                        | 20   | 217   | 1   | 1.4   |
| CGBLK   | Central Gaulish black-slipped ware                             | 5    | 15    | 0   | 0     |
| CGCC    | Central Gaulish Colour coated ware                             | 1    | 2     | 0   | 0     |
| CSBLK   | Coarse sandy black-slipped ware (unsourced)                    | 3    | 20    | 1   | 0     |
| CSBUFF  | Coarse sandy buff ware (unsourced)                             | 4    | 31    | 2   | 0.1   |
| CSGW    | Coarse sandy greyware (unsourced)                              | 614  | 6121  | 80  | 11.08 |
| CSMBLK  | Coarse sandy micaceous black slipped ware (unsourced)          | 18   | 363   | 4   | 0.61  |
| CSMGW   | Coarse sandy micaceous greyware (unsourced)                    | 1412 | 12065 | 71  | 8.34  |
| CSMOX   | Coarse sandy micaceous oxidised ware (unsourced)               | 51   | 587   | 5   | 2.13  |
| CSMRDU  | Coarse sandy micaceous reduced ware (unsourced)                | 96   | 914   | 6   | 1.11  |
| CSOX    | Coarse sandy oxidised ware (unsourced)                         | 161  | 1602  | 13  | 2.12  |
| CSRDU   | Coarse sandy reduced ware (unsourced)                          | 32   | 505   | 9   | 0.7   |
| FSBLK   | Fine sandy black-slipped (unsourced)                           | 7    | 32    | 1   | 0     |
| FSBUFF  | Fine sandy buff ware (unsourced)                               | 4    | 17    | 1   | 0     |
| FSGW    | Fine sandy greyware (unsourced)                                | 34   | 220   | 12  | 0.4   |
| FSMBLK  | Fine sandy micaceous black-slipped ware (unsourced)            | 37   | 549   | 5   | 3.64  |
| FSMGW   | Fine sandy micaceous greyware (unsourced)                      | 58   | 614   | 14  | 2.3   |
| FSMOX   | Fine sandy micaceous oxidised ware (unsourced)                 | 24   | 337   | 1   | 0.8   |
| FSMRDU  | Fine sandy micaceous reduced ware (unsourced)                  | 8    | 131   | 3   | 0.09  |
| FSOX    | Fine sandy oxidised ware (unsourced)                           | 14   | 91    | 2   | 0.18  |
| FSRDU   | Fine sandy reduced ware (unsourced)                            | 5    | 44    | 0   | 0     |
| GROG    | Grog-tempered ware                                             | 1    | 4     | 1   | 0     |
| HADBB   | Hadham black-burnished ware                                    | 23   | 377   | 8   | 0.53  |
| HADOX   | Hadham oxidised ware                                           | 102  | 1133  | 18  | 2.78  |
| HADRDU  | Hadham reduced ware                                            | 129  | 1229  | 23  | 1.91  |
| HADRS   | Hadham red-slipped ware                                        | 17   | 138   | 1   | 0.12  |
| HORNBB  | Horningsea black-burnished ware                                | 70   | 1629  | 30  | 3.87  |
| HORNBS  | Horningsea black-slipped (not burnished)                       | 15   | 227   | 6   | 0.2   |
| HORNGW  | Horningsea greyware                                            | 1269 | 38959 | 105 | 19.98 |
| HORNOX  | Horningsea oxidised ware                                       | 40   | 1019  | 2   | 0.08  |
| HORNWS  | Horningsea white-slipped ware                                  | 50   | 2271  | 5   | 0.38  |
| HWC     | Highgate Wood C ware                                           | 3    | 6     | 0   | 0     |
| IMITBB  | Imitation black-burnished ware (unsourced)                     | 41   | 746   | 14  | 1.04  |
| IMITSAM | Imitation Samian                                               | 1    | 21    | 0   | 0.11  |
| MAHWH   | Mancetter Hartshill whiteware                                  | 2    | 72    | 0   | 0     |
| MOSL    | Moselkeramik black-slipped ware                                | 5    | 7     | 0   | 0     |
| MSGW    | Moderately sandy greyware, very common to frequent silver mica | 28   | 209   | 4   | 0.08  |
| NVCC    | Nene Valley Colour Coated ware                                 | 396  | 5870  | 64  | 17.04 |
| NVGW    | Nene Valley Greyware                                           | 12   | 167   | 4   | 0.3   |
| NVPA    | Nene Valley Parchment ware                                     | 6    | 31    | 0   | 0     |

| Code    | Fabric                              | No. | Wt(g) | MNV | EVE   |
|---------|-------------------------------------|-----|-------|-----|-------|
| NVSC    | Nene Valley self-coloured ware      | 3   | 41    | 1   | 0     |
| NVWW    | Nene Valley whiteware               | 19  | 903   | 4   | 0.84  |
| OXFPA   | Oxford parchment ware               | 3   | 12    | 0   | 0     |
| OXFRS   | Oxfordshire red-slipped ware        | 56  | 457   | 12  | 0.74  |
| OXFWS   | Oxfordshire white-slipped ware      | 7   | 241   | 1   | 0.46  |
| OXFWW   | Oxfordshire whiteware               | 1   | 103   | 0   | 0.2   |
| SAM     | Samian (unsourced)                  | 10  | 14    | 0   | 0     |
| SAMCG   | Samian Central Gaulish              | 21  | 247   | 6   | 0.46  |
| SAMEG   | Samian East Gaulish                 | 22  | 386   | 6   | 2.06  |
| SAMLZ   | Samian - Lezoux                     | 3   | 56    | 2   | 1.1   |
| SAMMV   | Samian - Les Martres-de-Veyre       | 1   | 3     | 1   | 0     |
| SAMSG   | Samian South Gaulish                | 2   | 6     | 2   | 0     |
| SHELL   | Shell-tempered ware                 | 670 | 11265 | 92  | 17.26 |
| SWNWS   | Swanspool white-slipped ware        | 14  | 623   | 2   | 0.65  |
| VRW     | Verulamium whiteware                | 1   | 30    | 0   | 0     |
| WATT    | Wattisfield greyware                | 7   | 51    | 3   | 0.3   |
| WSOX    | White-slipped coarse sandy oxidised | 15  | 136   | 2   | 0.85  |
| WW      | Whiteware (unsourced)               | 24  | 163   | 2   | 0     |
| WW-COL? | Colchester whiteware                | 1   | 20    | 0   | 0     |

Table 52: Quantification of Roman pottery by fabric

B.8.15 In terms of vessel forms, the assemblage is typical of a rural domestic settlement (Table 53), dominated by jars which represent an estimated 252 different vessels (1185 sherds, 42369g), varying in size from small vessels (rim diameters 8cm) to very large storage jars (up to 40cm in rim diameter). The latter group is dominated by Horningsea storage jars, with fewer shell-tempered and unsourced sandy greyware examples. Approximately 62% of the jar assemblage is decorated, with the most common techniques being combing, burnishing and rilling and 17.4% of the jars had evidence for sooting, occurring primarily around the exterior rim of medium-sized jars with rim diameters ranging from 10cm-22cm.

B.8.16 Dishes and bowls represent similar numbers of vessels (93 and 95 ENV respectively), occurring in coarseware, fineware and imported fabrics. As with jars, bowls occurred in a variety of sizes ranging between 12cm and 26cm in diameter. Common bowl forms within the assemblage include beaded bowls and late Roman beaded, flanged bowls. Two partially complete bowls were recovered, one refitting (13 sherds, 549g) large shell-tempered flanged rim bowl (rim diameter 24cm) from Phase 2.4 Ditch 498 (intervention 513, fill 514) and one sandy greyware beaded bowl from Ditch 82, SF33 (24 sherds, 485g). The latter was almost complete when refitted and may represent a deliberate or 'special' deposit, although it was recovered alongside a further 57 sherds, meaning that it may simply represent general domestic waste. Decoration of bowls was limited, with rouletting the most commonly applied technique, while just six vessels (MNV, nine sherds in total) had use wear evidence comprising external sooting, indicative of being used over a fire. Within the dish category, straight-sided vessels are the most commonly occurring (45% by MNV), with a further 24% comprising beaded rim dishes.

B.8.17 A minimum of 55 different beakers were identified (12 sherds, 736g), with rim diameters ranging from 8cm to 16cm and common forms being beaded rim, cornice rim, everted rim varieties. Body sherds from poppy head and indented beakers were also identified, although no rims were present, meaning that there is no minimum number of vessels for these forms. Approximately 21% of beakers are decorated, with common forms being roughcast, rouletting and barbotine decoration, including three examples of poppyhead decoration.

B.8.18 Uncommon vessel forms include cups (MNV 7), all of which comprise samian Dr33 cups, lids (MNV 12) and mortaria (MNV 8), the latter deriving primarily from the Nene Valley, but with Swanspool and Mancetter Hartshill vessels also represented. Of interest are two wasters/seconds with large air bubbles which came from two Phase 2.5 contexts (pit **612**, fill 616 and Ditch **526**, intervention **676**, fill 695), both of which occur in similar coarse sandy greyware fabrics. A further possible waster (13 sherds 231g) was recovered from Phase 2.5 Ditch **673** (fill 687), comprising a black-slipped vessel which appears to have a very warped rim. It is possible that this represents a copy of a Nene Valley colour-coated trifold rim flagon/jug, in which case the warping of the rim is deliberate.

| Form         | No.         | Wt(g)        | MNV        | EVE           |
|--------------|-------------|--------------|------------|---------------|
| Amphora      | 8           | 1417         | 0          | 0             |
| Beaker       | 122         | 736          | 55         | 6.58          |
| Beaker/jar   | 1           | 12           | 0          | 0             |
| Bowl         | 155         | 4735         | 95         | 9.23          |
| Bowl/lid     | 1           | 47           | 1          | 0.08          |
| Closed       | 428         | 5896         | 58         | 14.74         |
| Cup          | 7           | 85           | 5          | 1.32          |
| Dish         | 147         | 3556         | 93         | 8.55          |
| Flagon       | 61          | 713          | 5          | 2.75          |
| Jar          | 1185        | 42369        | 252        | 39.27         |
| Jug          | 18          | 295          | 1          | 1.2           |
| Jug/flagon   | 31          | 437          | 0          | 0             |
| Lid          | 12          | 424          | 9          | 1.06          |
| Mortaria     | 40          | 2003         | 8          | 2.27          |
| Open         | 36          | 887          | 3          | 1.97          |
| Unknown      | 3696        | 33753        | 115        | 23.93         |
| <b>TOTAL</b> | <b>5948</b> | <b>97365</b> | <b>700</b> | <b>112.95</b> |

Table 53. Quantification of Roman pottery by vessel form

B.8.19 A total of 17.8% of the pottery (by sherd count) is decorated, with combing being the most commonly used technique (562 sherds). Other decoration techniques include burnishing, rouletting, barbotine, painted, tooled and grooved lines. Approximately 8% of the pottery was noted as having use wear evidence (excluding abrasion), with exterior sooting the most prolific, occurring on 286 sherds. Ten sherds were noted as having post-firing perforations, indicative of modifications, occurring either on the base or on the neck. Likewise, five base sherds have evidence of being trimmed, ranging in diameter from 3cm to 12cm, although their secondary function(s) are uncertain. Two coarse sandy greyware vessels were noted as having large air bubbles in the vessel walls, indicative of being seconds rather than wasters.

### *Contextual and Spatial Analysis*

- B.8.20 Roman pottery derived from a total of 313 contexts (see catalogue; Table 54) representing 215 interventions. The majority of contexts produced small assemblage of pottery between 1-30 sherds (227 contexts in total). Twenty-four contexts contained medium-sized assemblages (31-99 sherds), 11 large assemblages, in excess of 100 sherds and one very large context (500+ sherds). Overall, a little over half of the pottery was recovered from ditches (57.6% by count and 54.5% by weight), with a further 21.6% by count (increasing to 25.7% by weight) deriving from dark earth deposits.
- B.8.21 Distribution plots of the pottery (by weight) highlight the spatial changes in the way that different areas of the site were used during different phases (Fig. 18), although it should be remembered that this data primarily reflects where material was discarded and not necessarily where it was in use. During Phases 2.1 and 2.2 (Fig 18, plot B) there was a low level of activity, although this was spread across site. There was a slight cluster of material in the southern area, around pit **153** and ditches **99** and **194** and in the northern area around ditches **353** and **290**. As well as highlighting the increase in material during Phase 2.3, the plot (Fig. 18, plot C) also shows a cluster of material discarded in the southern area enclosures with particular focus on ditches **82**, **194** and **99**. Within the northern area of site the focus appears to be around the enclosures on the eastern edge of site comprising ditches **286**, **418** and **435**.
- B.8.22 Phase 2.4 saw continued use the southern area of the site, although the quantities of pottery recovered indicate that activity was much more peripheral during this period (Fig 18, plot C). Instead, the focus was in the northern area of site, around the enclosures on the western edge of site including ditch **513** as well as ditch **282** on the eastern edge. Phase 2.4 material was also recovered from six of the very large postholes associated with the aisled building, possibly representing packing material. By Phase 2.5, the southern area was seemingly ignored in favour of the northern area, with the focus very much around the structure including the very large quantity of pottery recovered from the associated dark earth deposit (Test Pit Area 2; discussed below, Fig. 18, plot C). The nearby enclosure formed by ditches **756** and **720** immediately to the west also contained relatively large quantities of pottery, as did ditch **412** to the south.
- B.8.23 The largest single assemblage derived from the dark earth (430), which recovered 896 sherds weighing 13603g and representing 123 ENV and 19.35 EVEs. Two test pits within layer 430 produced noticeable large assemblages of material; Test Pits F2 (98 sherds 1199g) and G4 (66 sherds, 2257g). The pottery from this feature dates AD300-400 and, although some earlier material was also recovered, it appears to represent one of the final acts that occurred in the Roman period. It is of interest that the mean weight from this layer is close to the site average, at 15.2g, suggesting it had suffered no more fragmentation than the bulk of the assemblage, supported by the minimal evidence of abrasion on these sherds. By contrast, context 719, part of the same dark

earth, produced an assemblage of 202 sherds weighing 6748g, thus giving a mean weight of 33.4g, which is significantly higher than the site average. The same is true of the material from Test Pit G4 (mean weight 34.2g), which therefore suggests that the pottery from Test Pit G4 and context 719 were less fragmented than the rest of the pottery from this layer, seemingly demonstrating different breakage histories.

- B.8.24 However, on closer examination it is apparent that, rather than the pottery reflecting a high incidence of refitting sherds indicative of freshly broken material, the high mean weight is largely due to the presence of Horningsea storage jar sherds. In context 719 for example, 64% of the pottery (by weight) derived from these vessels, characterised by thick-walls and large rims, while 89% of the material from test pit G4 (by weight) comprised Horningsea storage jar sherds. Indeed, closer examination of the distribution of storage jar shows reveals that 50% of this material was recovered from features/deposits associated with the building (304 sherds, 13427g from a total of 610 sherds, 26851g; consisting of material from the post settings and internal layers within the structure as well as external layer 430). Questions therefore arise concerning whether this high incidence of these types of vessels in this area of site reflects the function(s) of the building, indicating associated activities involved a disproportionate use of large/very large storage jars. Alternatively, the ratio of storage jars may reflect secondary use as some form of building material and/or metalling/levelling component.
- B.8.25 These layers aside, a further 265 sherds (3898g) were recovered from other features associated with the structure, including 100 sherds (1391g) recovered from the postpipes, possibly reflecting packing material, though it may also reflect post-demolition infilling/backfilling. In order to investigate whether the pottery recovered from features relating to the building may shed light on the function, it is necessary to compare the ratios of different vessel forms recovered from all of the features associated with the building versus the rest of the assemblage. As Fig. B8.1 demonstrates, there are only minor differences between the two groups, perhaps the most significant being the difference in the ratio of storage jars and to a lesser extent the higher percentage of bowls and lower percentage of dishes within the building contexts. However, in the case of the latter two it is difficult to associate this data with the of interpretation of function.

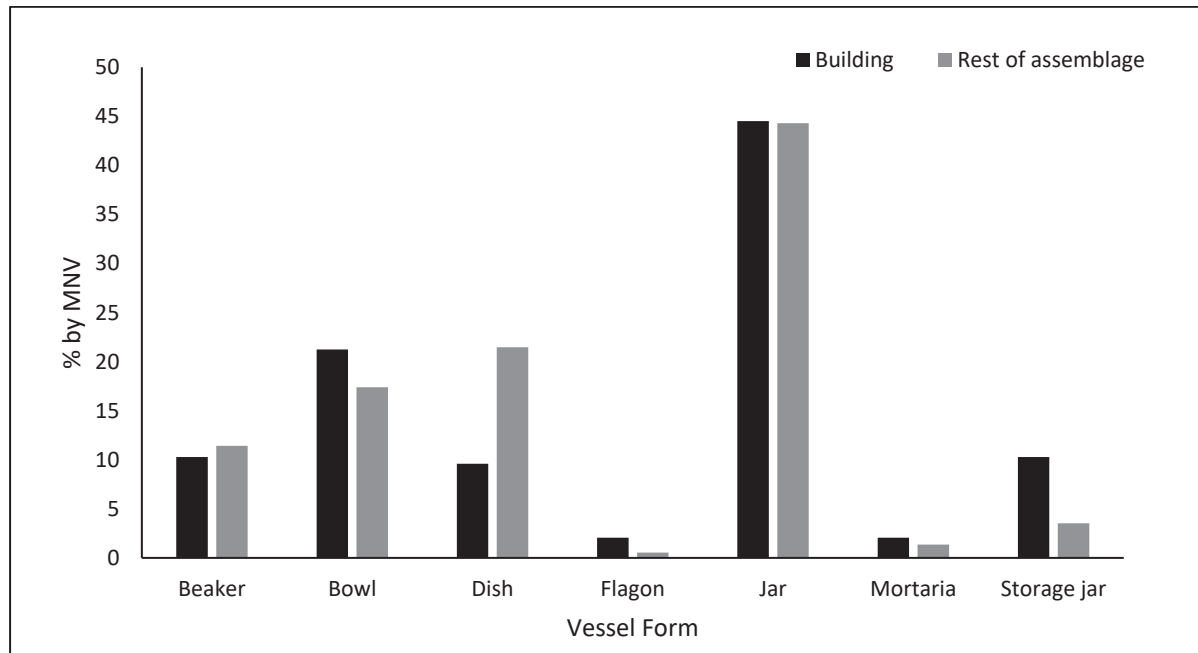


Figure B8.1: Comparison of vessel forms from contexts associated with the building versus the rest of the assemblage

## Discussion

- B.8.26 This assemblage represents a relatively large and important, predominantly Late Roman site. The pottery suggests very limited activity prior to the mid/late 2nd century AD, with only a very small element of the assemblage dating to the Early Roman period, most of which is residual. Based on those components of the assemblage which could be more closely dated, it is suggested that activity peaked in the 3rd-4th century AD and is likely to have continued into the late 4th, if not early 5th, century AD.
- B.8.27 Superficially, the assemblage appears to broadly follow common patterns for Roman rural sites in Cambridgeshire; dominated by coarseware jars and with local production centres (namely Horningsea and Nene Valley) well represented, but with regular access to goods from outside of the local area such as Hadham wares, Oxfordshire wares and samian. However, there are some subtle but important differences between the composition of this assemblage compared to other contemporary farmsteads, which need to be highlighted. Firstly, although the assemblage is coarseware dominated, the percentage of Romano-British finewares is higher (16%) than at other local sites such as Oakington Road, Cottenham (8.3%, Anderson 2020a), March Lane, Wimblington (12.2%, Anderson forthcoming) and Paston Reserve 6.4% (Anderson 2020b). It is closer (although still higher) than sites such as Love's Farm, St Neots (13% finewares, Lyons, 2018) and Jobs Lane, March (13.2%, Hudak, 2019), the latter interpreted as a late Roman villa estate (Jones 2019). However, the finewares represent a much smaller percentage of the assemblage compared to the inland port at Colne Fen (Anderson in Evans 2013), although this figure is influenced by the probable function of this site as a redistribution centre for Nene Valley wares (*ibid*). That said, the range of fabrics (including coarsewares) was more diverse than a typical rural settlement, although in many cases this appears to have represented only a small

number of vessels. However, it does indicate that the site had good trade links including access to wares from outside of the immediate locale.

- B.8.28 Whether this is more a reflection of wealth/status of the site or simply due to access to trade networks is uncertain. However, the site would almost certainly have benefited from and exploited its position next to the River Cam, to access waterborne trade, particularly in the case of the Horningsea products and probably for Nene Valley as well. Furthermore, it is also likely that riverborne trade was also utilised in the procurement of much of the shell-tempered wares, which appear to have a particular currency at Late Roman sites located near to the River Great Ouse.
- B.8.29 Whilst the general character of the assemblage is one of a domestic rural settlement, there are some subtle, but important differences which highlight that this was not a small, isolated farmstead. Rather the site at Upware reflects a growing number of Late Roman sites in Cambridgeshire, which appear to be more 'complex' in nature. Whilst the pottery alone cannot determine the exact function(s) of the stone-footed building, it does contribute to the understanding of its role, indicating that this was not some sort of 'ritual' or 'special' place, where we would expect to see greater percentages of finewares and vessels associated with drinking. Rather, the relatively high number of sherds from large/very large storage jars supports a view that the building was used for storage purposes. However, that this material was used as building material or for levelling cannot be discounted and may therefore be misleading.
- B.8.30 That there is no evidence for Early Saxon pottery at the site indicates an abrupt end to occupation sometime in the later 4th or early 5th century AD, although the ceramic evidence indicates that until this point, the site was flourishing.

### *Illustration catalogue (Figs 22-24)*

1. (687) [673] – Nene Valley colour-coated jug, similar to Perrin Fig.196 (Perrin 1999, 98-99, Fig. 196). Abraded and spalled (AD300-400)
2. (526) SF.181 – Nene Valley colour-coated disk neck flagon, Parallel with Fig. 66 (Howe *et al*, 1981, 23, Fig 67), with two handles and rouletted band decoration, poorly applied (AD300-400)
3. (687) [673] – Black-slipped jug with burnishing on the exterior and single handle, possibly a trifold rim, but may also be a waster/second (AD300-400)
4. (687) [673] – Nene Valley colour-coated jug or flagon body with rouletted and tooled decoration in three bands around the body (AD300-400)
5. (427) [412] – Horningsea greyware jar with constricted neck and everted rim. The top half has been slipped with a poorly applied black-slip and thin tooled line on the rim and shoulder (AD200-400)
6. (427) [428] – Shell-tempered 'S' profile jar with everted rim and rilled decoration (AD200-400)
7. (427) [428] – Shell-tempered jar with flat, angular beaded rim and tooled lines, with a black-slipped surface (AD200-400)
8. (83) [82] SF.33 – Coarse sandy greyware beaded bowl, almost complete (AD120-300)
9. 439) [434] – Nene Valley colour-coated imitation Dragendorff 36 dish, with sooting on the rim top, and attempted perforation near the base and signs of internal wear (AD270-400)
10. (687) [673] – Hadham reduced ware beaker or bowl with embossed decoration and tooled lines on the neck and shoulder (AD300-400).
11. (807) SF.179 – Hadham reduced ware possible lid with hollow handle/spout and post-firing perforation (AD200-400)
12. (430) – Oxfordshire red-slipped ware C79 bowl (Young 1977, 166) with indented and rouletted decoration (AD340-400)
13. (430) – Hadham oxidised ware flagon with face (AD300-400)

14. (685) [671] - Nene Valley colour-coated jug or flagon body with rouletted and tooled decoration in three bands around the body (AD300-400)
15. (477) [497] SF.122 – Hadham red-slipped ware face pot (AD300-400)

*Table 54 (below). Quantification of Roman pottery by context*

| Context | Cut | Group | Type    | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|---------|-----|-------|---------|-------|-----|-------|-----|------|-----------|
| 51      | 0   | 0     | Subsoil | 0     | 268 | 3378  | 29  | 6.01 | AD240-400 |
| 60      | 59  | 59    | ditch   | 2.1   | 65  | 494   | 6   | 0.18 | AD250-400 |
| 63      | 61  | 0     | pit     | 2.3   | 3   | 11    | 0   | 0    | AD100-300 |
| 65      | 59  | 59    | ditch   | 2.1   | 8   | 14    | 1   | 0    | AD100-400 |
| 66      | 59  | 59    | ditch   | 2.1   | 4   | 35    | 0   | 0    | AD100-400 |
| 68      | 67  | 67    | ditch   | 3     | 9   | 81    | 0   | 0    | AD100-400 |
| 70      | 69  | 69    | ditch   | 2.2   | 7   | 26    | 0   | 0    | AD100-400 |
| 72      | 71  | 67    | ditch   | 3     | 7   | 38    | 0   | 0    | AD100-400 |
| 76      | 75  | 53    | ditch   | 2.3   | 4   | 22    | 2   | 0    | AD120-300 |
| 80      | 79  | 79    | ditch   | 2.3   | 120 | 1460  | 13  | 1.71 | AD150-300 |
| 83      | 82  | 82    | ditch   | 2.3   | 78  | 1318  | 4   | 2.02 | AD150-400 |
| 88      | 87  | 53    | ditch   | 2.3   | 2   | 69    | 0   | 0.18 | AD100-400 |
| 98      | 97  | 0     | pit     | 2.1   | 1   | 9     | 0   | 0    | AD100-400 |
| 100     | 99  | 99    | ditch   | 2.3   | 132 | 1611  | 14  | 1.44 | AD200-300 |
| 102     | 101 | 82    | ditch   | 2.3   | 18  | 155   | 2   | 0.09 | AD150-400 |
| 105     | 104 | 79    | ditch   | 2.3   | 22  | 147   | 1   | 0.19 | AD150-400 |
| 106     | 104 | 79    | ditch   | 2.3   | 73  | 641   | 10  | 0.23 | AD200-300 |
| 108     | 107 | 67    | ditch   | 3     | 6   | 77    | 1   | 0    | AD150-400 |
| 122     | 121 | 121   | ditch   | 2.4   | 10  | 85    | 3   | 0.41 | AD100-400 |
| 125     | 124 | 79    | ditch   | 2.3   | 5   | 44    | 0   | 0    | AD100-400 |
| 127     | 126 | 99    | ditch   | 2.3   | 36  | 568   | 7   | 0.72 | AD120-300 |
| 129     | 128 | 99    | ditch   | 2.3   | 37  | 265   | 5   | 0.57 | AD150-400 |
| 135     | 0   | 0     | natural | 0     | 1   | 93    | 0   | 1    | AD150-400 |
| 140     | 139 | 121   | ditch   | 2.4   | 2   | 37    | 1   | 0.12 | AD150-400 |
| 142     | 141 | 141   | ditch   | 2.4   | 8   | 181   | 0   | 0.15 | AD150-400 |
| 148     | 147 | 82    | ditch   | 2.3   | 20  | 172   | 3   | 0.07 | AD200-300 |
| 149     | 147 | 82    | ditch   | 2.3   | 35  | 420   | 5   | 0.22 | AD160-300 |
| 151     | 150 | 79    | ditch   | 2.3   | 8   | 43    | 1   | 0    | AD150-400 |
| 154     | 153 | 0     | pit     | 2.1   | 155 | 1465  | 15  | 1.4  | AD150-300 |
| 156     | 155 | 99    | ditch   | 2.3   | 210 | 1935  | 15  | 1.13 | AD200-300 |
| 158     | 0   | 0     | VOID    |       | 77  | 879   | 5   | 0.73 | AD150-300 |
| 166     | 165 | 0     | Natural | 0     | 2   | 5     | 0   | 0    | AD150-400 |
| 168     | 167 | 0     | pit     | 2.4   | 1   | 13    | 0   | 0    | AD100-400 |
| 170     | 169 | 0     | pit     | 2.1   | 7   | 116   | 1   | 0.1  | AD150-400 |
| 172     | 171 | 171   | ditch   | 2.3   | 18  | 124   | 1   | 0.1  | AD120-300 |
| 173     | 171 | 171   | ditch   | 2.3   | 23  | 546   | 4   | 0.33 | AD150-400 |
| 175     | 174 | 99    | ditch   | 2.3   | 19  | 319   | 3   | 0.3  | AD150-300 |
| 176     | 174 | 99    | ditch   | 2.3   | 25  | 718   | 4   | 0.2  | AD150-300 |
| 178     | 177 | 130   | ditch   | 3     | 6   | 40    | 1   | 0    | AD100-400 |
| 180     | 179 | 179   | Ditch   | 2.4   | 2   | 8     | 0   | 0    | AD100-400 |
| 184     | 183 | 0     | lozenge | 2.4   | 2   | 12    | 0   | 0    | AD50-400  |
| 190     | 189 | 171   | ditch   | 2.3   | 17  | 326   | 3   | 0.95 | AD150-400 |
| 191     | 189 | 171   | ditch   | 2.3   | 73  | 1130  | 31  | 0.8  | AD180-300 |
| 193     | 192 | 0     | pit     | 2.3   | 2   | 22    | 0   | 0    | AD100-400 |

| Context | Cut | Group | Type      | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|---------|-----|-------|-----------|-------|-----|-------|-----|------|-----------|
| 195     | 194 | 194   | ditch     | 2.3   | 3   | 79    | 0   | 0    | AD100-400 |
| 196     | 194 | 194   | ditch     | 2.3   | 8   | 62    | 1   | 0    | AD100-300 |
| 197     | 194 | 194   | ditch     | 2.3   | 26  | 578   | 2   | 0    | AD150-300 |
| 201     | 200 | 0     | post hole | 2.4   | 1   | 3     | 0   | 0    | AD50-400  |
| 219     | 216 | 0     | pit       | 2.1   | 4   | 65    | 1   | 0    | AD150-300 |
| 221     | 220 | 0     | gully     | 2.4   | 2   | 54    | 0   | 0    | AD50-400  |
| 225     | 224 | 99    | ditch     | 2.3   | 20  | 267   | 3   | 0.65 | AD170-300 |
| 227     | 226 | 222   | lozenge   | 2.1   | 1   | 4     | 1   | 0    | AD100-300 |
| 231     | 230 | 0     | pit       | 2.1   | 11  | 116   | 2   | 0    | AD120-300 |
| 233     | 232 | 194   | ditch     | 2.3   | 43  | 522   | 3   | 0.25 | AD200-400 |
| 235     | 234 | 99    | ditch     | 2.3   | 38  | 505   | 8   | 0.79 | AD200-400 |
| 244     | 243 | 0     | pit       | 2.1   | 4   | 41    | 1   | 0.1  | AD120-300 |
| 255     | 254 | 99    | ditch     | 2.3   | 24  | 440   | 0   | 0    | AD150-300 |
| 261     | 260 | 0     | post hole | 2.4   | 3   | 27    | 0   | 0    | AD50-150  |
| 262     | 264 | 79    | ditch     | 2.3   | 1   | 4     | 0   | 0    | AD100-400 |
| 275     | 274 | 79    | ditch     | 2.3   | 15  | 353   | 4   | 0.76 | AD150-300 |
| 276     | 274 | 79    | ditch     | 2.3   | 8   | 144   | 3   | 0.59 | AD150-300 |
| 283     | 282 | 282   | ditch     | 2.4   | 4   | 134   | 0   | 0    | AD120-300 |
| 286     | 286 | 286   | ditch     | 2.3   | 3   | 226   | 0   | 0.4  | AD200-300 |
| 288     | 286 | 286   | ditch     | 2.3   | 31  | 689   | 8   | 0.62 | AD300-400 |
| 289     | 286 | 286   | ditch     | 2.3   | 2   | 19    | 1   | 0    | AD150-400 |
| 296     | 295 | 295   | ditch     | 2.3   | 23  | 330   | 2   | 0.9  | AD200-300 |
| 298     | 297 | 297   | ditch     | 3     | 19  | 240   | 2   | 0.63 | AD200-400 |
| 299     | 297 | 297   | ditch     | 3     | 1   | 13    | 0   | 0    | AD100-400 |
| 301     | 300 | 0     | pit       | 2.4   | 2   | 24    | 0   | 0    | AD100-400 |
| 307     | 306 | 297   | ditch     | 3     | 2   | 95    | 0   | 1    | AD100-400 |
| 310     | 312 | 312   | ditch     | 2.4   | 1   | 2     | 0   | 0    | AD100-400 |
| 313     | 314 | 312   | ditch     | 2.4   | 1   | 1     | 0   | 0    | AD100-400 |
| 318     | 317 | 317   | ditch     | 2.1   | 1   | 21    | 0   | 0    | AD100-400 |
| 320     | 319 | 286   | ditch     | 2.3   | 8   | 58    | 2   | 0.1  | AD200-300 |
| 324     | 323 | 297   | ditch     | 3     | 3   | 68    | 1   | 0    | AD100-400 |
| 329     | 327 | 286   | ditch     | 2.3   | 27  | 516   | 8   | 0.76 | AD250-400 |
| 331     | 330 | 295   | ditch     | 2.3   | 16  | 255   | 3   | 0.3  | AD200-400 |
| 337     | 336 | 312   | ditch     | 2.4   | 3   | 9     | 0   | 0    | AD50-400  |
| 341     | 340 | 0     | post hole | 2.3   | 1   | 13    | 0   | 0    | AD100-400 |
| 346     | 345 | 312   | ditch     | 2.4   | 3   | 9     | 1   | 0    | AD100-400 |
| 350     | 349 | 0     | post pipe | 2.3   | 1   | 7     | 0   | 0    | AD100-400 |
| 352     | 351 | 69    | ditch     | 2.2   | 1   | 3     | 0   | 0    | AD100-400 |
| 355     | 353 | 59    | ditch     | 2.1   | 7   | 38    | 0   | 0    | AD150-400 |
| 357     | 356 | 59    | ditch     | 2.1   | 10  | 67    | 0   | 0    | AD100-400 |
| 359     | 358 | 69    | ditch     | 2.2   | 6   | 35    | 0   | 0    | AD100-300 |
| 361     | 360 | 0     | pit       | 2.4   | 1   | 2     | 1   | 0    | AD100-300 |
| 363     | 362 | 286   | ditch     | 2.3   | 4   | 94    | 0   | 0    | AD200-300 |
| 364     | 362 | 286   | ditch     | 2.3   | 7   | 132   | 1   | 0    | AD150-300 |
| 377     | 371 |       | oven      | 2.5   | 1   | 5     | 0   | 0    | AD100-400 |
| 380     | 371 |       | oven      | 2.5   | 2   | 25    | 0   | 0.15 | AD200-400 |
| 383     | 382 | 382   | ditch     | 2.3   | 20  | 116   | 0   | 0    | AD100-400 |
| 393     | 392 | 286   | ditch     | 2.3   | 15  | 59    | 1   | 0    | AD100-400 |
| 394     | 392 | 286   | ditch     | 2.3   | 7   | 171   | 1   | 0.08 | AD100-400 |
| 398     | 397 | 397   | ditch     | 2.3   | 1   | 7     | 0   | 0    | AD50-400  |

| Context | Cut | Group | Type                  | Phase | No. | Wt(g) | ENV | EVE   | Spot date |
|---------|-----|-------|-----------------------|-------|-----|-------|-----|-------|-----------|
| 400     | 399 | 399   | ditch                 | 2.4   | 20  | 201   | 1   | 0.14  | AD200-400 |
| 403     | 404 | 404   | ditch                 | 2.5   | 2   | 6     | 0   | 0     | AD100-400 |
| 406     | 0   | 0     | natural               | 0     | 35  | 598   | 3   | 0.8   | AD100-400 |
| 410     | 407 | 407   | hearth/oven           | 2.4   | 4   | 434   | 0   | 0.11  | AD100-400 |
| 411     | 412 | 412   | ditch                 | 2.5   | 37  | 1231  | 6   | 2.02  | AD200-400 |
| 413     | 414 | 414   | ditch                 | 2.2   | 11  | 201   | 1   | 0     | AD150-400 |
| 415     | 416 | 416   | ditch                 | 2.4   | 19  | 341   | 3   | 0.28  | AD200-400 |
| 417     | 418 | 418   | ditch                 | 2.3   | 1   | 7     | 0   | 0     | AD50-400  |
| 418     | 418 | 418   | ditch                 | 2.3   | 1   | 11    | 0   | 0     | AD100-200 |
| 419     | 421 | 421   | ditch                 | 2.5   | 30  | 690   | 4   | 1.79  | AD250-400 |
| 420     | 421 | 421   | ditch                 | 2.5   | 8   | 82    | 2   | 0.15  | AD100-400 |
| 424     | 422 | 422   | pit                   | 2.4   | 2   | 2     | 0   | 0     | AD200-400 |
| 426     | 425 | 425   | ditch                 | 2.3   | 2   | 25    | 0   | 0     | AD100-400 |
| 427     | 412 | 412   | ditch                 | 2.5   | 114 | 3667  | 6   | 4.71  | AD200-400 |
| 429     | 428 | 418   | ditch                 | 2.3   | 16  | 171   | 3   | 0.12  | AD300-400 |
| 430     | 0   | 0     | layer                 | 2.5   | 886 | 13142 | 132 | 19.33 | AD300-400 |
| 431     | 0   | 0     | layer                 | 2.5   | 97  | 3334  | 2   | 0.32  | AD200-400 |
| 432     | 0   | 0     | layer                 | 2.5   | 14  | 180   | 2   | 0.3   | AD150-400 |
| 438     | 434 | 412   | ditch                 | 2.5   | 81  | 2037  | 13  | 4.56  | AD200-400 |
| 439     | 434 | 412   | ditch                 | 2.5   | 95  | 1715  | 12  | 2.16  | AD270-400 |
| 440     | 433 | 414   | ditch                 | 2.2   | 7   | 64    | 0   | 0     | AD100-400 |
| 441     | 433 | 414   | ditch                 | 2.2   | 17  | 517   | 1   | 0.1   | AD200-400 |
| 442     | 433 | 414   | ditch                 | 2.2   | 4   | 95    | 1   | 0.19  | AD160-250 |
| 443     | 435 | 418   | ditch                 | 2.3   | 2   | 76    | 0   | 0     | AD100-400 |
| 444     | 435 | 418   | ditch                 | 2.3   | 13  | 227   | 4   | 0.46  | AD250-400 |
| 445     | 436 | 286   | ditch                 | 2.3   | 5   | 36    | 1   | 0     | AD150-400 |
| 449     | 448 | 0     | well                  | 2.5   | 22  | 1021  | 2   | 0.16  | AD200-400 |
| 453     | 448 | 0     | well                  | 2.5   | 6   | 87    | 1   | 0.1   | AD200-400 |
| 454     | 448 | 0     | well                  | 2.5   | 18  | 298   | 2   | 0.2   | AD150-300 |
| 459     | 455 | 312   | ditch                 | 2.4   | 5   | 27    | 2   | 0     | AD200-400 |
| 460     | 456 | 456   | well                  | 2.5   | 20  | 243   | 5   | 0.63  | AD100-200 |
| 461     | 456 | 456   | well                  | 2.5   | 14  | 211   | 3   | 1.86  | AD150-200 |
| 462     | 456 | 456   | well                  | 2.5   | 10  | 245   | 1   | 0.15  | AD100-300 |
| 470     | 468 | 53    | ditch                 | 2.3   | 1   | 12    | 0   | 0     | AD50-400  |
| 474     | 473 | 317   | ditch                 | 2.1   | 5   | 15    | 0   | 0     | AD100-400 |
| 477     | 497 | 412   | ditch                 | 2.5   | 7   | 52    | 1   | 0.12  | AD250-400 |
| 478     | 497 | 412   | ditch                 | 2.5   | 20  | 217   | 2   | 0.5   | AD200-300 |
| 479     | 497 | 412   | ditch                 | 2.5   | 29  | 304   | 2   | 0.45  | AD200-300 |
| 482     | 480 | 418   | ditch                 | 2.3   | 64  | 957   | 9   | 1.19  | AD240-400 |
| 488     | 487 | 487   | ditch                 | 2.5   | 82  | 1172  | 7   | 0.83  | AD300-400 |
| 494     | 493 | 487   | ditch                 | 2.5   | 12  | 108   | 0   | 0     | AD200-400 |
| 499     | 498 | 498   | ditch                 | 2.4   | 18  | 422   | 4   | 1.64  | AD300-400 |
| 507     | 506 | 312   | ditch                 | 2.4   | 1   | 1     | 0   | 0     | AD100-400 |
| 514     | 513 | 498   | ditch                 | 2.4   | 13  | 549   | 1   | 0.83  | AD200-400 |
| 516     | 513 | 498   | ditch                 | 2.4   | 17  | 434   | 6   | 1.44  | AD250-400 |
| 519     | 518 | 518   | natural               | 0     | 20  | 659   | 1   | 0.1   | AD240-400 |
| 522     | 0   | 522   | surface<br>(internal) | 2.4   | 15  | 282   | 2   | 0.2   | AD100-400 |
| 525     | 524 | 524   | ditch                 | 2.5   | 13  | 96    | 0   | 0     | AD200-400 |
| 526     | 526 | 526   | ditch                 | 2.5   | 52  | 566   | 1   | 2     | AD300-400 |

| Context | Cut | Group | Type      | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|---------|-----|-------|-----------|-------|-----|-------|-----|------|-----------|
| 529     | 528 | 528   | ditch     | 2.4   | 3   | 205   | 1   | 0    | AD100-400 |
| 530     | 528 | 528   | ditch     | 2.4   | 3   | 86    | 0   | 0    | AD100-400 |
| 531     | 528 | 528   | ditch     | 2.4   | 4   | 63    | 0   | 0    | AD100-400 |
| 537     | 534 | 0     | pit       | 2.3   | 18  | 302   | 3   | 0.31 | AD200-400 |
| 538     | 534 | 0     | pit       | 2.3   | 22  | 185   | 3   | 0.29 | AD150-400 |
| 540     |     |       | unstrat   |       | 1   | 21    | 0   | 0    | AD100-400 |
| 542     | 512 | 0     | pit       | 2.5   | 15  | 383   | 6   | 0.84 | AD250-400 |
| 543     | 512 | 512   | oven      | 2.5   | 8   | 220   | 0   | 0    | AD150-400 |
| 544     | 512 | 512   | oven      | 2.5   | 2   | 9     | 0   | 0    | AD100-400 |
| 547     | 545 | 0     | post hole | 2.3   | 1   | 1     | 0   | 0    | AD100-400 |
| 552     | 551 | 551   | pit       | 2.4   | 1   | 3     | 1   | 0    | AD50-400  |
| 559     | 557 | 557   | well      | 2.5   | 1   | 8     | 0   | 0    | AD100-400 |
| 560     | 557 | 557   | well      | 2.5   | 1   | 4     |     | 0    | AD100-400 |
| 562     | 557 | 557   | well      | 2.5   | 6   | 136   | 2   | 0.3  | AD250-400 |
| 576     | 575 | 575   | ditch     | 2.3   | 1   | 9     | 0   | 0    | AD50-400  |
| 578     | 577 | 510   | ditch     | 2.3   | 12  | 190   | 0   | 0    | AD50-400  |
| 579     | 512 | 512   | kiln?     | 2.5   | 1   | 8     | 0   | 0    | AD50-400  |
| 581     | 754 | 754   | pit       | 2.5   | 6   | 111   | 1   | 0.07 | AD150-300 |
| 584     | 512 | 512   | kiln?     | 2.5   | 1   | 4     | 0   | 0    | AD100-400 |
| 586     | 512 | 512   | kiln?     | 2.5   | 1   | 29    | 0   | 0    | AD50-400  |
| 587     | 512 | 512   | kiln?     | 2.5   | 1   | 8     | 0   | 0    | AD100-400 |
| 593     | 592 | 297   | ditch     | 3     | 19  | 175   | 4   | 0.1  | AD200-400 |
| 595     | 594 | 594   | ditch     | 2.2   | 6   | 93    | 1   | 0.2  | AD100-400 |
| 597     | 596 | 0     | pit       | 2.1   | 5   | 73    | 1   | 0.1  | AD150-400 |
| 598     | 596 | 0     | pit       | 2.1   | 4   | 95    | 0   | 0    | AD150-300 |
| 600     | 0   | 0     | pit       | 2.1   | 1   | 5     | 0   | 0    | AD100-400 |
| 602     | 601 | 382   | ditch     | 2.3   | 7   | 48    | 1   | 0    | AD200-400 |
| 603     | 601 | 382   | ditch     | 2.3   | 4   | 21    | 0   | 0    | AD100-400 |
| 607     | 606 | 528   | ditch     | 2.4   | 3   | 20    | 1   | 0.1  | AD150-400 |
| 608     | 606 | 528   | ditch     | 2.4   | 8   | 80    | 0   | 0    | AD200-400 |
| 610     | 609 | 524   | ditch     | 2.5   | 7   | 154   | 0   | 0    | AD100-400 |
| 616     | 612 | 612   | ditch     | 2.5   | 5   | 119   | 0   | 0.45 | AD150-400 |
| 617     | 756 | 756   | ditch     | 2.5   | 9   | 152   | 1   | 0.4  | AD250-400 |
| 619     | 756 | 756   | ditch     | 2.5   | 4   | 49    | 1   | 0.2  | AD200-400 |
| 622     | 621 | 528   | ditch     | 2.4   | 10  | 58    | 0   | 0    | AD150-400 |
| 623     | 630 | 630   | ditch     | 2.4   | 2   | 17    | 1   | 0.07 | AD300-400 |
| 624     | 624 | 524   | ditch     | 2.5   | 9   | 225   | 1   | 0    | AD150-400 |
| 627     | 626 | 594   | ditch     | 2.2   | 1   | 2     | 0   | 0    | AD100-400 |
| 629     | 628 | 297   | ditch     | 3     | 1   | 15    | 1   | 0.07 | AD200-400 |
| 631     | 632 | 0     | pit       | 2.3   | 5   | 28    | 1   | 0.1  | AD150-400 |
| 634     | 633 | 397   | ditch     | 2.3   | 3   | 20    | 1   | 0.1  | AD120-300 |
| 640     | 639 | 639   | ditch     | 2.1   | 2   | 14    | 0   | 0    | AD100-400 |
| 641     | 639 | 639   | ditch     | 2.1   | 19  | 113   | 2   | 0.71 | AD120-300 |
| 643     | 642 | 399   | ditch     | 2.4   | 4   | 28    | 0   | 0    | AD50-400  |
| 645     | 644 | 510   | ditch     | 2.3   | 1   | 11    | 0   | 0    | AD100-400 |
| 648     | 646 | 639   | ditch     | 2.1   | 17  | 181   | 2   | 0.35 | AD50-200  |
| 651     | 649 | 510   | ditch     | 2.3   | 4   | 20    | 0   | 0    | AD100-400 |
| 653     | 652 | 399   | ditch     | 2.4   | 11  | 98    | 1   | 0.1  | AD100-400 |
| 654     | 652 | 399   | ditch     | 2.4   | 2   | 21    | 0   | 0    | AD100-400 |
| 657     | 639 | 639   | ditch     | 2.1   | 2   | 4     | 0   | 0    | AD100-400 |

| Context | Cut | Group | Type       | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|---------|-----|-------|------------|-------|-----|-------|-----|------|-----------|
| 659     | 658 | 639   | ditch      | 2.1   | 7   | 433   | 2   | 0.15 | AD200-400 |
| 661     | 658 | 639   | ditch      | 2.1   | 4   | 12    | 1   | 0    | AD100-400 |
| 665     | 663 | 0     | pit        | 2.4   | 2   | 40    | 1   | 0.11 | AD200-400 |
| 668     | 666 | 0     | pit        | 2.4   | 1   | 15    | 0   | 0    | AD100-400 |
| 670     | 669 | 669   | post hole  | 2.4   | 2   | 10    | 0   | 0    | AD100-400 |
| 680     | 0   | 0     | deposit    | 2.3   | 1   | 4     | 0   | 0    | AD100-400 |
| 681     | 0   | 0     | deposit    | 2.3   | 3   | 48    | 0   | 0    | AD100-400 |
| 685     | 671 | 526   | ditch      | 2.5   | 27  | 393   | 1   | 0    | AD300-400 |
| 686     | 672 | 526   | ditch      | 2.5   | 13  | 449   | 1   | 0.2  | AD150-400 |
| 687     | 673 | 673   | ditch      | 2.5   | 110 | 2750  | 9   | 2.48 | AD300-400 |
| 688     | 674 | 674   | ditch      | 2.1   | 2   | 14    | 1   | 0    | AD150-400 |
| 690     | 663 | 0     | pit        | 2.3   | 2   | 12    | 0   | 0    | AD100-400 |
| 692     | 691 | 526   | ditch      | 2.5   | 23  | 472   | 0   | 0.2  | AD150-400 |
| 694     | 693 | 673   | ditch      | 2.5   | 5   | 174   | 1   | 0.48 | AD300-400 |
| 695     | 676 | 526   | ditch      | 2.5   | 22  | 487   | 5   | 0.77 | AD300-400 |
| 706     | 705 | 0     | pit        | 1     | 2   | 10    | 0   | 0    | AD50-400  |
| 713     | 712 | 594   | ditch      | 2.2   | 9   | 227   | 2   | 0.45 | AD100-400 |
| 715     | 714 | 0     | pit        | 1     | 2   | 4     | 0   | 0    | AD50-400  |
| 717     | 716 | 716   | ditch      | 2.3   | 2   | 6     | 1   | 0    | AD50-400  |
| 719     | 0   | 0     | dark earth | 2.5   | 202 | 6748  | 30  | 6.53 | AD250-400 |
| 722     | 720 | 720   | ditch      | 2.5   | 7   | 98    | 2   | 0    | AD150-400 |
| 723     | 720 | 720   | ditch      | 2.5   | 7   | 65    | 0   | 0    | AD100-400 |
| 725     | 724 | 720   | ditch      | 2.5   | 5   | 28    | 0   | 0    | AD150-400 |
| 726     | 724 | 720   | ditch      | 2.5   | 2   | 18    | 0   | 0    | AD100-400 |
| 727     | 724 | 720   | ditch      | 2.5   | 8   | 101   | 1   | 0.48 | AD150-400 |
| 729     | 728 | 673   | ditch      | 2.5   | 9   | 160   | 2   | 0.3  | AD300-400 |
| 730     | 718 | 639   | ditch      | 2.1   | 10  | 195   | 2   | 0.11 | AD70-200  |
| 731     | 718 | 639   | ditch      | 2.1   | 2   | 40    | 0   | 0    | AD100-400 |
| 732     | 718 | 639   | ditch      | 2.1   | 6   | 99    | 1   | 0.07 | AD100-400 |
| 733     | 734 | 734   | ditch      | 1     | 1   | 4     | 1   | 0    | AD40-100  |
| 740     | 739 | 739   | ditch      | 2.5   | 20  | 336   | 0   | 0.4  | AD150-400 |
| 742     | 741 | 741   | post hole  | 2.4   | 3   | 15    | 1   | 0    | AD100-400 |
| 744     | 743 | 743   | post hole  | 2.4   | 1   | 4     | 0   | 0    | AD50-400  |
| 751     | 749 | 674   | ditch      | 2.1   | 1   | 10    | 0   | 0    | AD50-400  |
| 753     | 752 | 752   | ditch      | 2.1   | 1   | 10    | 0   | 0    | AD100-400 |
| 755     | 0   | 0     | deposit    | 2.5   | 73  | 1128  | 11  | 1.07 | AD300-400 |
| 757     | 0   | 0     | floor      | 2.4   | 8   | 66    | 1   | 0.11 | AD100-400 |
| 763     | 762 | 414   | ditch      | 2.2   | 5   | 107   | 0   | 0.1  | AD150-400 |
| 764     | 762 | 414   | ditch      | 2.2   | 24  | 343   | 3   | 0.87 | AD150-400 |
| 765     | 762 | 414   | ditch      | 2.2   | 11  | 122   | 1   | 0.25 | AD100-400 |
| 769     | 768 | 412   | ditch      | 2.5   | 13  | 261   | 2   | 0.7  | AD270-400 |
| 770     | 756 | 756   | ditch      | 2.5   | 5   | 192   | 1   | 0.13 | AD150-400 |
| 773     | 421 | 421   | ditch      | 2.5   | 2   | 67    | 0   | 0    | AD150-400 |
| 775     | 774 | 774   | Post pipe  | 2.5   | 6   | 58    | 1   | 0.12 | AD150-400 |
| 776     | 774 | 774   | Post pipe  | 2.5   | 2   | 26    | 1   | 0    | AD150-400 |
| 777     | 774 | 774   | Post pipe  | 2.5   | 2   | 36    | 1   | 0.1  | AD100-400 |
| 779     | 778 | 778   | Post pipe  | 2.5   | 20  | 296   | 2   | 0.35 | AD200-300 |
| 781     | 780 | 780   | pit/hearth | 2.5   | 6   | 19    | 0   | 0    | AD200-400 |
| 782     | 0   | 815   | wall       | 2.4   | 5   | 63    | 1   | 0    | AD200-400 |
| 786     | 785 | 785   | ditch      | 2.3   | 15  | 100   | 1   | 0.19 | AD200-400 |

| Context | Cut | Group | Type                     | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|---------|-----|-------|--------------------------|-------|-----|-------|-----|------|-----------|
| 788     | 787 | 787   | ditch                    | 3     | 5   | 20    | 1   | 0.09 | AD150-400 |
| 790     | 789 | 789   | Post pipe                | 2.5   | 2   | 62    | 1   | 0    | AD150-400 |
| 791     | 883 | 789   | Post setting             | 2.4   | 19  | 269   | 0   | 0    | AD180-250 |
| 792     | 789 | 789   | Post pipe                | 2.5   | 6   | 102   | 1   | 0.16 | AD150-400 |
| 794     | 793 | 0     | hollow/rooting           | 3     | 6   | 77    | 0   | 0    | AD200-400 |
| 797     | 795 | 0     | Hollow                   | 3     | 14  | 173   | 0   | 0.22 | AD200-400 |
| 801     | 800 | 752   | ditch                    | 2.1   | 5   | 33    | 0   | 0    | AD200-400 |
| 807     | 0   | 0     | surface<br>(internal)    | 2.5   | 107 | 1741  | 8   | 1.17 | AD200-400 |
| 809     | 808 | 787   | ditch                    | 3     | 5   | 27    | 0   | 0    | AD150-400 |
| 810     | 808 | 787   | ditch                    | 3     | 4   | 128   | 1   | 0.14 | AD200-400 |
| 812     | 0   | 0     | surface<br>(internal)    | 2.5   | 8   | 40    | 1   | 0    | AD150-400 |
| 815     | 0   | 0     | wall                     | 2.4   | 9   | 44    | 1   | 0    | AD200-400 |
| 819     | 817 | 756   | ditch                    | 2.5   | 12  | 164   | 2   | 0.26 | AD200-400 |
| 821     | 817 | 756   | ditch                    | 2.5   | 113 | 2447  | 21  | 2.4  | AD340-400 |
| 822     | 804 | 0     |                          | 2.1   | 8   | 152   | 0   | 0    | AD150-400 |
| 828     | 827 | 827   | post pipe                | 2.5   | 10  | 184   | 16  | 0    | AD240-400 |
| 832     | 833 | 0     | Hollow                   | 3     | 2   | 51    | 0   | 0    | AD100-400 |
| 834     | 0   | 0     | deposit/layer<br>in barn | 2.5   | 1   | 9     | 0   | 0    | AD100-400 |
| 835     | 787 | 787   | ditch                    | 3     | 12  | 142   | 3   | 0.18 | AD325-400 |
| 840     | 840 | 0     | Hollow/pit               | 2.3   | 1   | 8     | 1   | 0    | AD200-400 |
| 841     | 840 | 0     | Hollow/pit               | 2.3   | 5   | 54    | 1   | 0.1  | AD100-400 |
| 844     | 843 | 843   | post pipe                | 2.5   | 10  | 162   | 4   | 0.33 | AD150-300 |
| 846     | 845 | 845   | post pipe                | 2.5   | 4   | 22    | 0   | 0    | AD200-400 |
| 847     | 845 | 845   | post pipe                | 2.5   | 1   | 16    | 1   | 0.1  | AD100-400 |
| 848     | 0   | 0     | void                     | 0     | 4   | 10    | 0   | 0    | AD180-250 |
| 850     | 849 | 0     | Hollow                   | 2.3   | 3   | 36    | 0   | 0    | AD100-400 |
| 856     | 855 | 855   | ditch                    | 3     | 3   | 18    | 0   | 0    | AD100-400 |
| 859     | 857 | 857   | ditch                    | 3     | 6   | 53    | 0   | 0    | AD150-400 |
| 872     | 870 | 857   | ditch                    | 3     | 4   | 36    | 0   | 0    | AD200-400 |
| 874     | 873 | 0     | pit                      | 2.2   | 1   | 26    | 0   | 0    | AD100-400 |
| 875     | 873 | 0     | pit                      | 2.2   | 2   | 15    | 0   | 0    | AD100-400 |
| 876     | 873 | 0     | pit                      | 2.2   | 9   | 77    | 0   | 0    | AD100-400 |
| 885     | 884 | 0     | post setting             | 2.4   | 1   | 4     | 1   | 0    | AD50-100  |
| 887     | 0   | 0     | void                     | 0     | 7   | 67    | 1   | 0    | AD100-200 |
| 889     | 888 | 774   | post setting             | 2.4   | 1   | 3     | 0   | 0    | AD50-400  |
| 890     | 891 | 778   | post setting             | 2.4   | 1   | 13    | 1   | 0    | AD200-400 |
| 893     | 892 | 752   | ditch                    | 2.1   | 25  | 278   | 2   | 0.1  | AD150-400 |
| 895     | 894 | 0     | natural                  | 0     | 1   | 4     | 0   | 0    | AD50-400  |
| 897     | 896 | 0     | post setting             | 2.4   | 11  | 118   | 0   | 0    | AD100-400 |
| 899     | 898 | 829   | post setting             | 2.4   | 3   | 13    | 0   | 0    | AD200-400 |
| 902     | 903 | 877   | ditch                    | 2.1   | 1   | 9     | 0   | 0    | AD150-400 |
| 905     | 904 | 904   | ditch                    | 2.5   | 3   | 43    | 0   | 0.4  | AD200-400 |
| 910     | 906 | 877   | ditch                    | 2.1   | 1   | 1     | 1   | 0    | AD100-400 |
| 913     | 911 | 877   | ditch                    | 2.1   | 1   | 3     | 0   | 0    | AD100-400 |
| 916     | 914 | 877   | ditch                    | 2.1   | 1   | 7     | 0   | 0    | AD50-400  |
| 919     | 917 | 674   | ditch                    | 2.1   | 1   | 1     | 0   | 0    | AD50-400  |
| 921     | 920 | 674   | ditch                    | 2.1   | 2   | 6     | 0   | 0    | AD50-400  |
| 925     | 926 | 926   | ring gully               | 1     | 1   | 16    | 0   | 0    | AD50-400  |

| Context      | Cut | Group | Type  | Phase | No. | Wt(g) | ENV | EVE  | Spot date |
|--------------|-----|-------|-------|-------|-----|-------|-----|------|-----------|
| 941          | 939 | 756   | ditch | 2.5   | 33  | 460   | 4   | 0.27 | AD300-400 |
| unstratified |     |       |       |       | 19  | 197   | 3   | 0.28 | n/a       |

## B.9 Ceramic Building Material

*By Ted Livermore*

### Introduction

B.9.1 The excavations recovered 166 fragments (23694g) of ceramic building material (CBM) from across both the Northern and Southern Areas. This assemblage was dominated by Roman material (125 fragments, 22575g), with a smaller assemblage of medieval to post-medieval brick and tile (5,872g) and a small portion of undiagnostic or undated fragments (41, 590g). The CBM was moderately to severely abraded (average weight 143g) and collected from disuse fills of ditches, middens and within construction layers or the subsoil from the site. The assemblage was mostly concentrated in features dated to Roman phases (Phases 2.1 to 2.5), with a small fraction recovered from post-Roman features (Phase 3). This report provides a quantified assessment of the material and its significance. A summary quantification of the assemblage by site phase is provided in Table 55, and a full catalogue is appended to this report as Table 56.

| Phase         | Count      | Weight (g)   |
|---------------|------------|--------------|
| 2.1           | 6          | 874          |
| 2.3           | 29         | 2983         |
| 2.4           | 6          | 741          |
| 2.5           | 87         | 12207        |
| 3             | 20         | 5224         |
| Unstrat.      | 18         | 1665         |
| <b>Totals</b> | <b>166</b> | <b>23694</b> |

Table 55. Summary of CBM by phase and area

### Methodology

B.9.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gramme. Width, length and thickness were recorded where possible. Woodforde (1976) and McComish (2015) formed the basis of reference material for identification and dating. Warry (2006) was consulted for tegulae forms and descriptions. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive.

### Fabrics

B.9.3 Fifteen fabrics were recorded within this assemblage, with an additional seven sub-fabric variants. The fabrics recorded were all typical CBM recipes, with preferences towards gritty fabrics with a variety of coarse inclusions. A selection of fabrics were notable but none were attributable – at present – to known production sites. The

fabrics appear to show some distribution patterning when examined by feature phase. A small portion of fabrics were found in Phase 2.1 (C, E1, F, G and M) and the full suite are introduced from Phase 2.3. Fabric descriptions can be found with the site archive.

### **Assemblage**

- B.9.4 The CBM assemblage was recovered from contexts in both the Northern and Southern Areas, with the majority derived from the northern part of the site. The assemblage is characterised by its spread and abrasion indicating high levels of post-demolition activity. Largely, the material was collected from waste dumps and infills of pits and ditches. A portion was recovered from the subsoil: since this provides little archaeological information, this material will not be discussed in detail.
- B.9.5 The CBM assemblage comprised a variety of fabrics, forms and production techniques which points to many sources for the material and several phases of construction. While it is clear the Roman material derives from demolition and post-discard processes, it may have been originally used for the buildings in the immediate vicinity.
- B.9.6 In the main, the CBM dates agree with the broad phasing for the features, although the phasing subdivisions are not useful for discussing this material. As such, the following will outline the assemblage by site area, object date and form in order to characterise the assemblage.

### **Northern Area**

#### **Roman**

- B.9.7 From the Northern Area, an assemblage of 109 fragments of CBM (20587g) was assigned Roman or probable Roman dates. These fragments presented diagnostic features of Roman brick and tile, including fragments of *tegula*, *imbrex*, flue tiles, *pedalis* or *besalis* and a possible *lydion*. This material was collected largely from ditch and midden contexts and a small portion was collected from floor and wall contexts (namely 432, 492, 812 and 815).

#### **Roofing Material**

- B.9.8 The most diagnostic fraction of the assemblage was the roofing material, including a number of *tegulae* (42 fragments, 9449g) and *imbrices* (4, 945g). The assemblage contained 24 diagnostic tegula (6611g) with remnant flanges and/or cutaways. The majority of the *tegulae* had neatly formed upper faces (some with finger signatures) and poorly finished and sanded bases. Of note is a fragment from ditch **79**, SF80 (292g), which has two overlapping domestic feline paw prints lightly pressed into the upper face.
- B.9.9 Fourteen fragments possessed diagnostic flanges or cutaways, half of which had both. The flange fragments can be divided broadly in half: A-types and D-types. A-type flanges have a square or inclined profile and possess sharp arrises, D-types have more rounded arrises and are less squared. In this assemblage, the D-type tegula were generally thinner (12-26mm) than the A-types (20-35mm) but shared the same flange height range of 40 to 55mm. There was one outlier tile (299g) – from ditch **917** – that stands out because it was naively hand formed. The tile appears to have been formed

through squeezing instead of moulding and cutting. Indeed, the body measured 18mm thick, but it thickened to 25mm in places and the flange was characterised by digit impressions, suggesting perhaps that it was made on site for a later repair. The surviving cutaways were harder to group, falling into a broad category of large and deliberate removal of the flange at the corner, sometimes leaving the tile body.

B.9.10 There was a degree of variation in the production techniques and final forms of these tiles which suggests multiple sources for the material (either geographically or temporally). The *tegulae* were made in a variety of fabrics. The heterogeneity of the clays used and the difficulty in identifying unifying fabrics prevents clear classification.

B.9.11 Four fragments of *imbrex* tiles (945g) were recorded from the Northern Area. This form of roofing tile is a measure of the proximity of the original roof because they are fragile and usually difficult to detect. They formed two groups, 15mm and 25mm tiles. They each presented unfinished and sanded inner faces and smoothed or wire-cut outer faces. Two *imbrex* tiles (220g) were collected in the subsoil (51), these were 15mm thick and made in a silty orange fabric.

#### *Internal Building Material*

B.9.12 The internal building material assemblage contained material related to a hypocaust system, namely flue tiles (2, 287g). These tiles were characterised by their keyed/combed faces. One fragment, 170g, collected from ditch **330**, had its keying obscured by a coarsely tempered lime mortar, it was 22mm thick. The other (117g), from wall **815** of the aisled building had clear keying and was thinner at 15mm. It also had sooting on its broken edges.

B.9.13 This assemblage was unusual in that it contained several brick-like objects (17, 6929g). The thicker tiles (or bricks) present in the assemblage were harder to classify; they are suggested to be suggested to be *besalis*, *pedalis* or *lydions*. Identifying Roman bricks or thick tiles is problematic without full lengths or widths; however, this material was probably related to hypocaust and wall construction. These fragments were around 35 to 40mm thick. One example, from layer **432**, may have been at least 210mm x 160mm x 30mm. Most fragments, however, did not suggest their original size.

B.9.14 Some of the material was undiagnostic and could only be assigned to a Roman date by its fabric, indicating the high degree of post-demolition activity here.

#### *Medieval and post-medieval*

B.9.15 Eleven severely abraded fragments (726g) of flat tile were given medieval to post-medieval dates. They were made in fabrics that did not appear amongst the remainder of the Roman assemblage. They are probably intrusive to the features they were collected from.

#### *Southern Area*

B.9.16 A total of eight fragments were recovered from the Southern Area. Ditch **99** produced a large fragment of *imbrex*. The fragment possessed a basal edge face (15mm thick) and the majority of a side, suggesting a 105mm height and a train tunnel profile. Four

severely abraded fragments (93g) were also collected in this area, they are not significant.

- B.9.17 Contexts in ditch **99** also produced a tegula fragment with an A-type flange (112g) and a brick/tile fragment (29g), alongside a probably flat tile (69g) dating to the medieval or post-medieval period.

### ***Discussion***

- B.9.18 The Roman material was fragmentary, abraded and scattered within disuse fills. It was concentrated within the Northern Area with only minor numbers seen elsewhere. The presence of roofing and hypocaust material implies investment in the building(s) from which they derive- which was/were likely of reasonably high-status. While difficult to ascertain, the Roman material does appear to indicate more than one phase of construction with differing sources, as well as maintenance as shown by the handmade repair tile. The later (post-Roman) material is likely to have been brought to the site – or moved around the site – by agricultural processes. It represents little more than background noise in the archaeological landscape.

| Test Pit | Context | Cut | Feature       | Phase | Group | SF number | Form   | Descr    | Date     | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                           |
|----------|---------|-----|---------------|-------|-------|-----------|--------|----------|----------|----------|------------|----------|---------------------|---------------------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 60      | 59  | Ditch         | 2.1   | 59    |           | Tile   | Peg      | Med-Pmed | 1        | 14         | mod      |                     |                     |             |              | Frag of med-pmed peg tile, small and abraded.                                                                                                                                                                                                                     |
|          | 60      | 59  | Ditch         | 2.1   | 59    |           | Brick  |          | ?Roman   | 1        | 48         | v sev    |                     |                     |             |              | Tile like fragment. Severely abraded, weather/water worn.                                                                                                                                                                                                         |
|          | 76      | 75  | Ditch         | 2.3   | 53    |           | Brick  |          | Roman    | 1        | 29         | severe   |                     |                     |             |              | Severely abraded frag of probable Roman tile                                                                                                                                                                                                                      |
|          | 80      | 79  | Ditch         | 2.3   | 79    |           | Undiag | Undiag   | Undiag   | 1        | 10         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                   |
|          | 80      | 79  | Ditch         | 2.3   | 79    | 80        | Tile   | ?Teg     | Roman    | 1        | 292        | Mod      |                     |                     |             |              | Fragment of Roman tile, probably tegula body. Upper faces is smoothed/wirecut and has two interleaving domestic cat paw prints (2.5cm long and 2cm wide). Lower face is irregular and finely sanded. Colouration suggests post-deposition/post-demolition burning |
|          | 135     | -   | Mixed Subsoil | -     | -     |           | Tile   | flat     | Pmed     | 1        | 8          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                   |
|          | 148     | 147 | Ditch         | 2.3   | 82    |           | Undiag | Undiag   | Undiag   | 1        | 9          |          |                     |                     |             |              |                                                                                                                                                                                                                                                                   |
|          | 149     | 147 | Ditch         | 2.3   | 82    |           | Tile   | Tegula   | Roman    | 1        | 46         | mod      |                     |                     | A3          |              | Fragment of tegula flange; notably tall and thin flange. Well-formed and smoothed, Outers are pockmarked, irregular and sanded.                                                                                                                                   |
|          | 149     | 147 | Ditch         | 2.3   | 82    |           | Tile   | Tegula   | Roman    | 1        | 23         | mod      |                     |                     | D           |              | Fragment of a flange, notably thin and tall. Probably refits other frag.                                                                                                                                                                                          |
|          | 149     | 147 | Ditch         | 2.3   | 82    |           | Tile   | Imbrex   | Roman    | 1        | 56         | mod      |                     |                     |             |              | Fragment of terminal end and corner of an imbrex tile. Outer faces are smoothed; inner and edges are irregular, creased and densely sanded.                                                                                                                       |
|          | 233     | 232 | Ditch         | 2.3   | 194   |           | Tile   | ?Teg     | Roman    | 1        | 301        | Mod      |                     |                     |             |              | Fragment of Roman tile, body fragment with no diagnostic features. Similar in fabric to tegula from context, but different dimensions and colouration. Poss teg. Upper face is smoothed/wirecut and lower face is finely sanded with rare coarse quartz.          |
|          | 233     | 232 | Ditch         | 2.3   | 194   |           | Tile   | Tegula   | Roman    | 1        | 139        | Mod      |                     |                     | D2          |              | Fragment of tegula flange. Deep finger groove drawn along inside corner, creating a squared flange with slight rounded inner face (D2). Outer faces are finely sanded.                                                                                            |
|          | 283     | 282 | Ditch         | 2.4   | 282   |           | Tile   | flat     | Med-Pmed | 1        | 58         | Slight   |                     |                     |             |              | Fragment of 1/2 inch flat tile; med-pmed. Upper face is smoothed/wirecut, lower is finely sanded.                                                                                                                                                                 |
|          | 283     | 282 | Ditch         | 2.4   | 282   |           | Brick  |          | ?Roman   | 1        | 192        | severe   |                     |                     |             |              | Fragment of brick, possibly Roman. Fabric suggest Roman, relative to this assemblage. Surviving face is orange and finely sanded, core is mid to light grey.                                                                                                      |
|          | 287     | 286 | Ditch         | 2.3   | 286   |           | Brick  |          | Roman    | 1        | 109        | mod      |                     |                     |             |              | Fragment of tile, probably Roman.                                                                                                                                                                                                                                 |
|          | 296     | 295 | Ditch         | 2.3   | 295   |           | Tile   | ?Teg     | Roman    | 1        | 133        | mod      |                     |                     |             |              | Fragment of thin tile, poss teg. Lower face is sanded but generally flat, upper is smoothed with two remnant shallow grooves - signature or combing is unclear. Edge face is very smooth, poss from wear or from sawing. Unclear. Some post-firing sooting.       |
|          | 296     | 295 | Ditch         | 2.3   | 295   |           | Tile   | ?Bes/Ped | Roman    | 1        | 125        | severe   |                     |                     |             |              | Fragment of thick tile or brick. Base face is abraded and mostly missing. Tile was neatly made. subsequently abraded.                                                                                                                                             |
|          | 329     | 327 | Ditch         | 2.3   | 286   |           | Tile   | ?Teg     | Roman    | 1        | 28         | Slight   |                     |                     |             |              | Small fragment of tile, probably a teg body frag, Some burning on sanded face. Very micaceous fabric.                                                                                                                                                             |
|          | 331     | 330 | Ditch         | 2.3   | 295   |           | Tile   | Flue     | Roman    | 1        | 170        | mod      |                     |                     |             |              | Fragment of keyed/combed tile with very coarsely tempered lime mortar accretions. Keyed face has coarse mortar, obverse is smoothed with thin patina - poss mortar or secondary calcite? Combing obscured.                                                        |
|          | 363     | 362 | Ditch         | 2.3   | 286   |           | Tile   | ?Teg     | Roman    | 1        | 117        | mod      |                     |                     |             |              | Fragment of tile. In reduced version of Fabric B. Smooth surfaces and regular thickness.                                                                                                                                                                          |
|          | 363     | 362 | Ditch         | 2.3   | 286   |           | Tile   | ?Teg     | Roman    | 2        | 334        | mod      |                     |                     |             |              | Refitting fragments of a poss tegula, made in the same fabric as SF79. Upper faces are smoothed, lower is grey with rare fine sanding and fairly regular (unlike SF79).                                                                                           |

| Test Pit | Context | Cut | Feature           | Phase | Group | SF number | Form   | Descr  | Date   | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------|-----|-------------------|-------|-------|-----------|--------|--------|--------|----------|------------|----------|---------------------|---------------------|-------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 411     | 412 | Ditch             | 2.5   | 412   |           | Undiag | Undiag |        | 1        | 14         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                             |
|          | 411     | 412 | Ditch             | 2.5   | 412   |           | Brick  |        | Roman  | 1        | 45         | severe   |                     |                     |             |              | Chunk of Roman brick/tile with minimal surviving surfaces.                                                                                                                                                                                                                                                                                                                                                  |
|          | 411     | 412 | Ditch             | 2.5   | 412   |           | Tile   | Tegula | Roman  | 3        | 463        | severe   | UR                  | 25                  | A3          | A2           | Fragments of the upper right-hand cutaway of a tegula. Dull brown colour smoothed and exacted faces; arrises fairly neat. Lower and terminal edge are finely sanded.                                                                                                                                                                                                                                        |
|          | 419     | 421 | Ditch             | 2.5   | 421   |           | Brick  |        | Roman  | 1        | 56         | mod      |                     |                     |             |              | sanded face of a roman brick or tile                                                                                                                                                                                                                                                                                                                                                                        |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 199        | mod      | LR                  | 65                  | 0           | A3/B2        | Fragment of tegula cutaway. Fragment has broken at the flange leaving the cutaway section. Cutaway took part of the width of the flange and chamfered the last 30mm of the flange. Full flange height not present. Upper face is wirecut, lower is sanded. All faces are regular, and the tile is neatly formed.                                                                                            |
| F5/E5    | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 1047       | mod      | LR                  | 60                  | A3          | A3/C1        | Large fragment of tegula. Lower right-hand cutaway of the tile, cutaway is large and composite of part removal of the flange width and an angled undercut. Deep thumb groove running along flange-body join. Remnant finger signature (double finger in semi-circle). Upper face is smoothed and slightly undulating, poss mortar accretions. Outers are fairly regular and sanded. Kiln shadowing present. |
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 111        | severe   |                     |                     | A3/F        |              | Fragment of tegula flange. Abraded; top of flange missing, and patches of faces lost. Upper and inner faces were smoothed, are now cracked and flaked. Outer and lower faces irregular and finely sanded. All faces exacted, arrises are sharp or neatly rounded. Likely to be the same tile as fragments seen in E3 and F2.                                                                                |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 352        | mod      | ?LR                 |                     | A4          | A?           | Fragment of tegula, probably lower right cutaway. Cutaway is atypical, what survives suggests the full height of the flange has been removed, but there is no corresponding body to tell how much was removed. All faces are fairly smooth, outers are finely sanded. Two subtle finger grooves along inside of the flange, one at the base turn and one along the flange face. Fairly squared flange.      |
| F2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 228        | Mod      | UR                  | 24                  | A4          | A2           | Upper right-hand cutaway and flange from a tegula, with part of terminal edge. Relatively thin form. Upper and inner faces are smoothed, subtle finger groove at base of flange. Outer and lower faces are very irregular and finely sanded. All faces are an even dull brown grey.                                                                                                                         |
| E3       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 29         | severe   |                     |                     |             |              | Fragment of tile, probably part of the tegula seen in G4. Cracked surfaces and same dull pink-orange colour                                                                                                                                                                                                                                                                                                 |
| F2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 98         | severe   |                     |                     |             |              | Fragment of tile, probably part of the tegula seen in G4. Cracked surfaces and same dull pink-orange colour                                                                                                                                                                                                                                                                                                 |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 156        | Slight   | LL                  | 50                  | D           | ?C1          | remnants of a tegula lower left cutaway. Tile is fairly neatly made; upper faces are smoothed. Lower is regular and sanded. Fragment has broken away at the end of the cutaway, complete form unclear, but appears to be a chamfer type. Terminal edge is poorly finished, also sanded.                                                                                                                     |
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag | ?Roman | 1        | 6          | severe   |                     |                     |             |              | Undiagnostic nugget made in a porous and speckled fabric.                                                                                                                                                                                                                                                                                                                                                   |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag | Undiag | 2        | 14         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                             |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula | Roman  | 1        | 26         | severe   |                     |                     | D           |              | Fragment of tegula flange, incomplete.                                                                                                                                                                                                                                                                                                                                                                      |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag |        | 3        | 24         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                             |
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |        | Roman  | 1        | 28         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                             |

| Test Pit | Context | Cut | Feature           | Phase | Group | SF number | Form   | Descr    | Date            | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                 |
|----------|---------|-----|-------------------|-------|-------|-----------|--------|----------|-----------------|----------|------------|----------|---------------------|---------------------|-------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag   | Undiag          | 1        | 26         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                         |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Teg     | Roman           | 1        | 621        | slight   |                     |                     |             |              | Fragment of a large Roman brick/tile, probably a tegula. Part of terminal edge remains. Regular and neatly made. Upper faces is smoothed, lower faces is sanded and calcy. Edge is knife cut.                                                           |
| F2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | ?Roman          | 1        | 37         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                         |
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag   | Roman           | 1        | 39         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                         |
| G2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag   | ?Roman          | 2        | 40         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                         |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 69         | mod      |                     |                     |             |              | Fragment of thick Roman tile. Similar to tile in G3.                                                                                                                                                                                                    |
| G3       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 70         | Slight   |                     |                     |             |              | Edge of a thick Roman tile. One smoothed and very finely sanded face and an irregular part-wirecut obverse. Same tile as in H3.                                                                                                                         |
| E3       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | ?Roman or ?Pmed | 1        | 48         | Slight   |                     |                     |             |              | Fragment of tile, made in a mid to dark reddish fabric, dense sanded base. Does not appear to be similar to the Roman material. Pmed? Or just an atypical Roman fabric? As it comes from a roman context and feature, it's odd.                         |
| E4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | Roman           | 1        | 87         | mod      |                     |                     |             |              | Fragment of thick Roman tile. One smoothed with finger sig, remnant obverse is sanded.                                                                                                                                                                  |
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Tegula   | Roman           | 2        | 705        | mod      |                     |                     |             |              | Terminal edge fragment of a tegula and body frag; upper face is smoothed with finger signature. Lower face is sanded and irregular. Edge is slightly better formed. Fairly neat arrises. Yellow-Greenish upper face.                                    |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Undiag | Undiag   | ?Roman          | 1        | 101        | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                         |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | ?Roman          | 1        | 123        | slight   |                     |                     |             |              | Fragment of thin Roman tile with remnant edge face. Tile has slight bow, could be an imbrex but this is uncertain. Form is exacted and neat, arrises are neatly rounded. Upper face wire cut; rest of faces finely sanded.                              |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | ?Roman          | 2        | 130        | severe   |                     |                     |             |              | Abraded tile fragments, remnant edge faces.                                                                                                                                                                                                             |
| H3       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 162        | Slight   |                     |                     |             |              | Fragment of thick Roman tile. One smoothed and very finely sanded face and an irregular part-wirecut obverse. Same tile as in G3.                                                                                                                       |
| F2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 204        | Slight   |                     |                     |             |              | Fragment of a thick Roman brick/tile. Probably from a bes or ped. Upper faces is patchy sooted. Rest is oxidised colours. Base is regular and finely sanded.                                                                                            |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 224        | slight   |                     |                     |             |              | Fragment of a thick Roman brick/tile. Upper faces is smoothed. Base is fairly regular and sanded. Probably bes or ped. Similar to those seen in G2                                                                                                      |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | Imbrex   | Roman           | 1        | 367        | slight   |                     |                     |             |              | Corner of an imbrex tile. Outer face is smoothed. Base and edges are sanded. Base edge is chamfered, giving a steep angle to the tile. Broken edge suggests a subtle curve to the tile.                                                                 |
| F5/E5    | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 453        | mod      |                     |                     |             |              | Fragment of a thick Roman brick/tile. Probably from a bes or ped. Upper faces is wirecut. Base is fairly regular and sanded. Fragment has seen post-breakage burning                                                                                    |
| G2       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 2        | 502        | mod      |                     |                     |             |              | Fragment of a thick Roman brick/tile. Probably from a bes or ped. Upper faces is patchy sooted. Similar to fragment from F2. However, base here is irregular and pockmarked.                                                                            |
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman           | 1        | 531        | slight   |                     |                     |             |              | edge fragment of a thick Roman brick/tile. Probably from a bes or ped. Upper faces is smoothed with wiping marks. Base is regular and sanded. Edge shows signs of having been cut to shape. Sharp arrises present. Thickness suggests it's a ped or bes |

| Test Pit | Context | Cut | Feature           | Phase | Group | SF number | Form   | Descr    | Date     | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|---------|-----|-------------------|-------|-------|-----------|--------|----------|----------|----------|------------|----------|---------------------|---------------------|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman    | 1        | 592        | mod      |                     |                     |             |              | Fragment of a thick Roman brick/tile. Upper faces is wiped and has a finger wipe signature. Base is fairly regular and sanded. Poss remnant edge. Probably from a bes or ped.                                                                                                                                                                                                                          |
| F5       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   | ?Bes/Ped | Roman    | 1        | 650        | mod      |                     |                     |             |              | Corner fragment of a large Roman brick/tile. Upper face is smooth with remnants of finger signature (two overlapping arcs). Base and edges are irregular and densely sanded. Arrises are fairly sharp and the tile is neatly formed. Dark oranges.                                                                                                                                                     |
| F3       | 430     | -   | Dark Earth/Midden | 2.5   | -     |           | Tile   |          | Med-Pmed | 3        | 241        | mod      |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                        |
|          | 432     | -   | Floor             | 3     | -     |           | Tile   |          | ?Roman   | 1        | 161        | mod      |                     |                     |             |              | A fragment of tile or brick. Remnant edge is well formed with sharp arrises. Remnants of one bed face remain, cracked but smooth. Obverse bed face is missing. Perhaps a later tile and not Roman, hard to say.                                                                                                                                                                                        |
|          | 432     | -   | Floor             | 3     | -     | 92        | Tile   | ?Bes/Ped | Roman    | 1        | 1739       | mod      |                     |                     |             |              | Large fragment of Roman tile. Corner portion of a large flat Roman brick/tile; probably ped/bes. No full length or width. Upper bed is irregular but smoothed, has an array of long irregular scratches/grooves; dragging? Base and edge faces are lightly sanded and irregular. Base has digit impressions. Arrises are rounded and corner is rounded. Fairly neat construction but irregular finish. |
|          | 434     | 434 | Ditch             | 2.5   | 412   |           | Tile   | Tegula   | Roman    | 1        | 165        | mod      |                     |                     | D2          |              | Tegula flange fragment. Smoothed uppers, sanded outers. Irregular base. Probably same tile as 438+439                                                                                                                                                                                                                                                                                                  |
|          | 438     | 434 | Ditch             | 2.5   | 412   |           | Tile   | ?Teg     | Roman    | 2        | 169        | severe   |                     |                     |             |              | Body fragments of a Roman tile, probably part of the tegula from 434 SURFACE FIND                                                                                                                                                                                                                                                                                                                      |
|          | 439     | 434 | Ditch             | 2.5   | 412   |           | Tile   |          | Roman    | 2        | 16         | severe   |                     |                     |             |              | frags of Roman tile                                                                                                                                                                                                                                                                                                                                                                                    |
|          | 439     | 434 | Ditch             | 2.5   | 412   |           | Tile   | ?Teg     | Roman    | 3        | 19         | severe   |                     |                     |             |              | fragments of tile. Probably same tile as 438                                                                                                                                                                                                                                                                                                                                                           |
|          | 460     | 456 | Well              | 2.5   | 456   |           | Undiag | Undiag   | Undiag   | 1        | 7          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                        |
|          | 462     | 456 | Well              | 2.5   | 456   |           | Tile   | ?Bes/Ped | Roman    | 1        | 412        | mod      |                     |                     |             |              | Fragment of a thick brick/tile. Similar in size and style as the possible besalis from 463. Upper face wirecut with partial finger groove signature. Lower face is irregular and patchy sanded.                                                                                                                                                                                                        |
|          | 463     | 456 | Well              | 2.5   | 456   |           | Tile   | Bes?     | Roman    | 1        | 808        | mod      |                     |                     |             |              | A fragment of a thick brick/tile. It has a remnant edge face. On the base are three parallel finger impressions probably from turning, direction of these suggests the full width of the object was small, perhaps only 150mm. Suggests it may be a besalis (i.e. 1/2 Roman foot square). Upper is wirecut, edge is too, lower is irregular and finely sanded.                                         |
|          | 478     | 497 | Ditch             | 2.5   | 412   |           | Brick  |          | Roman    | 1        | 46         | severe   |                     |                     |             |              | Fragment of undiag Roman brick/tile                                                                                                                                                                                                                                                                                                                                                                    |
|          | 482     | 480 | Ditch             | 2.3   | 418   |           | Tile   |          | Roman    | 1        | 183        | mod      |                     |                     |             |              | Corner fragment of a flat tile, probably Roman. Perhaps a thin besalis? Or an opus type tile. Fairly neat and regular except for base face which is irregular and parts of one terminal end. Suggests poor moulding.                                                                                                                                                                                   |
|          | 482     | 480 | Ditch             | 2.3   | 418   |           | Brick  |          | Roman    | 2        | 331        | severe   |                     |                     |             |              | Abraded fragments of thick Roman brick/tile                                                                                                                                                                                                                                                                                                                                                            |
|          | 488     | 487 | Ditch             | 2.5   | 487   |           | Undiag | Undiag   | Undiag   | 1        | 5          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                                                        |
|          | 488     | 487 | Ditch             | 2.5   | 487   |           | Tile   |          | Roman    | 1        | 73         | mod      |                     |                     |             |              | Fragment of a thick roman tile. Upper is rough by regular, body is mid grey, lower is orange and sanded.                                                                                                                                                                                                                                                                                               |
|          | 488     | 487 | Ditch             | 2.5   | 487   |           | Tile   |          | Roman    | 1        | 119        | mod      |                     |                     |             |              | Corner fragment of a tile. Rounded arrises and rounded corner. Upper face is flattened, lowed and edges are less neat and are sanded.                                                                                                                                                                                                                                                                  |
|          | 488     | 487 | Ditch             | 2.5   | 487   |           | Brick  |          | Roman    | 3        | 159        | severe   |                     |                     |             |              | Fragments of two or three different undiag Roman bricks/tiles.                                                                                                                                                                                                                                                                                                                                         |

| Test Pit | Context | Cut | Feature                      | Phase | Group | SF number | Form   | Descr       | Date      | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                                                                                                                               |
|----------|---------|-----|------------------------------|-------|-------|-----------|--------|-------------|-----------|----------|------------|----------|---------------------|---------------------|-------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 488     | 487 | Ditch                        | 2.5   | 487   |           | Tile   | ?Lydion/Ped | Roman     | 1        | 230        | mod      |                     |                     |             |              | Corner fragment of a thick Roman brick/tile. Lydion or Ped/Bes? Arrises are regular and fairly sharp, corner is rounded. Faces are exacted and smoothed. Patches of fine sanding on base.                                                                                                                                                                             |
|          | 516     | 513 | Ditch                        | 2.4   | 498   |           | Tile   | ?Teg        | Roman     | 1        | 219        | mod      |                     |                     |             |              | Edge of a thick Roman tile. One smoothed and very finely sanded base.                                                                                                                                                                                                                                                                                                 |
|          | 530     | 528 | Ditch                        | 2.4   | 528   |           | Tile   | Tegula      | Roman     | 1        | 115        | mod      |                     |                     |             |              | Body fragment of neatly made Roman tile, probably tegula. Upper face is smoothed, lower is flat and sanded.                                                                                                                                                                                                                                                           |
|          | 542     | 512 | Pit                          | 2.5   | 512   |           | Undiag | Undiag      | ?Pmed     | 1        | 4          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
|          | 593     | 592 | Ditch                        | 3     | 297   |           | Undiag | Undiag      | ?Roman    | 2        | 20         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
|          | 610     | 609 | Ditch                        | 2.5   | 524   |           | Tile   | ?Teg        | Roman     | 1        | 87         | mod      |                     |                     |             |              | Fragment of Roman tile. Wirecut upper face and coarsely sanded base. Neat. Orange with grey core.                                                                                                                                                                                                                                                                     |
| J3       | 617     | 756 | Ditch                        | 2.5   | 756   |           | Undiag | Undiag      | ?Roman    | 3        | 37         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
| J3       | 617     | 756 | Ditch                        | 2.5   | 756   |           | Tile   | Imbrex      | Roman     | 1        | 283        | mod      |                     |                     |             |              | Corner fragment of a thin Roman tile, edges and lower face finely sanded, obverse is abraded but appears smoothed. Possibly an imbrex tile as there is a slight bow to the body away from the edge. Similar to imbrex seen elsewhere. Neat arrises and fairly exacted form.                                                                                           |
|          | 679     | 678 | Ditch                        | 2.3   | 678   |           | Tile   | Flat        | Pmed      | 1        | 42         | severe   |                     |                     |             |              | Fragment of thin tile. Fabric is very pot-like. Upper face is smoothed, slightly undulating and looks like a self-slip. Base is coarsely sanded                                                                                                                                                                                                                       |
|          | 719     | -   | Midden                       | 3     | -     |           | Brick  |             | ?Med-Pmed | 1        | 254        | severe   |                     |                     |             |              | Abraded fragment of a large brick/tile. No diagnostic features, remnant surfaces are smoothed and sanded.                                                                                                                                                                                                                                                             |
|          | 719     | -   | Midden                       | 3     | -     |           | Undiag | Undiag      | ?Roman    | 1        | 14         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
|          | 719     | -   | Midden                       | 3     | -     |           | Tile   |             | Roman     | 1        | 96         | slight   |                     |                     |             |              | Fragment of Roman tile with coarsely sanded base                                                                                                                                                                                                                                                                                                                      |
|          | 719     | -   | Midden                       | 3     | -     |           | Tile   |             | Roman     | 2        | 193        | mod      |                     |                     |             |              | Body fragments of neatly made thin roman tiles.                                                                                                                                                                                                                                                                                                                       |
|          | 723     | 730 | Ditch                        | 2.5   | 720   |           | Tile   | ?Bes/Ped    | Roman     | 1        | 158        | slight   |                     |                     |             |              | Fragment of thick Roman tile. Edge face remnant. Smoothed upper, fine sanded base and edge. Exacted and fairly sharp arrises.                                                                                                                                                                                                                                         |
|          | 727     | 724 | Ditch                        | 2.5   | 720   |           | Brick  | Undiag      | ?Roman    | 1        | 58         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
| E5       | 755     | -   | Cess Deposit                 | 3     | -     |           | Tile   | Tegula      | Roman     | 1        | 58         | severe   |                     |                     |             |              | base of a tegula flange. Smoothed upper face, finely sanded base. No flange present.                                                                                                                                                                                                                                                                                  |
| E3       | 755     | -   | Cess Deposit                 | 3     | -     |           | Tile   | ?Teg        | Roman     | 1        | 184        | mod      |                     |                     |             |              | Fragment of tile, probably part of the tegula seen in 430. Cracked surfaces and same dull pink-orange colour                                                                                                                                                                                                                                                          |
| E5       | 755     | -   | Cess Deposit                 | 3     | -     |           | Tile   | ?Teg        | Roman     | 1        | 25         | severe   |                     |                     |             |              | dark smooth surface and dull orange core                                                                                                                                                                                                                                                                                                                              |
| F4       | 755     | -   | Cess Deposit                 | 3     | -     |           | Tile   |             | Roman     | 1        | 89         | slight   |                     |                     |             |              | Fragment of Roman tile with coarsely sanded base                                                                                                                                                                                                                                                                                                                      |
|          | 788     | 787 | Ditch                        | 3     | 787   |           | Undiag | Undiag      | Undiag    | 4        | 39         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
|          | 807     | -   | Internal Floor               | 2.5   | -     |           | Undiag | Undiag      | Undiag    | 4        | 12         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |
| T2       | 812     | -   | Internal Surface (Redep Nat) | 3     | -     | 180       | Tile   | Tegula      | Roman     | 3        | 2352       | Slight   | LR                  | 60                  | A           | A/C 1        | Refitting fragments of the lower right-hand portion of a tegula. Squared flange with angled cutaway. At surviving terminal end there is a two finger signature, forming part of a semi-circle. Upper and inner faces are smoothed and show wire cutting. Outer and lower faces are unfinished/irregular and densely sanded (med to coarse). Good example, illustrate? |
|          | 815     | -   | Wall                         | 2.4   | -     |           | Tile   | Flue        | Roman     | 1        | 117        | slight   |                     |                     |             |              | Fragment of box flue tile with remnant diagonal wide grooves/combing. Rounded arrises and neatly smoothed outer faces. Sooted, post break.                                                                                                                                                                                                                            |
|          | 821     | 817 | Ditch                        | 2.5   | 756   |           | Undiag | Undiag      | Undiag    | 1        | 18         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                                                                                       |

| Test Pit | Context | Cut | Feature   | Phase | Group | SF number | Form   | Descr  | Date      | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                                                                    |
|----------|---------|-----|-----------|-------|-------|-----------|--------|--------|-----------|----------|------------|----------|---------------------|---------------------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 821     | 817 | Ditch     | 2.5   | 756   |           | Tile   |        | ?Roman    | 1        | 60         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
|          | 844     | 843 | Post Pipe | 2.5   | 843   |           | Tile   | Flat   | Med-Pmed  | 2        | 105        | mod      |                     |                     |             |              | Fragments of late flat tile. Med-Pmed.                                                                                                                                                                                                                                                                     |
|          | 905     | 904 | Ditch     | 2.5   | 904   |           | Tile   | Imbrex | Roman     | 1        | 239        | mod      |                     |                     |             |              | Terminal end of an imbrex tile. Body of the tile bows, tile is thinner at base than at body break. Inner and edges are densely fine sanded, outer is wiped smooth and has mortar accretions (sign of reuse?). Tile has rectangular shape, poss sawn edge - reworked and then cemented into something else? |
|          | 914     | 914 | Ditch     | 2.1   | 877   |           | Brick  |        | ?Roman    | 2        | 204        | severe   |                     |                     |             |              | Fragments of thick tile or brick, poss Roman or Med                                                                                                                                                                                                                                                        |
|          | 914     | 914 | Ditch     | 2.1   | 877   |           | Tile   | ?Teg   | Roman     | 1        | 309        | slight   |                     |                     |             |              | Fragment of Roman tile with remnant edge face, probably from the body of a tegula. Neat and exacted form with fairly sharp arrises. Smooth upper and fine sanded base.                                                                                                                                     |
|          | 919     | 917 | Ditch     | 2.1   | 674   |           | Tile   | Tegula | Roman     | 1        | 299        | mod      |                     |                     | D2          |              | Large tegula flange fragment. Flange is atypical as it has been hand formed; large digit impressions around the outside of the flange, flange is irregular and bulky and shows none of the exactness of standard tegula forming. Illustrate?                                                               |
|          | 100     | 99  | Ditch     | 2.3   | 99    |           | Tile   | Imbrex | Roman     | 2        | 232        | mod      |                     |                     |             |              | Fragment of imbrex tile; remnant base edge and probably full height of the tile (105mm). Train tunnel section. Outer face is smoothed and wirecut, inner irregular and densely sanded.                                                                                                                     |
|          | 156     | 155 | Ditch     | 2.3   | 99    |           | Undiag | Undiag | Undiag    | 1        | 6          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
|          | 191     | 189 | Ditch     | 2.3   | 171   |           | Undiag | Undiag | Roman     | 2        | 82         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
|          | 235     | 234 | Ditch     | 2.3   | 99    |           | Undiag | Undiag | Undiag    | 1        | 5          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
|          | 51      | -   | Subsoil   | -     | -     |           | Tile   |        | ?Med-Pmed | 1        | 29         | severe   |                     |                     |             |              | Severely abraded frag of ?med-pmed tile; around 1/2 inch thick                                                                                                                                                                                                                                             |
|          | 127     | 126 | Ditch     | 2.3   | 99    |           | Tile   |        | ?Med-Pmed | 1        | 69         | slight   |                     |                     |             |              | Fragment of tile. All faces are smoothed. Arrises are sharp. 1/2 inch thickness might indicate med-pmed date. Weighty for its size.                                                                                                                                                                        |
|          | 129     | 128 | Ditch     | 2.3   | 99    |           | Tile   | Tegula | Roman     | 1        | 112        | severe   |                     |                     | A           |              | Fragment of tegula flange; square section. Mortar accretions.                                                                                                                                                                                                                                              |
|          | 140     | 139 | Ditch     | 2.4   | 121   |           | Brick  |        | Roman     | 1        | 40         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
| B1       | 51      | -   | Subsoil   | -     | -     |           | Undiag | Undiag | Undiag    | 1        | 5          | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
| B2       | 51      | -   | Subsoil   | -     | -     |           | Undiag | Undiag | Undiag    | 3        | 20         | severe   |                     |                     |             |              |                                                                                                                                                                                                                                                                                                            |
| D2       | 51      | -   | Subsoil   | -     | -     |           | Undiag | Undiag | Undiag    | 1        | 33         | severe   |                     |                     |             |              | Sanded face of brick or tile. Undiag, no date.                                                                                                                                                                                                                                                             |
|          | 51      | -   | Subsoil   | -     | -     |           | Tile   | ?Flue  | Roman     | 1        | 38         | severe   |                     |                     |             |              | Fragment of thin tile with remnant scoring on one face. All faces are smoothed, and the fragment is abraded.                                                                                                                                                                                               |
|          | 51      | -   | Subsoil   | -     | -     |           | Tile   | Imbrex | Roman     | 1        | 100        | mod      |                     |                     |             |              | Square fragment of basal edge portion of an imbrex. Base edge is chamfered and gives body tilt. Out face is smoothed and inner and edge are coarsely sanded.                                                                                                                                               |
|          | 51      | -   | Subsoil   | -     | -     |           | Tile   | Imbrex | Roman     | 1        | 120        | mod      |                     |                     |             |              | Fragment of Roman imbrex. Outer is smoothed and undulate, has a thin scored line halfway up the body, running parallel to the remnant base edge; a dragging mark? Inner face is regular and densely sanded. Base edge is similar.                                                                          |
|          | 51      | -   | Subsoil   | -     | -     |           | Brick  |        | ?Roman    | 1        | 169        | severe   |                     |                     |             |              | Corner fragment of a thick tile or slim brick. Regular arrises and rounded corners. Upper face is smoothed, rest are finely sanded and regular. Internal body is twisted suggesting mould produced. Probably roman, does not seem like later types.                                                        |
|          | 51      | -   | Subsoil   | -     | -     | 79        | Tile   | Tegula | Roman     | 1        | 473        | Slight   |                     |                     | B           |              | Fragment of tegula flange. Notably chunky tegula with a faceted shape. Flange is twice the thickness of the tile body. Upper faces are smoothed/wirecut. Outer flange face is smooth. Lower face is regular and have ?organic impressions. Atypical example.                                               |

| Test Pit | Context | Cut | Feature | Phase | Group | SF number | Form  | Descr | Date  | Frag No. | Weight (g) | Abrasion | Upper/Lower Cutaway | Cutaway Length (mm) | Flange Type | Cutaway Type | Comment                                                                                                                                                                                                                                                                                                                      |
|----------|---------|-----|---------|-------|-------|-----------|-------|-------|-------|----------|------------|----------|---------------------|---------------------|-------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | 51      | -   | Subsoil | -     | -     |           | Brick |       | Roman | 6        | 670        | severe   |                     |                     |             |              | Fragments of the corner of a large Roman tile/brick. One obvious edge face and a less remnant perpendicular edge. Upper face is smoothed/wirecut, surviving edge is sharply cut leaving sharp arris. Lower face is irregular and very poorly formed, is also finely sanded. Some secondary calcite accretions on old breaks. |

Table 56. Catalogue of ceramic building material

## B.10 Fired Clay

By Ted Levermore

### Introduction

B.10.1 The excavations produced a small assemblage of fired clay (247 fragments, 2673g) from the Northern and Southern Areas (see Table 57). The material was collected from Roman and post-Roman features, with a concentration in the northern part of the site. The majority of the material comprised 'structural' fragments, *i.e.* pieces with recognisable attributes (208 fragments, 2458g). Of the structural fraction, a portion comprised diagnostic objects (10, 2008g), namely kiln related objects including 33 fragments of kiln plate (743g). A small fraction of the assemblage consisted of amorphous fragments with no discernible features (39, 215g). The kiln material derived from within and below the Roman building contexts, in the Northern Area, which points to a later Iron Age/Early Roman craft/light industrial use of the immediate vicinity.

B.10.2 The quantified data and fabric descriptions are presented on an Excel spreadsheet held in the site archive. A catalogue of the assemblage is provided below in Table 59.

| Phase     | Fragment type | Object Form        | Sum of Count | Sum of Weight (g) |
|-----------|---------------|--------------------|--------------|-------------------|
| 2.1       | Amorphous     |                    | 2            | 7                 |
|           | Structural    | Plate              | 1            | 18                |
|           | Structural    | Unknown            | 4            | 51                |
| 2.1 total |               |                    | 7            | 76                |
| 2.3       | Amorphous     |                    | 10           | 47                |
|           | Structural    | Plate              | 2            | 7                 |
|           | Structural    | Unknown            | 3            | 37                |
| 2.3 total |               |                    | 15           | 91                |
| 2.4       | Amorphous     |                    | 4            | 14                |
|           | Structural    | ?Lining            | 35           | 76                |
|           | Structural    | ?Pedestal          | 1            | 49                |
|           | Structural    | Plate              | 6            | 195               |
| 2.4 total |               |                    | 46           | 334               |
| 2.5       | Amorphous     |                    | 10           | 68                |
|           | Structural    | ?Pedestal          | 12           | 692               |
|           | Structural    | ?Pedestal or Plate | 4            | 76                |
|           | Structural    | Plate              | 19           | 343               |
|           | Structural    | Unknown            | 45           | 396               |
| 2.5 total |               |                    | 90           | 1575              |
| 3         | Amorphous     |                    | 9            | 42                |
|           | Structural    | ?Lining            | 45           | 212               |
|           | Structural    | Plate              | 4            | 145               |
|           | Structural    | Unknown            | 13           | 109               |
| 3 total   |               |                    | 71           | 508               |
| Unstrat.  | Amorphous     |                    | 4            | 37                |

| Phase         | Fragment type | Object Form | Sum of Count | Sum of Weight (g) |
|---------------|---------------|-------------|--------------|-------------------|
|               | Structural    | ?Lining     | 13           | 17                |
|               | Structural    | Plate       | 1            | 35                |
| <i>Totals</i> |               |             | 247          | 2673              |

Table 57. Fired clay objects by phase

## Methodology

B.10.3 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 consulted for Iron Age and Roman kiln furniture forms and kiln typology. A summary of the catalogue can be found in Table 58.

## Fabrics

B.10.4 Eight fabric groups (and three subsets) were recorded amongst the assemblage. All the fabrics contained quartz, flint and gritty material. The main differences were seen between the fabrics that contained calcareous material, those with coarse flint inclusions and those with organic temper. The clays were probably sourced locally to the site, with any variation seen being related to geological variation or differences in paste preparation. The material related to the kiln was made of a narrow set of fabrics.

## Assemblage

B.10.5 By weight, the bulk of this material was concentrated in the Northern Area (205 fragments, 2233g). A portion of the assemblage was recovered from subsoil contexts in Test Pit Area 1 (37 fragments, 403g). This assemblage contained similar material to other contexts in the Northern Area, namely kiln plates, and has therefore been added to the relevant descriptions. The Southern Area contained a smaller and less diagnostic assemblage (5 fragments, 37g). The material appears to be residual to all contexts, rendering discussion by phase unnecessary: the following text examines the material by fragment type.

## Kiln/Oven Material

B.10.6 The Northern Area produced all the diagnostic material in the assemblage, which comprised kiln furniture and fragments probably related to oven-type features (Table 58). The most characteristic portion of the assemblage consists of fragments of kiln plates. The use of such plates is best documented for Late Iron Age and Early Roman pottery kilns (Swan 1984), including the important series of pre-Flavian Roman kilns from sites in Cambridgeshire (e.g. Gibson and Lucas 2002; Evans *et al* 2008), but are also known locally in large numbers from the later Horningsea Ware production centres in the lower Cam Valley (J. Evans *et al* 2013, 41-51; Newton and Peachey 2012). These objects were made in a reduced grey fine sandy clay with occasional coarse sub-rounded flint and red clay pellets. No complete examples survived; however, the

remnants were quite uniform in their size, shape and surface treatment. They were between 12 and 14mm thick (4 fragments, 128g, were 20mm thick), reasonably flat and with grass and grain on both faces. This is typical of kiln plates which are thought to be hand formed between chaff/grass material and then laid out to dry. The thirty-two confidently identified kiln plate fragments (724g in total) were found scattered in low quantities across the northern area, from contexts belonging to Phases 2.1-3 and much of this is likely to be residual. Something of a concentration of this material was found however, in the deposits sampled by Test Pit Area 1, where 18 fragments (268g) were found. The remainder of the diagnostic material was assigned to the broad category of 'oven related', as they were severely fragmented and abraded, consisting mostly of probable pedestals (4 fragments, 470g) and pieces of lining (93, 305g). A pedestal fragment (49g) was collected from the internal levelling surface **522** and some lining from post setting **883**. The rest of the material was collected from hollows and midden contexts and was very fragmented.

| Object Form        | Count      | Weight (g)  |
|--------------------|------------|-------------|
| Plate              | 33         | 743         |
| ?Pedestal or Plate | 4          | 76          |
| ?Pedestal          | 4          | 470         |
| ?Lining            | 93         | 305         |
| ?Furniture         | 9          | 271         |
| <b>Total</b>       | <b>143</b> | <b>1865</b> |

Table 58: Summary of kiln structure and furniture forms.

### Non-diagnostic material

B.10.7 The remainder of the assemblage is less informative. The presence of fragments with flattened surfaces, wattle impressions and signs of hand-forming are signs of a greater number of objects and/or features related to domestic and light industrial activity at the site. However, conclusions are limited beyond their bulk and distribution at the site. The majority of the material was found in the Northern Area within ditch, hollow and midden contexts; suggesting the ubiquity of the use of fired clay in kilns/ovens before and during the Roman use of the site. It is possible that the variation seen in fabrics indicates different phases of production, but this cannot be discerned from this assemblage. Instead, the material should be considered to be the detrital remains of Iron Age and Roman domestic and industrial/craft activity.

### Discussion

B.10.8 The diagnostic elements of the assemblage are dominated by kiln material, namely kiln plates, and attest to pottery production at or close to the site at some point during its occupation, although much of this material may be residual in the contexts from which it derives.

| Test Pit | Context | Cut | Feature           | Phase | Group | SF Number | Fragment type | Structural type | Object Class   | Object Form        | Date/Period | Abrasion | Notes                                                                                                                                                  | Count | Weight (g) |
|----------|---------|-----|-------------------|-------|-------|-----------|---------------|-----------------|----------------|--------------------|-------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| G4       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs/hf           | ?Oven Related  | ?Pedestal          |             | Sev      | Fragments of a blocky clay object. Very highly fired, compact and almost stone-like appearance. Hand formed blocky shape. Yellow and grey colouration. | 2     | 344        |
|          | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              | ?Oven Related  | ?Pedestal          |             | Sev      | Fragment of yellow-grey clay like block from G4                                                                                                        | 1     | 77         |
|          | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              | ?Oven Related  | ?Pedestal or Plate |             | Mod      | Fragments of a porous clay with one remnant flattened surface. Probably from a platey or blocky object                                                 | 4     | 76         |
| G3       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              |                |                    |             | Sev      | Fragments of object(s) with smoothed surfaces, body is cracked. Fabric is common brown quartz.                                                         | 7     | 55         |
| F3       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              |                |                    |             | Sev      | Fragment of object with smoothed surfaces, body is cracked. Fabric is common brown quartz.                                                             | 1     | 6          |
| E4       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              |                |                    |             | Sev      | Fragments of object(s) with smoothed surfaces, body is cracked. Fabric is common brown quartz.                                                         | 2     | 20         |
| G3       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | fs              |                |                    |             | Sev      |                                                                                                                                                        | 5     | 8          |
| H1       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | a             |                 |                |                    |             | Sev      |                                                                                                                                                        | 2     | 4          |
| G3       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | a             |                 |                |                    |             | Sev      |                                                                                                                                                        | 1     | 5          |
| F1       | 430     | -   | Dark Earth/Midden | 2.5   | 50    |           | s             | w               |                |                    |             | Sev      | the internal portion of a perforation through a clay object D~20mm                                                                                     | 2     | 24         |
|          | 357     | 357 | Ditch             | 2.1   | 59    |           | s             | object          | Kiln furniture | Plate              | LIA/ERB     | Mod      | grass and grain, fairly reduced margins. Rounded edge. Brown oxidised                                                                                  | 1     | 18         |
|          | 105     | 104 | Ditch             | 2.3   | 79    |           | s             | fs              |                |                    |             | sev      |                                                                                                                                                        | 2     | 26         |
|          | 122     | 121 | Ditch             | 2.4   | 121   |           | a             |                 |                |                    |             | Sev      |                                                                                                                                                        | 1     | 4          |
|          | 172     | 171 | Ditch             | 2.3   | 171   |           | a             |                 |                |                    |             | Sev      |                                                                                                                                                        | 1     | 3          |

| Test Pit | Context | Cut | Feature                      | Phase | Group | SF Number | Fragment type | Structural type | Object Class    | Object Form | Date/Period | Abrasion | Notes                                                                                                        | Count | Weight (g) |
|----------|---------|-----|------------------------------|-------|-------|-----------|---------------|-----------------|-----------------|-------------|-------------|----------|--------------------------------------------------------------------------------------------------------------|-------|------------|
|          | 288     | 286 | Ditch                        | 2.3   | 286   |           | s             | fs              |                 |             |             | mod      |                                                                                                              | 1     | 11         |
|          | 288     | 286 | Ditch                        | 2.3   | 286   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 1     | 5          |
|          | 593     | 592 | Ditch                        | 3     | 297   |           | s             | object          | Kiln furniture  | Plate       | LIA/ERB     | Mod      | grass and grain, fairly reduced margins. Rounded edge.                                                       | 1     | 50         |
|          | 593     | 592 | Ditch                        | 3     | 297   |           | a             |                 |                 |             |             |          |                                                                                                              | 1     | 7          |
|          | 593     | 592 | Ditch                        | 3     | 297   |           | a             |                 |                 |             |             | Mod      |                                                                                                              | 1     | 16         |
|          | 406     | -   | Alluvium                     | -     | 372   |           | s             | fs              | ?Oven Related   | ?Lining     |             | Sev      | Thin face fragments                                                                                          | 13    | 17         |
|          | 406     | -   | Alluvium                     | -     | 372   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 4     | 37         |
|          | 403     | 404 | Ditch                        | 2.5   | 404   |           | s             | fs              |                 |             |             | mod      |                                                                                                              | 1     | 4          |
|          | 438     | 434 | Ditch                        | 2.5   | 412   |           | s             | fs/hf           |                 |             |             | Sev      | curved face                                                                                                  | 2     | 33         |
|          | 719     | -   | Dark Earth/Midden            | 2.5   | 430   |           | s             | fs              |                 |             |             | Mod      |                                                                                                              | 1     | 10         |
|          | 645     | 644 | Ditch                        | 2.3   | 510   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 2     | 14         |
| J4       | 522     | -   | Levelling Surface (internal) | 2.4   | 522   |           | s             | object          | ?Kiln Furniture | ?Pedestal   |             | mod      | Fragment of a handformed corner of a high fired clay object. Possibly a corner from a flanged pedestal base. | 1     | 49         |
|          | 685     | 671 | Ditch                        | 2.5   | 526   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 1     | 7          |
|          | 692     | 691 | Ditch                        | 2.5   | 526   |           | s             | fs              |                 |             |             | mod      |                                                                                                              | 3     | 26         |
|          | 893     | 892 | Ditch                        | 2.1   | 752   |           | s             | fs              |                 |             |             | Sev      |                                                                                                              | 4     | 51         |
|          | 819     | 817 | Ditch                        | 2.5   | 756   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 1     | 25         |
|          | 791     | 883 | Post Setting                 | 2.4   | 789   |           | s             | fs              | ?Oven Related   | ?Lining     |             | mod      | Small thin face fragments, poss lining of something                                                          | 35    | 76         |
|          | 832     | 833 | Hollow                       | 3     | 797   |           | a             |                 |                 |             |             | Sev      |                                                                                                              | 6     | 16         |

| Test Pit | Context | Cut | Feature       | Phase | Group | SF Number | Fragment type | Structural type | Object Class   | Object Form | Date/Period | Abrasion | Notes                                                                    | Count | Weight (g) |
|----------|---------|-----|---------------|-------|-------|-----------|---------------|-----------------|----------------|-------------|-------------|----------|--------------------------------------------------------------------------|-------|------------|
|          | 832     | 833 | Hollow        | 3     | 797   |           | s             | fs/hf           |                |             |             | Sev      |                                                                          | 6     | 36         |
|          | 782     | -   | Wall Fill     | 2.4   | 815   |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 2     | 57         |
|          | 828     | 827 | Post Pipe     | 2.5   | 827   |           | s             | object          | ?Oven Related  | ?Pedestal   |             | Sev      | Fragments of plate or pedestal like objects; friable and abraded         | 9     | 271        |
|          | 828     | 827 | Post Pipe     | 2.5   | 827   |           | s             | fs/hf           |                |             |             | Mod      |                                                                          | 5     | 95         |
|          | 856     | 855 | Ditch         | 3     | 855   |           | a             |                 |                |             |             | Sev      |                                                                          | 1     | 3          |
|          | 410     | 407 | Hearth/Oven   | 2.4   | 407   |           | a             |                 |                |             |             | Sev      |                                                                          | 3     | 10         |
|          | 339     | 388 | Pit           | 2.3   | -     |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 2     | 7          |
|          | 367     | 365 | Pit           | 2.1   | -     |           | a             |                 |                |             |             | Sev      |                                                                          | 1     | 3          |
|          | 391     | 390 | Pit           | 2.3   | -     |           | a             |                 |                |             |             | Sev      |                                                                          | 2     | 15         |
|          | 547     | 545 | Post Hole     | 2.3   | -     |           | a             |                 |                |             |             | Sev      |                                                                          | 2     | 3          |
|          | 668     | 666 | Pit           | 2.4   | -     |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 4     | 138        |
|          | 681     | -   | Burnt Deposit | 2.3   | -     |           | a             |                 |                |             |             | Sev      |                                                                          | 2     | 7          |
|          | 794     | 793 | Hollow        | 3     | -     |           | s             | fs              | ?Oven Related  | ?Lining     |             | Mod      | Small thin face fragments, poss lining of something                      | 2     | 11         |
|          | 794     | 793 | Hollow        | 3     | -     |           | s             | fs/w            |                |             |             | Mod      | Fragments of flattened clay with wattle and grass impressions            | 7     | 73         |
|          | 797     | 797 | Hollow        | 3     | -     |           | s             | fs              | ?Oven Related  | ?Lining     |             | Mod      | Small thin face fragments, poss lining of something                      | 43    | 201        |
|          | 797     | 797 | Hollow        | 3     | -     |           | s             | object          | Kiln furniture | Plate       |             | Mod      |                                                                          | 1     | 19         |
|          | 807     | -   | Floor         | 2.5   | -     |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | grass and grain, fairly reduced margins. Rounded edge.                   | 1     | 75         |
|          | 807     | -   | Floor         | 2.5   | -     |           | s             | fs/hf           |                |             |             | Sev      |                                                                          | 3     | 42         |
|          | 244     | 243 | Pit           | 2.1   | -     |           | a             |                 |                |             |             | Sev      |                                                                          | 1     | 4          |
| B2       | 51      | -   | Subsoil       | -     | -     |           | s             | fs              |                |             |             | Sev      |                                                                          | 1     | 16         |

| Test Pit | Context   | Cut | Feature | Phase | Group   | SF Number | Fragment type | Structural type | Object Class   | Object Form | Date/Period | Abrasion | Notes                                                                    | Count | Weight (g) |
|----------|-----------|-----|---------|-------|---------|-----------|---------------|-----------------|----------------|-------------|-------------|----------|--------------------------------------------------------------------------|-------|------------|
| B4       | 51        | -   | Layer   | -     | -       |           | s             | fs              |                |             |             | Sev      |                                                                          | 2     | 8          |
| B4       | 51        | -   | Layer   | -     | -       |           | s             | fs              |                |             |             | mod      |                                                                          | 8     | 31         |
| B3       | 51        | -   | Layer   | -     | -       |           | s             | fs              |                |             |             | Sev      |                                                                          | 2     | 18         |
| B2       | 51        | -   | Layer   | -     | -       |           | a             |                 |                |             |             | Sev      |                                                                          | 5     | 27         |
| B2       | 51        | -   | Layer   | -     | -       |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 3     | 74         |
| B3       | 51        | -   | Layer   | -     | -       |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 3     | 59         |
| B1       | 51        | -   | Layer   | -     | -       |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 10    | 111        |
| B1       | 51        | -   | Layer   | -     | -       |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 2     | 24         |
|          | 807 (431) | -   | Layer   | 3     | S/A 807 |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | Fragments of kiln plate with grass and grain impressions. Rounded edges. | 2     | 76         |
|          | 430       |     | Layer   |       |         |           | s             | object          | Kiln furniture | Plate       | LIA/ERB     | Mod      | grass and grain, fairly reduced margins. Rounded edge. Brown oxidised    | 1     | 35         |

Table 59. Fired clay catalogue

## B.11 Plaster and Mortar

*By Ted Levermore*

### Introduction

B.11.1 The investigations recovered a small assemblage of plaster and mortar (62 fragments, 637g), comprising painted wall plaster (42 pieces, 326g), undecorated plaster (13 fragments, 55g) and unrefined plaster or mortar (8 fragments, 256g). The assemblage was collected from the Northern Area, mostly from posthole contexts. A variety of colours were evident on the painted plaster, but no patterns were discernible. The material was small and fragmented, without the largest mortar fragment (181g) the average weight was 7g.

### 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. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. Table 61 summarises the assemblage.

### Fabrics

B.11.3 A small group of fabrics were represented in this assemblage; five for the plaster and four for the mortar fraction. The plaster fabrics all had a calcareous base and varied by inclusion and colour. The plaster fabrics were well mixed and refined. The mortar fabrics were similar but were generally coarser and were less well mixed. The fabrics are described below (Table 60).

| Code | Matrix/Colour           | Fine inclusions                                                                       | Coarse inclusions                                  |
|------|-------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------|
| P1   | Fine grey               | common rounded grit (whites and reds) and calc pellets                                | occ rounded grit (whites and reds)                 |
| P2   | Fine yellow-grey        | very common quartz and grit (white and yellow and dark), common calc flecks and pores | occ rounded quartz and grit, some very coarse      |
| P3   | Powdery White/Cream     | Pores and some grit                                                                   | none                                               |
| P4   | Gritty light pink-brown | common rounded grit (whites and reds)                                                 | occ grit (whites and reds) and calc flecks         |
| P5   | Powdery orange/cream    | common pores, calc flecks and reddish flecks                                          | common pores, calc flecks and reddish flecks       |
| M1   | Fine orange-brown       | common quartz and grit, common pores                                                  | occ rounded quartz and grit                        |
| M2   | fine pink-cream         | common angular grit                                                                   | occ rounded pellets - poss calc                    |
| M3   | gritty dull pink-brown  | common calc flecks and quartz and pores                                               | common calc flecks, occ flint and quartz and pores |
| M4   | Fine yellow-grey        | common quartz and rounded grit (dark to mid browns), calc flecks and few pores        | common rounded stones/grit, rare calc pellets      |

*Table 60. Plaster and mortar fabrics*

## *Assemblage*

### *Wall plaster*

- B.11.4 This assemblage was characterised by fragments with surviving coloured pigments applied to the plaster face. The colours included pink, red, brown and blue-grey. Many of the fragments appeared to have a whitewash below the pigment. This material was found within post-pipes **774**, **789** and **843** and another piece (SF205) was collected from ditch **817**. The majority was concentrated within **774** and **789**. pXRF analysis of selected samples of the painted wall plaster is reported in App. B.12, below.
- B.11.5 A smaller portion of this assemblage was undecorated or did not have surviving pigment. It was found in associated with the painted examples (post-pipes **774**, **789**, **827**).

### *Mortar*

- B.11.6 Fragments recorded as mortar were made in coarser fabrics, which survived as larger rounded fragments or refitted the plaster fragments. The mortar material probably formed the backing to the refined plaster fragments or as cement for building material. It came from postholes **789**, **827** and **845** and hollow **793**.
- B.11.7 Further mortar resembling fabric M4 were recorded on the lower courses of the stone footing of the aisled building.

| Context | Cut | Feature Type | Phase | SF Number | Fabric | Fragment type | Paint colour         | Notes                                                                   | Thickness (mm) | Count | Weight (g) |
|---------|-----|--------------|-------|-----------|--------|---------------|----------------------|-------------------------------------------------------------------------|----------------|-------|------------|
| 775     | 774 | Post pipe    | 2.5   |           | P2     | PWP           | Light Pink Orange    | colour on a whitewash                                                   | 25             | 2     | 56         |
| 775     | 774 | Post pipe    | 2.5   |           | P3     | PWP           | Light Pink           |                                                                         | 25             | 1     | 12         |
| 775     | 774 | Post pipe    | 2.5   |           | P1     | P             |                      |                                                                         |                | 4     | 10         |
| 776     | 774 | Post pipe    | 2.5   |           | P2     | PWP           | Dull Orange/Brown    | colour on a whitewash                                                   | 14             | 4     | 18         |
| 776     | 774 | Post pipe    | 2.5   |           | P2     | PWP           | Dull Purple/Red      | colour on a whitewash                                                   | 22             | 2     | 37         |
| 776     | 774 | Post pipe    | 2.5   |           | P2     | PWP           | Light Pink           |                                                                         | 8              | 3     | 16         |
| 776     | 774 | Post pipe    | 2.5   |           | P1     | PWP           | Light Pink           |                                                                         | 10             | 2     | 13         |
| 776     | 774 | Post pipe    | 2.5   |           | P1     | PWP           | Red/Brown            |                                                                         | 15             | 6     | 28         |
| 776     | 774 | Post pipe    | 2.5   |           | P1     | PWP           | Dark blueish grey    |                                                                         | 15             | 3     | 15         |
| 792     | 789 | Post pipe    | 2.5   |           | P4     | PWP           | Dark reddish grey    | on a whitewash, brush stroke of reddish brown                           | 15             | 2     | 23         |
| 792     | 789 | Post pipe    | 2.5   |           | M3     | M             |                      |                                                                         |                | 3     | 23         |
| 792     | 789 | Post pipe    | 2.5   |           | P5     | PWP           | Red/Brown            | colour on a whitewash                                                   | 14             | 4     | 18         |
| 792     | 789 | Post pipe    | 2.5   |           | P5     | PWP           | Dark blueish grey    |                                                                         | 11             | 1     | 4          |
| 792     | 789 | Post pipe    | 2.5   |           | P1     | PWP           | Dull purple grey     |                                                                         | 16             | 3     | 16         |
| 792     | 789 | Post pipe    | 2.5   |           | P1     | PWP           | Dull blue grey       | colour on a whitewash                                                   | 14             | 3     | 35         |
| 792     | 789 | Post pipe    | 2.5   |           | P2     | PWP           | Red/Brown            | colour on a whitewash                                                   | 6              | 1     | 2          |
| 792     | 789 | Post pipe    | 2.5   |           | P4     | PWP           | Pink with Green/Grey |                                                                         | 6              | 1     | 5          |
| 792     | 789 | Post pipe    | 2.5   |           | P4/P5  | P             |                      |                                                                         |                | 8     | 34         |
| 792     | 789 | Post pipe    | 2.5   |           | M4     | M             |                      | Large frag of very coarse mortar, one poss face poss backing to plaster |                | 1     | 181        |
| 794     | 793 | Hollow       | 3     |           | M3     | M             |                      |                                                                         |                | 2     | 14         |
| 819     | 817 | Ditch        | 2.5   | 205       | P1     | PWP           | White, Red/Brown     | Brush marks visible                                                     | 11             | 1     | 8          |
| 828     | 827 | Post pipe    | 2.5   |           | P3     | P             |                      | refits to the mortar                                                    |                | 1     | 11         |
| 828     | 827 | Post pipe    | 2.5   |           | M1     | M             |                      | refits the plaster                                                      | 6              | 1     | 25         |
| 844     | 843 | Post pipe    | 2.5   |           | P1     | PWP           | Dark blueish grey    |                                                                         | 10             | 2     | 20         |
| 847     | 845 | Post pipe    | 2.5   |           | M2     | M             |                      |                                                                         |                | 1     | 13         |

Table 61. Plaster and mortar catalogue

## B.12 Portable X-Ray Fluorescence Analysis of Painted Wall Plaster

*By Simon Timberlake*

### *Introduction*

B.12.1 Seven fragments of Roman painted lime wall plaster from the excavations were analysed compositionally with respect to the paint pigments which might have been used.

B.12.2 The work was carried out by Dr Norman Moles and Simon Timberlake within the Applied Earth Science Labs. at the University of Brighton, Sussex using one of the two Portable X-Ray Fluorescence (pXRF) analyzers. The results of these analyses are presented here and have been interpreted at a basic level.

### **Methodology**

B.12.3 The analyzer used was an Olympus Innov-X Delta Professional, operated in Geochem mode, with 60 second count times on beam 1 for trace elements and 30 seconds on beam 2 for lighter/major elements. The PXRF provided useful data for 20 elements. The output had initially been calibrated to factory settings; with the output values subsequently adjusted to standards appropriate to the compositions i.e. silica-rich sediments. This adjustment affects the elements Al, Si, P, Ca, Fe, Ni and Cu.

B.12.4 The second model used was an Oxford Instruments X-MET 5100, operated in Geochem mode, with a 90 second count time, and set up to record soil-LE-FP.

B.12.5 Certified Reference Materials (CRM) were first used to check on the calibration of the Olympus InnovX, although there appeared to be some suggestion of analytical drift in the measurements carried out using this machine (Table 62). Some of the samples (but not the wall plasters) were then re-analysed using a different machine (the X-MET 5100). The results of this re-testing with respect to the values recorded for the three different CRMs suggests that the results of the analyses of the plasters using the Olympus InnovX were probably within acceptable limits, but only just, although it was noticed that both silicon and aluminium were reading high, as was iron, but that the relative differences in the elemental values between these samples did remain consistent.

B.12.6 The data recorded by this instrument at the end of each sampling time (shown here) are the values given at x2 standard deviations with respect to the error range of each measurement made. The main rock-forming elements (*e.g.* silica, alkaline aluminosilicates, ferromagnesium minerals, opaques and carbonates *etc.*) have been recorded in percentages (%) as the oxides of silicon, aluminium, potassium, calcium, iron, manganese, titanium and phosphorous (phosphate), whilst the suite of other minor elements (sulphur, vanadium, copper, zinc, arsenic, lead, nickel, chromium, strontium, rubidium, zirconium, yttrium and niobium) have all been recorded in parts per million (ppm).

B.12.7 In order to be able to determine whether the results from the painted wall plaster really do reflect significant enhanced anomalies with respect to the pigments added, a further table which shows elemental values for the average crustal composition of granitic rocks (bearing in mind that clays have the latter rocks as their distant sources) together with two compositional analyses of un-painted Roman daub plaster (the latter having no metal contamination associated with them) has been provided (Table 63). The crustal average analysis comes from Taylor (1964, 1280-1281; Table 3).

B.12.8 More importantly, the readings taken of the painted surfaces were compared in each case with those taken of the unpainted reverse faces – thereby providing a sample by sample control for comparing each with the pigment traces.

B.12.9 When sampling non-destructively using a pXRF it is important to sample the flattest surfaces wherever possible, as air gaps (*i.e.* distance) between the analyser window and the sample will introduce errors (*i.e.* these will produce lower values). The material being sampled by XRF (*i.e.* the elemental spectra resulting from the X-Ray bombardment of the surface) is effectively the surface itself plus a short depth (a few mm) into the rock. The results for the sub-surface layers are invariably biased towards the heavier elements with higher energies. Therefore one might expect the measurements for heavy metal contamination (*i.e.* copper and lead *etc.*) to be recorded if they are present in the sample.

| CRM values provided        | K     | Ca    | It   | Mn    | Fe    | Cu   | Zn   | As   | Rb  | Sr  | Zr  | Ba  | Pb   |
|----------------------------|-------|-------|------|-------|-------|------|------|------|-----|-----|-----|-----|------|
| NIST low 2709              | 20300 | 18900 | 3420 | 538   | 35000 | 35   | 106  | 18   | 96  | 231 | 160 | 968 | 19   |
| NIST med 2711              | 24500 | 28800 | 3060 | 638   | 28900 | 114  | 350  | 105  | 110 | 245 | 230 | 726 | 1162 |
| NIST high 2710             | 21100 | 12500 | 2830 | 10100 | 33800 | 2950 | 6952 | 626  | 120 | 330 | ?   | 707 | 5532 |
| Olympus InnovX 25 Feb 2020 | K     | Ca    | Ti   | Mn    | Fe    | Cu   | Zn   | As   | Rb  | Sr  | Zr  | Ba  | Pb   |
| NIST low 2709              | 18624 | 21630 | 2785 | 539   | 48740 | 29   | 115  | 19   | 92  | 217 | 118 |     | 18   |
| NIST med 2711              | 24155 | 34529 | 2816 | 655   | 40157 | 126  | 406  | 138  | 112 | 238 | 260 |     | 1338 |
| NIST high 2710             | 23330 | 12848 | 3073 | 13420 | 54992 | 4491 | 8868 | 1254 | 117 | 301 | 93  |     | 6172 |

Table 62. A comparison of true (provided) and sampled Certified Reference Material (CRM) values recording metals in parts per million (ppm) using the Olympus InnovX 6500 pXRF.

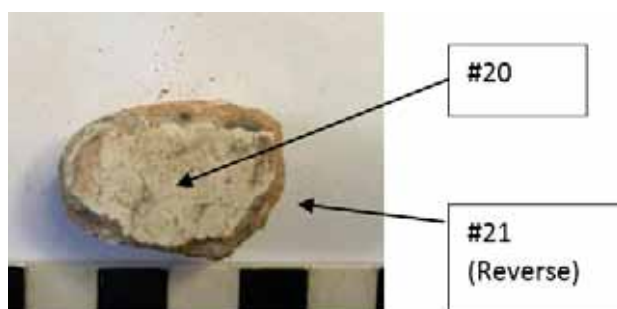
| Ref analysis                     | Continental Crust (granite average)* | Roman daub 1 |
|----------------------------------|--------------------------------------|--------------|
| SiO <sub>2</sub> %               |                                      | 74.8         |
| Al <sub>2</sub> O <sub>3</sub> % |                                      | 2.9          |
| Fe <sub>2</sub> O <sub>3</sub> % |                                      | 1            |
| MnO %                            |                                      | 0.02         |
| CaO %                            |                                      | 24.1         |
| K <sub>2</sub> O %               |                                      | 0            |
| TiO <sub>2</sub> %               |                                      | 0.15         |
| P <sub>2</sub> O <sub>5</sub> %  |                                      | 0.51         |
| SUM                              |                                      | 103.5        |
| Cu ppm                           | 10                                   | 0            |
| Zn ppm                           | 40                                   | 23           |
| As ppm                           | 2                                    | 0            |
| Pb ppm                           | 20                                   | 0            |
| Rb ppm                           | 150                                  | 11           |
| Sr ppm                           | 285                                  | 117          |
| Y pp                             | 40                                   | 9            |
| Zr ppm                           | 180                                  | 33           |

Table 63. Chemical reference analyses for the purposes of comparison

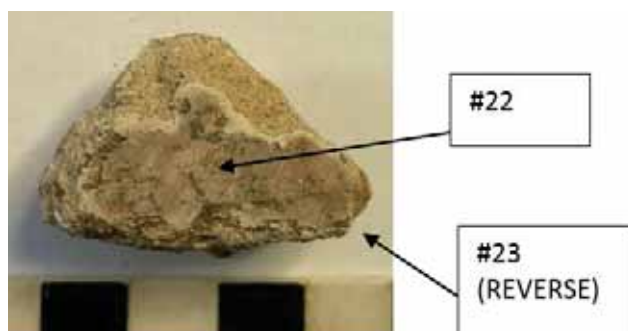
(a) elemental values for average continental granitic crust (after Taylor 1964); (b) pXRF analyses (recorded using the Olympus InnovX) for Roman daub (clay) plaster Sample 1. The latter provide the range of elemental values for what one might typically expect within a fired clay or ceramic made from clay sourced in the SE/ East of England.

## Sample selection

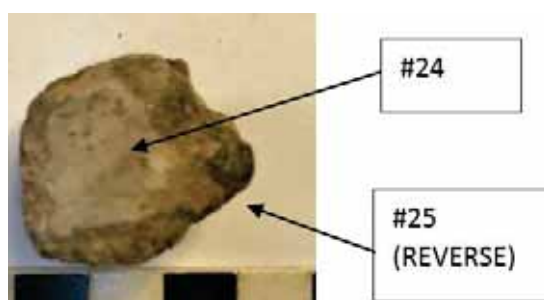
B.12.10 A total of 18 sample points upon a representative collection of seven different pieces of plaster were measured using the pXRF (Table 64). Photographs of each plaster fragment and the location of sample points are provided below. The samples included the measurement of a white painted plaster (792b: sample points #20 + #21), a light grey - pink coloured plaster (792a: sample points #22 + #23), a light grey painted plaster (844: sample points #24 + #25), a pink painted plaster (776b: sample points #26 + #27), an 'orange' painted plaster (776a: sample points #28 to #30), a red mottled painted wall plaster (775: sample points #31 to #34) and a white painted plaster with a red linear border (819: sample points #35 to #37).



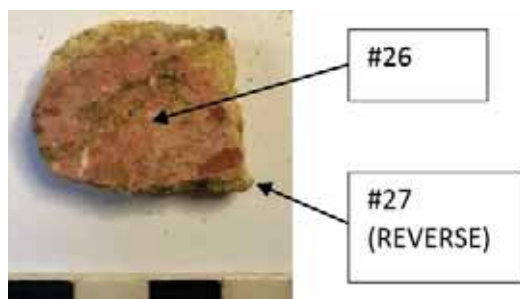
Fragment 792b: a white painted plaster, pXRF sample points 20 and 21



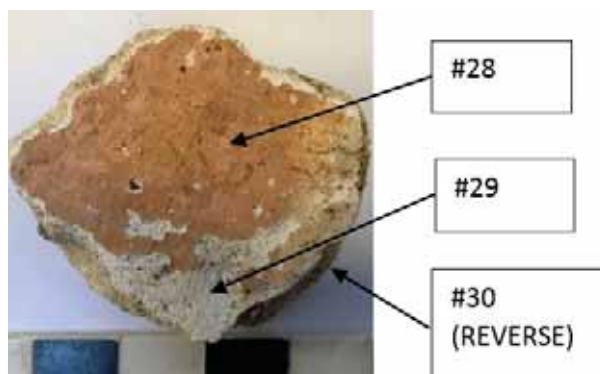
Fragment 792a: a white-grey-pink painted wall plaster – pXRF sample points 22 and 23



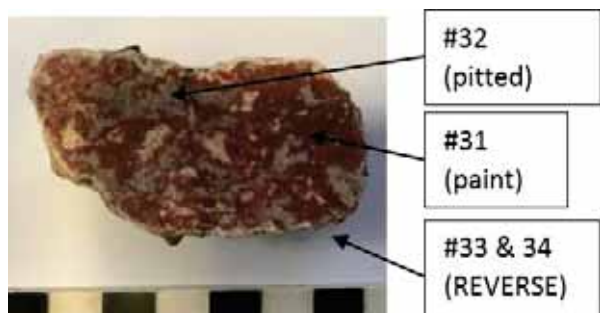
Fragment 844: a light grey painted wall plaster – pXRF sample points 24 and 25



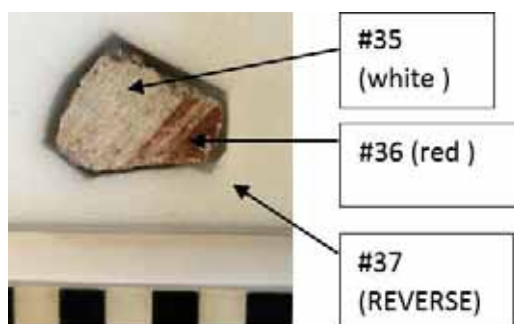
Fragment 776b: a pink painted wall plaster – pXRF sample points 26 and 27



Fragment 776a: an orange painted wall plaster with white undercoat – pXRF sample points 28-30



Fragment 775: a red mottled 'marbled' painted wall plaster – pXRF sample points 31-34



Fragment 819: a banded red linear border on white painted wall plaster – pXRF sample points 35-7

## Results and Discussion

B.12.11 The results of the analyses are presented in Table 3. Probably the main aspect to note in the analytical dataset provided here is the overall similarity in elemental signature amongst all the plaster pieces sampled. Basically this consists of a

perceptible elevation (of up to 1.5x) in the % of CaO (lime) present upon the painted plaster surface compared to the mortar underneath. Likewise, there is a proportionate increase in the silica present within the mortar of around 12.5x to 10x (which confirms the presence of sand added to the mortar mix), although the partition of alumina (aluminosilicates = a proxy for clay minerals) between the paint layer and the mortar is not so straightforward. This varies between being x1.5 larger in the paint and/or mortar layers, suggesting that clay has been included (quite possibly unintentionally) within the limewash – perhaps because the lime was burnt from a clay-rich chalk or limestone? The presence of a moderate % of alumina within the mortar may however have been intentional, as this would have helped the plaster (and/or cement) to set.

- B.12.12 The bulk percentage of MnO (manganese oxide) is very low at between 0.03 and 0.07%, and is consistent throughout, although possibly marginally higher within the paint layer than the mortar. However, there was no evidence here that manganese was intentionally added to the paint pigment within any of the samples tested – if this was the case then the differences between the paint and mortar layers would have been much more obvious. Indeed, the percentage of MnO within the grey paint layer would have been higher.
- B.12.13 Manganese oxides are a commonly used black/grey pigment in paint, but their absence within the grey painted plasters in this particular instance only serves to confirm that the source of the hue is much more likely to have been carbon (crushed charcoal or carbon black). Elizabeth Pye (2000, 25) confirms that the latter was the more standard black or grey pigment used within Roman painted wall plaster, and that this was manufactured through charring animal bone or plant matter such as vine twigs. She also comments upon the fact that the chalk or limestone used to make a white wall paint or whitewash base for a painted wall surface is sometimes selected for its ability to produce an opaque white (Béarat *et al* 1996).
- B.12.14 As expected, the percentage of potash and titanium oxide present within the paint and mortar layers is low, and shows no particular enhancements. These are unlikely to have a significant role in pigment production and are most likely instead to reflect a background mineral presence within the sand mix. Much more important, however, would be evidence for the presence of iron oxide as hematite pigment within the paint. This can be seen within fragments 776b (sample #26), 776a (sample #28) and 775 (sample #31 and #32), but particularly within fragment 776a, as it was possible in that case to sample the topmost paint layer (#28; which gave the highest reading (6.6% Fe<sub>2</sub>O<sub>3</sub>) for all of the samples examined) and to compare this with the underlying white paint base layer, which gave a contrasting reading of just 1.2% Fe<sub>2</sub>O<sub>3</sub>. Red ochre (hematite) is a widely available mineral pigment which in the context of Roman wall paintings is known under the name of Pompeian red (Pye *ibid.*25). Somewhat surprisingly, the best-preserved fragment of painted wall plaster (819), with the preserved traces of a double-lined red painted border, did not provide an elevated iron signal. Sample point #36 was chosen to measure this, but the value recorded was low (just 0.9% Fe<sub>2</sub>O<sub>3</sub>), and it is conceivable therefore that the sample window of the machine may have missed this, given the proximity of the main white-painted surface.

| Fragment ref.                    | 792b            |         | 792a          |         | 844            |         | 776b           |         | 776a          |                 |         | 775             |                 |         |         | 818            |                 |         |
|----------------------------------|-----------------|---------|---------------|---------|----------------|---------|----------------|---------|---------------|-----------------|---------|-----------------|-----------------|---------|---------|----------------|-----------------|---------|
| Context                          | 792             |         | 792           |         | 844            |         | 776            |         | 776           |                 |         | 775             |                 |         |         | 818            |                 |         |
| Cut                              | 789             |         | 789           |         | 843            |         | 774            |         | 774           |                 |         | 774             |                 |         |         | 817            |                 |         |
| Context Type                     | Postpipe fill   |         | Postpipe fill |         | Postpipe fill  |         | Postpipe fill  |         | Postpipe fill |                 |         | Postpipe fill   |                 |         |         | Ditch fill     |                 |         |
| Sampling point                   | #20 white paint | #21 REV | #22 grey-pink | #23 REV | #24 grey paint | #25 REV | #26 pink paint | #27 REV | #28 orange    | #29 white paint | #30 REV | #31 red mottled | #32 pitted area | #33 REV | #34 REV | #35 red border | #36 white paint | #37 REV |
| SiO <sub>2</sub> %               | 6.1             | 40.5    | 16.9          | 74.8    | 14.2           | 37.7    | 27.6           | 40.8    | 16.3          | 12.9            | 40.8    | 9.2             | 10              | 48      | 29.5    | 8              | 16.5            | 60.9    |
| Al <sub>2</sub> O <sub>3</sub> % | 2.2             | 6.6     | 5.9           | 2.9     | 6.9            | 5.4     | 4              | 5.3     | 6.5           | 4.5             | 5.3     | 3.7             | 4.7             | 4.5     | 5.3     | 3.4            | 7.8             | 5.7     |
| Fe <sub>2</sub> O <sub>3</sub> % | 1               | 1.6     | 1             | 1       | 1.3            | 9.3     | 3.4            | 1.7     | 6.6           | 1.2             | 1.7     | 4.2             | 4.9             | 6.2     | 9.2     | 0.9            | 3               | 2.7     |
| MnO %                            | 0.04            | 0.03    | 0.05          | 0.02    | 0.04           | 0.07    | 0.04           | 0.02    | 0.06          | 0.05            | 0.02    | 0.06            | 0.06            | 0.05    | 0.05    | 0.06           | 0.05            | 0.03    |
| CaO %                            | 55.7            | 33.1    | 54.8          | 24.1    | 54.4           | 32.2    | 33.2           | 31.3    | 49.5          | 49.5            | 31.3    | 49.6            | 46.7            | 27.7    | 36.2    | 53.4           | 48.8            | 29.1    |
| K <sub>2</sub> O %               | 0               | 0.25    | 0.06          | 0       | 0.03           | 0.31    | 0.12           | 0.26    | 0.04          | 0               | 0.26    | 0.05            | 0.09            | 0.47    | 0.39    | 0              | 0.09            | 0.46    |
| TiO <sub>2</sub> %               | 0               | 0.16    | 0             | 0.15    | 0              | 0.49    | 0              | 0       | 0             | 0               | 0       | 0               | 0               | 0       | 0.67    | 0              | 0               | 0       |
| P <sub>2</sub> O <sub>5</sub> %  | 0.95            | 1.11    | 0.83          | 0.51    | 0.53           | 1.45    | 1.11           | 0.53    | 1.8           | 0.65            | 0.53    | 0.53            | 0.31            | 0.82    | 0.79    | 0.81           | 0.72            | 0.71    |
| SUM                              | 65              | 83.3    | 79.5          | 83.3    | 77.4           | 87.1    | 69.5           | 80      | 80.8          | 68.8            | 80      | 67.3            | 66.7            | 87.8    | 82      | 66.6           | 77.1            | 99.7    |
| V ppm                            | 0               | 0       | 0             | 0       | 0              | 0       | 0              | 0       | 0             | 0               | 344     | 0               | 0               | 0       | 0       | 0              | 0               | 0       |
| Zn ppm                           | 33              | 35      | 81            | 23      | 39             | 76      | 35             | 20      | 33            | 0               | 20      | 0               | 0               | 0       | 55      | 52             | 44              | 29      |
| S ppm                            | 1675            | 0       | 1516          | 0       | 778            | 0       | 0              | 0       | 246           | 0               | 0       | 0               | 0               | 0       | 0       | 1308           | 1246            | 0       |
| Rb ppm                           | 11              | 12      | 0             | 11      | 9              | 34      | 11             | 15      | 9             | 11              | 15      | 7               | 11              | 28      | 24      | 0              | 20              | 29      |
| Sr ppm                           | 221             | 137     | 206           | 117     | 325            | 113     | 137            | 140     | 248           | 190             | 140     | 276             | 214             | 118     | 157     | 177            | 226             | 149     |
| Y ppm                            | 9               | 0       | 20            | 9       | 13             | 10      | 9              | 10      | 17            | 10              | 10      | 18              | 10              | 10      | 9       | 11             | 12              | 9       |
| Zr ppm                           | 150             | 52      | 36            | 33      | 26             | 658     | 100            | 80      | 96            | 59              | 80      | 28              | 65              | 101     | 183     | 88             | 42              | 46      |
| Pb ppm                           | 0               | 0       | 98            | 0       | 0              | 0       | 0              | 0       | 0             | 0               | 0       | 0               | 0               | 0       | 0       | 0              | 0               | 0       |

Table 64. pXRF semi-quantitative elemental analysis taken of samples of plaster using the Olympus InnovX. The bulk rock-forming elements (as oxides) are recorded here as percentages, whilst the minor elements are all in parts per million (ppm). Possibly significant element (elevations) within the composition of the paint are highlighted in yellow. REV=Reverse

- B.12.15 Moderately high strontium values are also characteristic of the paint layer (in some samples up to twice the value recorded from the mortar (to a maximum of 325 ppm Sr)). It seems most likely in this case that the strontium concentration is linked to the calcium in the limewash, given that both red, orange and white paints share similar elevated readings. Likewise, no good correlation between colour pigment and the level of zinc, yttrium, rubidium and zirconium was detectable. Two odd and very high anomalies of vanadium and lead (within fragments 792a and 776 respectively) show no clear correlation with paint colour and could therefore simply be aberrant readings.
- B.12.16 What is probably significant, although not altogether explicable, are the relatively high levels of sulphur (up to 1675 ppm) associated with five out of the seven pieces of wall plaster, and with the paint rather than the mortar. Once again this appears to be an association with the limewash painted surface rather than the pigment; the two pieces with no recorded sulphur at all being the marbled red (fragment 775) and the pink painted (776b) plaster fragments. A possible clue to this may lie with the technique of painting. Often, pigments were mixed with water and then brushed onto the final plaster layer whilst it was still fresh and before it had hardened (the so-called fresco technique). However, once the plaster had set, pigments could be applied successfully only if they were mixed with a lime solution (lime water) or with an adhesive material such as egg (normally a yolk or a whole egg) that would hold them in place, a technique known as egg tempera (Pye *ibid.* 24). Whilst it seems unlikely the latter technique would be favoured where fresco painting would suffice, this is at least possible. That might explain the high sulphur levels associated with some of the paint, as it might be the moderately high phosphate ( $P_2O_5$ ) levels within the paint and plaster. An alternative explanation which might be considered is that the sulphur in the form of gypsum (calcium sulphate) growing within the limewash layer is post-depositional origin. However, if it was contemporary with the occupation of the building(s), then this could relate to air pollution associated with the smoke of fires within the houses.

## Conclusions

- B.12.17 The discussion above provides a provisional interpretation of these analyses of a number of selected fragments of weathered and moderately abraded painted wall plaster. This examined the composition of the plaster layers, the initial white limewash application, and the brushed-on coloured washes. A high calcium and strontium signal define the whole of the painted layer regardless of colour, confirming the use of a lime whitewash onto which was then painted thin pigment colours mixed (most probably) in lime water and applied to the plaster whilst it was still drying, in the style of a simple fresco. The simple (and probably unsophisticated) edge-bordered painted wall panels appear to have been painted using the colours white, red, pink, pink-orange and grey (or black). The red, pink and orange pigments do correlate with slightly enhanced levels of hematite ( $Fe_2O_3$ ) in the paint, but there is no correlation between greys and manganese, suggesting most probably that the grey-black pigment used in the paint was carbon (carbon as a light element cannot be detected using the pXRF). High sulphur levels associated with the paint almost certainly reflect the formation of

gypsum within the painted limewash, perhaps on account of the use of egg tempera, but more likely as a result of post-depositional changes, or possibly contemporary air pollution associated with smoke and the use of the buildings during the Roman period.

## B.13 Glass

*By Carole Fletcher*

### Introduction

B.13.1 A small assemblage of glass was recovered from various features including dark earth/midden layer **430**. The glass was scanned and recorded by form, colour, count and weight, dated where possible, and recorded in Table 59. *Romano-British Glass Vessels: A Handbook* (Price and Cottam 1998) was used as a general guide for this report.

### Results

B.13.2 Eight fragments of glass were recovered. All are relatively small fragments that have undergone reworking. Only midden **430** produced more than a single sherd, with the glass being recovered from Phases 2.4, 2.5 and Phase 3.

| Phase   | Context | Cut | Form          | Description                                                                                                                             | No. | Wt (g) | Colour               | Date   |
|---------|---------|-----|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------------------|--------|
| 2.4     | 815     |     | Indeterminate | Single fragment of curved clear glass, it may be a corner fragment from a prismatic bottle or a cylindrical neck from an unguent bottle | 1   | 2      | Yellowish-green cast | ?Roman |
| 2.5     | 122     | 121 | Vessel        | Base fragment from an ?unguent bottle                                                                                                   | 1   | 2      | Blue/green           | Roman  |
|         | 427     | 412 | Vessel        | Rim fragment from a cylindrical vessel                                                                                                  | 1   | 1      | Blue/green           | Roman  |
|         | 807     |     | Vessel        | Rim shard from a prismatic vessel                                                                                                       | 1   | 18     | Blue/green           | Roman  |
|         | 847     | 845 | Indeterminate | Fragment of glass                                                                                                                       | 1   | <1     |                      | Roman  |
|         | 430     |     | Indeterminate | Fragment of glass                                                                                                                       | 1   | 1      |                      | Roman  |
|         |         |     | Indeterminate | Fragment of glass                                                                                                                       | 1   | 1      |                      | Roman  |
|         |         |     | Indeterminate | Small irregular fragment glass of indeterminate form                                                                                    | 1   | 1      | Blue-green           | Roman  |
| Totals: |         |     |               |                                                                                                                                         | 8   | 26     |                      |        |

Table 65. Glass catalogue

### Discussion

B.13.3 This is too small an assemblage to draw any but the broadest conclusions, in that glass vessels were present on the site. Unguent bottles are often found in settlements and burials.

## B.14 Worked Bone

*By Ian Riddler*

### Introduction

B.14.1 A small assemblage of four bone objects includes two implements of late prehistoric type, a bone hinge and part of a bone pin. Whilst the hinge belongs to the Early Roman

period, the pin is a Late Roman type. The bone implements follow late prehistoric traditions but could possibly have been made in the Roman period, and particularly in the earlier part of that period.

### ***Bone spatulae***

B.14.2 Two bone implements (SF18 and 218) have been cut from sheep or goat metacarpals and probably represent the same object type. One is fragmentary, whilst the other is complete. The complete object (SF 18) retains its unfused distal articulation and has been sliced obliquely to form a broad, rounded point. The distal end has not been hollowed and as a result the object is not a pointed bone implement, (which would have been hafted through the hollow channel), although the sliced, rounded point and the overall proportions of the implement closely resemble that object type. The main clue to its use lies with the terminal, which is not sharp and pointed, but has been rounded and has suffered some damage at its tip, as if it had been used as a percussion implement, pressed on to flint or similar materials. With this in mind, the object can be regarded as a form of spatula, providing a flat, rounded surface for working. A variety of bone types were adapted for this purpose, and they have been gathered under the broad term of spatulae (Riddler 2013, 57-8).

| SF No. | Feat. No. | Feat. Type | Context | Description                                                                                                                                                                                                                                                                                               |
|--------|-----------|------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18     | 79        | ditch      | 80      | Complete bone implement, cut from a sheep/goat metacarpus, the distal end unfused and unmodified and the midshaft sliced obliquely to provide a rounded point. Highly polished across the midshaft on both sides, with slight damage to the tip of the implement. Some manufacturing marks still visible. |
| 218    | 827       | Post-pipe  | 828     | Fragment of the basal end of a bone implement, cut from a sheep/goat metacarpus, trimmed to a flat surface on the posterior face with some modification of the one surviving distal condyle on the anterior face. Polished across the anterior face.                                                      |

Table 66. Bone spatulae

### ***Bone hinge***

B.14.3 A complete bone hinge (SF 162) has been lathe-turned and retains concentric marks from that process at both ends (Fig. 25). In its natural, unmodified state the cattle metatarsus midshaft is roughly square in shape and it has been transformed here to an almost cylindrical form, with a single lateral perforation located roughly half way along one side. Two main types of bone hinge can be identified, and this example belongs to the smaller form, which usually includes a single lateral perforation (Pelletier 1971, 202-3; Deschler-Erb 1998, 182; Gostenčnik 2005, 154). The longer form, 50mm or more in length, often has two or more perforations. Pelletier separated the small bone hinge components into those with a single lateral perforation (type B) and those with two opposed perforations (type C), the latter forming a rare type; this hinge belongs to the common type B (Pelletier 1971, fig 1). All of these different types of bone hinge would originally have been held together in a column with a wooden rod set through their centres and with further rods of wood, iron or bone protruding from each of the lateral perforations. These would have acted like dowels and secured the hinge mechanism to two different sections of wood, allowing those wooden boards to rotate freely (Fremersdorf 1940, abbn 10-12; Deschler-Erb 1998, abb 256).

Long sets of bone hinges were integrated into wooden furniture, either for cabinets or chests, and even for the hinged lids of wooden sarcophagi, known largely from Egypt (Fremersdorf 1940, 330-2).

B.14.4 The large collection of bone hinges from Augst were largely deposited between the middle of the 1st century and the middle of the 2nd century and there were no examples from 4th-century contexts (Deschler-Erb 1998, 182 and abb 257). Similar dating can be applied to Roman Britain, where bone hinges occur only in small numbers, notably at Alcester, London and Verulamium (Frere 1972, 149-50 and fig 54; Lloyd-Morgan 1994, 212).

| SF No. | Feat. Type | Context   | Description                                                                                                                                                                                                                                                              |
|--------|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 162    | Dark Earth | 430 TP G5 | Complete bone hinge, produced from the midshaft of a cattle metatarsus, lathe-turned to produce a near-circular section, with a large lateral perforation towards the centre on the anterior face. Polished throughout, slight damage on one edge on the posterior face. |

Table 67. Bone hinge

### Bone pin

B.14.5 A fragment of a bone pin (SF 60) consists merely of part of the shaft, circular in section and swollen at the centre. It has fractured at both ends and its original form is unclear. The swelling of the shaft is a characteristic seen with pins of Late Roman date, mostly from the 3rd century onwards (Greep 1995, 1113).

| SF No. | Feat. Type | Context | Description                                                                                                                                                            |
|--------|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 60     | Subsoil    | 51      | Fragment of part of the shaft of a bone pin, circular in section, swollen at the centre and tapering to either side. Fractured at both ends; slight polish throughout. |

Table 68. Bone pin

## B.15 Slag

*By Lawrence Billington with Simon Timberlake*

B.15.1 A small assemblage of slag, consisting of 11 pieces weighing 440g, was recovered – all from ditch fills belonging to Period 2.3-2.5. This material consisted largely of undiagnostic iron working slag, but one small piece (29g), from the fill of ditch **497**, has been identified as a fragment of the vitrified hearth lining from a small smithing hearth base.

| Context      | Cut | Count | Feature type | Wt (g) | Phase |
|--------------|-----|-------|--------------|--------|-------|
| 105          | 104 | 1     | Ditch        | 3      | 2.3   |
| 106          | 104 | 2     | Ditch        | 38     | 2.3   |
| 310          | 312 | 1     | Ditch        | 21     | 2.4   |
| 427          | 412 | 6     | Ditch        | 349    | 2.5   |
| 479          | 497 | 1     | Ditch        | 29     | 2.5   |
| <b>Total</b> |     | 11    |              | 440    |       |

Table 69. Summary quantification of the slag assemblage

## B.16 Coal and clinker

By Leanne Robinson-Zeki

### Introduction

B.16.1 Three small fragments of coal (1, <1g) and clinker (2, 2g) were recovered. These were found in Roman period features and are likely to be intrusive.

| Context | Cut | Count | Wt (g) | Phase | Type    |
|---------|-----|-------|--------|-------|---------|
| 60      | 59  | 1     | 1      | 2.1   | Clinker |
| 65      | 59  | 1     | <1     | 2.1   | Coal    |
| 83      | 82  | 1     | 1      | 2.3   | Clinker |

Table 70: Coal and clinker catalogue

## APPENDIX C ENVIRONMENTAL REPORTS

### C.1 Human bone

*By Natasha Dodwell*

#### *Introduction*

- C.1.1 Human remains associated with the Romano-British occupation of the site (Phase 2) included a double, stacked burial containing two adult inhumations (skeletons 401 and 402), which was identified in the upper fills of enclosure ditch **399** (Phase 2.4) with additional disarticulated elements, undoubtedly deriving from these individuals, found in subsequent recuts of the enclosure, fills 419 and 740. Additionally, associated with various structures, four partial perinatal/neonate burials were identified (skeletons 334 and 668, Phase 2.4; 814 and 844, Phase 2.5) and disarticulated perinatal/neonate bone was recovered from several contexts. An isolated, unurned cremation burial found in the southern part of the site (**245**) has been dated to the Middle/Late Bronze Age (Phase 1).

#### *Provenance of the Material*

- C.1.2 The two adult inhumations (skeletons 401 and 402) were buried in the upper fills of enclosure ditch **399**, directly on top of each other, one with its head to the east and the other with its head to the west. Both skeletons lay on their sides, in a slightly flexed position with the upper body of skeleton 401 overlying the upper body of skeleton 402 (Fig. 12). No grave cut was visible and the ditch itself had been recut several times; the disarticulated human bone found in ditch fills 419 and 740 to the immediate west of the two skeletons is likely to derive from one or both of the individuals. There were also disarticulated vertebrae and hand bones from fill 400 which surrounding the two skeletons and these too also derive from them (quite how or when they were displaced is unclear).
- C.1.3 The four perinatal/neonate burials were found in association with buildings or structures. Neonate 332 was buried in a shallow (0.04m) posthole/small pit **333** and neonate 334 was buried in a shallow (0.04m) posthole/small pit **335** less than 0.5m from **333**. Approximately 1m to the north, neonate 668 was recovered from pit **666**. All of these neonate remains are located close to post-pad **663** and therefore may have been associated with the aisled building. Neonate 814 was found in a shallow, hollow cut into layer 807 near the entrance of the building and, despite an aberrant radiocarbon date on this burial (cal AD 5-130 at 92.2% confidence), it was probably interred after its disuse (see main Discussion, Section 4.3).
- C.1.4 In addition to the partial burials identified in discrete features, neonate bone was recovered from several test pits which were excavated through the lower subsoil over the area of post pads **663** (test pits B2 and D3) and through the dark earth outside the building's entrance (context 430, test pit F3).

### ***Preservation of the material***

- C.1.5 Skeleton 401 is c. 75% complete; both feet and much of the lower right leg are missing, truncated by various recuts of the enclosure ditch (many of these missing elements were recovered close by from the fills of later recuts). The breaks on these bones are post-mortem and ancient. Skeleton 402 is missing his left radius but is otherwise complete. Many of the long bones are complete and most of the articular/joint surfaces are present. The surface of the bone/cortical bone is largely intact (mostly grade 1, McKinley 2004;16). Similarly, the cortical bone of the neonate elements is well preserved.
- C.1.6 The cremation burial (245) pit was 0.30m deep, and was untruncated, making it likely to have contained all of the bone that was originally deposited.

### ***Methodology***

- C.1.7 An inventory of bones present was made for both of the adult inhumations, the disarticulated bone and the neonate remains. Standard methods for ageing and sexing were used. Sex was determined by the diagnostic traits on the skull and pelvis (Buikstra and Ubelaker 1994, 16-20) and age by the degree of epiphyseal union, dental eruption and wear and the appearance of the auricular surface and pubic symphysis (Brothwell 1981, 72 fig.3.9, Buikstra and Uberlaker 1994, 21-44).
- C.1.8 The cremation burial was 100% sampled on site and wet sieved and then sorted to remove any extraneous material. The cremated bone was then rapidly scanned.
- C.1.9 The following broad age categories were used:
- |              |                      |
|--------------|----------------------|
| Neonate      | birth $\pm$ 2 months |
| Young adult  | 18-24 years          |
| Middle adult | 25-44 years          |

### ***Results***

- C.1.10 Both of the skeletons in the double burial are adult males; skeleton 401 is a middle adult, who died before the age of 40 years and skeleton 402 is younger, dying between the age of 20-25 years old. Both exhibit dental pathologies and the younger man had well developed muscle attachments on his upper arms and a very pronounced nuchal crest on the back of his skull, perhaps indicative of exertion and weight bearing in the upper body and neck. The osteoarthritic changes recorded in his lower spine may be related to this loadbearing activity. Details are presented in Table 71 below.

| Sk. no. | Body position and orientation                      | Age/sex           | pathology                                                                                                                                                                 |
|---------|----------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 401     | Left side, head in east, legs slightly flexed      | middle adult male | slight calculus (including subgingival), <i>cribra orbitalia</i>                                                                                                          |
| 402     | Right side, head to the west, legs slightly flexed | young adult male  | OA in 5 <sup>th</sup> lumbar vertebra (left inferior facet has gross altered morphology, osteophytes and eburnation), AMTL, external draining abscess, flecks of calculus |

*Table 71. Skeletons 401 and 402: osteological and contextual details*

C.1.11 Five disarticulated elements (left capitate, hamate and 1st metacarpal and, a 1st and 3rd cervical vertebra) were recovered in the soil surrounding the inhumations. The small bones of the left hand derive from skeleton 402 and the vertebrae from skeleton 401.

C.1.12 Disarticulated elements of human bone recovered from slots excavated through sequences of re-cuts of the enclosure ditch derive from both skeletons (Table 72).

| Context    | Element                                                                    | Comment                                                           |
|------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|
| 419        | Distal half of l. radius                                                   | Heavily concreted with iron panning. From skeleton 402?           |
| 714        | L. talus, ?r. distal 5th metatarsal? r. calcaneus, prox. & middle phalange | Osteophytes around head of metatarsal. From skeletons 401 and 402 |
| Sample 118 | Fragment of u/s ilium                                                      | Sample 118                                                        |

*Table 72. Disarticulated elements of adult human remains*

C.1.13 A minimum of four discrete perinate/neonate 'burials were identified across the site (skeletons 332, 334, 668 and 814). The elements recovered from each of these contexts together with the neonate bones found in the test pits dug through the lower subsoil are summarised in the Table 73.

| Context | Element                                                                                                                                                                                       | Comment                                                                                             |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 332     | 16 vertebra bodies (thoracic and lumbar), x 24 arches and ribs.                                                                                                                               | In area of test pits & (335). 20mm deep. Possibly articulated although not recorded on site records |
| 334     | skull fragments, l. scapula, l. proximal radius, hand phalanges and metacarpal, x6 vertebra bodies (cervical and thoracic), vertebral arches and ribs.                                        | In a shallow (4mm) scoop                                                                            |
| 668     | Skull including partial dentition, x 11 bodies, x 21 arches, ribs, l. shoulder girdle, arm, proximal femur, tibia and fibula. R, femur and tibia and elements of both l and r. hands and feet | In a shallow pit (0.16m). Long bone measurements possible                                           |
| 814     | x 3 bodies, arches, rib frags, fragments of a femur and humerus shaft, phalanges and metacarpal.                                                                                              | In shallow (0.07m) spread                                                                           |
| 844     | r. prox/ mid shaft ulna                                                                                                                                                                       | More gracile than left ulna from 51B2 so possibly a different individual?                           |
| 51 B2   | r. mandible, l. prox ulna, x4 vert. arches, x4 thoracic bodies, sternum body                                                                                                                  | Subsoil test pit above post pad building                                                            |
| 51 D3   | r. femur                                                                                                                                                                                      | Subsoil test pit above post pad building                                                            |
| 430 F3  | X 1 vertebral arch                                                                                                                                                                            | subsoil test pit to south of main building                                                          |

Table 73. Articulated, partially articulated and disarticulated perinatal/neonate bones

C.1.14 The cremation burial (245) contained 1925g of bone and at least one adult is represented in the deposit. The majority of fragments were >10mm, with the largest measuring 52.56mm. A large minority of the fragments are a blue, black, grey in colour, indicative of poor firing and low pyre temperatures.

## C.2 Faunal remains

By Hayley Foster

### Introduction and methodology

C.2.1 The faunal material has been divided into seven phases, which date to the prehistoric through to the post-Roman period, with the vast majority of material retrieved from the Roman phases. The assemblage was of a medium size, with 73.79kg of bone from hand-collection and from environmental samples. The number of recordable fragments that could be assigned to a phase totalled 684, with 78 of those fragments retrieved from environmental samples. The species represented include cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), pig (*Sus scrofa*), horse (*Equus caballus*), dog (*Canis familiaris*), field vole (*Microtus agrestis*), red deer (*Cervus elaphus*), mouse (*Mus musculus*), rabbit (*Oryctolagus cuniculus*), shrew (*Sorex sp.*), cat (*Felis catus*) and also amphibian, fish, birds, small rodent and probable fox/dog. Remains derived primarily from ditches and pits.

- C.2.2 The method used to quantify this assemblage was based on that used for Knowth by McCormick and Murray (2007) which was modified from Albarella and Davis (1996). NISP (number of identifiable specimens) and MNI (minimum number of individuals) were calculated for all species present. MNI estimates the smallest number of animals that could be represented by the elements recovered. For the main domestic mammals, only the atlas and axis were counted for vertebrae.
- C.2.3 Identification of the faunal remains was carried out at Oxford Archaeology East. References to Hillson (1992), Schmid (1972) and von den Driesch (1976) were used where needed for identification purposes.
- C.2.4 Two methods of ageing were implemented when analysing the mammalian bone remains. These methods include observing dental eruption and wear and epiphyseal fusion. When analysing tooth wear of sheep/goat, tooth wear stages by Payne (1973) were implemented. Tooth wear stages by Grant (1982) were implemented when assessing wear for cattle and pig. Higham (1967) mandibular wear stages (MWS) were assigned to loose mandibular M3s and mandibles with the innermost tooth still present. The Higham wear stages are used to estimate a minimum age of an individual animal. The state of epiphyseal fusion is determined by examining the metaphysis and diaphysis of a bone. Fusion was recorded according to Silver (1970) and Schmid (1972) for cattle, sheep and pig.
- C.2.5 For all identified bones, butchery marks were recorded. Butchery marks were described as chop, cut or saw marks. Burning and gnawing were noted where present.
- C.2.6 Measurements were taken according to von den Driesch (1976), using digital callipers and large bones were measured using an osteometric board. Withers' heights of horse were calculated using Kieseewalter (1888), cattle using Fock (1966) and dog using Harcourt (1974).

### ***Results of analysis***

- C.2.7 The faunal assemblage is generally in a fair condition with moderate-high levels of fragmentation. Most of the faunal remains came from Phase 2.5 (Late Roman). Cattle overwhelmingly dominated the assemblage followed by sheep/goat, however, a wide variety of species were represented.
- C.2.8 Measurements were carried out where possible (Table 77), however as fragmentation was relatively high, very few elements were suitable for measurement. Six estimated wither's heights could be calculated for cattle, 2 for horse and 1 for dog.
- C.2.9 The composition of the faunal material was dominated by cranial elements (including mandibles, maxillae, loose teeth and horn cores) and extremities (including phalanges, metapodia, carpals and tarsals), making up 67% of the overall NISP. This evidence could suggest the disposal of primary butchery waste by removing the head and feet and some meaty joints transported elsewhere. However, this is likely to be the result of a preservation and recovery bias as all main elements were recovered to some degree. Denser bones such as metapodia, mandibles and teeth are more durable and less susceptible to taphonomic destruction. The pattern of representation exhibits a trend that larger taxa are over-represented in hand-collected recovery whereas those

fragments from environmental samples show a bias toward smaller species. There appears to be no significant disposal patterns established, as faunal remains were retrieved from a variety of features from across the settlement.

| Species          | NISP       | NISP%      | MNI       | MNI%       |
|------------------|------------|------------|-----------|------------|
| Cattle           | 337        | 49.3       | 9         | 20.5       |
| Sheep/Goat       | 135        | 19.7       | 7         | 15.9       |
| Bird             | 51         | 7.5        | 5         | 11.4       |
| Horse            | 48         | 7.0        | 3         | 6.8        |
| Pig              | 32         | 4.7        | 3         | 6.8        |
| Dog              | 22         | 3.2        | 3         | 6.8        |
| Amphibian        | 16         | 2.3        | 5         | 11.4       |
| Fish             | 11         | 1.6        | 1         | 2.3        |
| Field Vole       | 9          | 1.3        | 2         | 4.5        |
| Red Deer         | 6          | 0.9        | 1         | 2.3        |
| Small Rodent (?) | 5          | 0.7        | 1         | 2.3        |
| Mouse            | 5          | 0.7        | 1         | 2.3        |
| Rabbit           | 2          | 0.3        | 1         | 2.3        |
| Cat              | 2          | 0.3        | 1         | 2.3        |
| Shrew            | 2          | 0.7        | 1         | 2.3        |
| Fox/Dog          | 1          | 0.1        | 1         | 2.3        |
| <b>Total</b>     | <b>684</b> | <b>100</b> | <b>45</b> | <b>100</b> |

Table 74. Total number of identifiable fragments (NISP) and minimum number of individuals (MNI)

| Species          | Phase 1   |            | Phase 2.1 |            | Phase 2.2 |            | Phase 2.3  |            | Phase 2.4 |            | Phase 2.5  |            | Phase 3   |            | Total      |
|------------------|-----------|------------|-----------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|
|                  | NISP      | NISP%      | NISP      | NISP%      | NISP      | NISP%      | NISP       | NISP%      | NISP      | NISP%      | NISP       | NISP%      | NISP      | NISP%      |            |
| Cattle           | 9         | 42.9       | 23        | 45.1       | 6         | 46.2       | 55         | 44.7       | 61        | 70.1       | 178        | 48.4       | 5         | 25         | 337        |
| Sheep/Goat       | 3         | 14.3       | 14        | 27.5       | 5         | 38.5       | 31         | 25.2       | 10        | 11.5       | 64         | 17.4       | 8         | 40         | 135        |
| Bird             |           |            | 2         | 3.9        |           |            | 13         | 10.6       | 5         | 5.7        | 30         | 8.2        | 1         | 5          | 51         |
| Horse            |           |            | 4         | 7.8        | 2         | 15.4       | 6          | 4.9        | 1         | 1.1        | 30         | 8.2        | 4         | 20         | 47         |
| Pig              | 7         | 33.3       | 1         | 2          |           |            | 6          | 4.9        |           |            | 17         | 4.6        | 1         | 5          | 33         |
| Dog              |           |            | 5         | 9.8        |           |            | 1          | 0.8        | 2         | 2.3        | 14         | 3.8        |           |            | 22         |
| Amphibian        |           |            |           |            |           |            | 3          | 2.4        | 3         | 3.4        | 9          | 2.4        | 1         | 5          | 16         |
| Fish             |           |            | 1         | 2          |           |            | 1          | 0.8        | 3         | 3.4        | 6          | 1.6        |           |            | 11         |
| Field Vole       |           |            |           |            |           |            | 4          | 3.3        |           |            | 5          | 1.4        |           |            | 9          |
| Red Deer         | 2         | 9.5        |           |            |           |            | 1          | 0.8        |           |            | 3          | 0.8        |           |            | 6          |
| Small Rodent (?) |           |            |           |            |           |            | 1          | 0.8        | 2         | 2.3        | 2          | 0.5        |           |            | 5          |
| Mouse            |           |            |           |            |           |            |            |            |           |            | 5          | 1.4        |           |            | 5          |
| Rabbit           |           |            | 1         | 2          |           |            |            |            |           |            | 1          | 0.3        |           |            | 2          |
| Cat              |           |            |           |            |           |            |            |            |           |            | 2          | 0.5        |           |            | 2          |
| Shrew            |           |            |           |            |           |            |            |            |           |            | 2          | 0.5        |           |            | 2          |
| Fox/Dog          |           |            |           |            |           |            | 1          | 0.8        |           |            |            |            |           |            | 1          |
| <b>Total</b>     | <b>21</b> | <b>100</b> | <b>51</b> | <b>100</b> | <b>13</b> | <b>100</b> | <b>123</b> | <b>100</b> | <b>87</b> | <b>100</b> | <b>368</b> | <b>100</b> | <b>20</b> | <b>100</b> | <b>684</b> |

Table 75. Number of identifiable fragments (NISP) from the assemblage by phase

C.2.10 Cattle remains comprise the highest frequency of species in the assemblage, making up 49.3% of the overall NISP. Cattle have the highest proportion of fragments in every phase of occupation except Phase 3. When observing the assemblage overall, the MNI percentage of cattle versus sheep/goat appears to be much more even compared with the assemblage NISP percentages. Ageing data suggests there was a fairly even

distribution of ages of cattle. Phase 2.5 contexts produced cattle remains as young as 8 months of age up to adulthood. Epiphyseal fusion data (Table 76) highlights the presence of young cattle in Phase 2.4, with three unfused early fusing elements. Data from Phase 2.5 indicated that most cattle elements were fused, however an even distribution of both fused and unfused elements are represented in the late fusion stage, indicating that some cattle would have been slaughtered before reaching 3 years of age. While the sample size is small, fusion data suggests less animals were being slaughtered before 3 years of age by Phase 2.5, as there are less unfused early and mid-fusing elements.

- C.2.11 Six wither's heights could be calculated for cattle, ranging from 100.1cm to 121.0cm. There is no obvious difference in height between phases. Butchery marks were observed on cattle remains. The chops and cuts on the carpals (astragalus and calcaneus) are indications of the removal of the feet with the cutting of the ligaments and dismemberment from the rest of the limb (Table 81). Cattle were the main food species during the Roman period in domestic faunal assemblages. Hamshaw-Thomas (2000) has argued that the shift towards cattle from sheep during the Iron Age is associated with an agricultural intensification, caused by social changes. At Romano-British sites cattle were used for dairying, traction and they were commonly slaughtered for meat around four to eight years of age (Maltby 2016). The small presence of young cattle indicates that they were bred on the settlement or in close proximity. A partially articulated calf skeleton was recovered from pit **663** (Phase 2.4). A specific age could not be assigned to the animal, however with the presence of a deciduous fourth premolar and unfused proximal phalanges ages the animal to less than 2 years, probably much younger based on size.
- C.2.12 Sheep/goat remains were present in all phases. Much as for cattle, there is a variety of ages present for sheep/goat. Tooth wear data suggests animals are primarily 2 years and older, with most animals either mature or adults. The fusion data corroborates the tooth wear data with mostly fused elements, though a presence of young animals, less than 10 months, in Phases 2.3 and 2.5. This suggests that sheep/goat provided a mixed economic purpose for both meat and primarily for secondary products. During the Roman period, sheep were often slaughtered for meat, at the end of their immaturity, around 18-36 months, and those sheep that were adults were exploited for wool production (Maltby, 2016). Those animals that were slaughtered at the 18-36 months of age range were likely being slaughtered for meat, and those that were adults were likely kept as breeding stock or for wool.
- C.2.13 Horse remains in the Roman period are usually quite well represented often making up 10% of an assemblage in rural settlements and suburbs of towns (Maltby 2016). Horses comprised 7% of the overall NISP from this site and were best represented in Phase 2.5. The limited fusion data for horse reveals most animals would have been adults, with at least one animal from Phase 2.5 being under 3-3.5 years of age at death. Two horse wither's height could be calculated and were 129.5cm and 134.8cm. Horses would have been used for traction and transportation purposes.
- C.2.14 Pigs played a minor role and comprised less than 5% of the overall assemblage. Pigs would have been slaughtered before reaching adulthood, instead being killed when reaching an optimum weight around 2-3 years of age. Two pig canines were recovered

from the assemblage, both of which were identified as male. Pigs are invariably found in smaller amount on rural roman sites versus urban sites (Maltby 2016).

- C.2.15 Dog remains were present in small numbers, comprising only 3.2% of the assemblage. One estimated wither's height was calculated from a complete humerus. The height was calculated as 28.3cm. This would be indicative of a small breed of dog. The presence of dog is also noted from the various fragments exhibiting evidence of dog gnawing. There were two fragments of dog bone exhibiting signs of pathological change. A tibia from ditch **939** had a woven texture on the anterior lower shaft, probably a sign of non-specific infection and a tibia from ditch **673** that had exostosis on the distal articulation, a probable sign of age and/or arthritic condition.
- C.2.16 Fragments of red deer antler were recovered from Phase 1, 2.3 and 2.5 contexts. Antler fragments from Bronze Age pit **931** consisted of shed pieces of antler and a large beam fragment with attached and tines. No butchery marks were noted on the early fragments, however the fragment from deposit **755**, had a tine that had been sawn off and a heavy chop through the beam. As no other faunal remains, besides antler, were recovered for red deer the data would strongly suggest the collection of antlers for craft-working purposes.
- C.2.17 Amphibian bones were recovered in small numbers from environmental samples from Phases 2.3, 2.4, 2.5 and 3 contexts. Those amphibian remains that could be identified to species were frogs (*Anura Rana*).
- C.2.18 Fish remains were also recovered from environmental samples in small numbers. Remains primarily consist of vertebrae, as they are denser and more robust than other fish bones. Those fish remains that could be identified to species were classified as gadids and eel.
- C.2.19 Small mammals including rabbit, shrew and mouse were identified from environmental samples. While most of these species are considered burrowing animals, they are probably archaeological material.
- C.2.20 Birds were represented by several species. Of the 51 fragments identified as 'bird' 41 were identified as belonging to domestic fowl. Domestic fowl became more important during the Roman period in Britain and would have been exploited for meat and eggs. Chicken are the breed of bird that were substantially bred and exploited for food in Roman Britain (Maltby 2015). Other species included one fragment belonging to a crane from ditch **412**, three fragments of mallard bone (ditch **787**, post pipe **774**, post pipe **845**), one corvid (ditch **101**), one pheasant (midden layer **430**) and four fragments belonging to a bird of prey, resembling a red kite (kiln **512**).
- C.2.21 Preservation of the remains was overall fair with over half of the identifiable bone retrieved from ditch fills. Taphonomic processes including burning, gnawing and butchery were all noted in the assemblage. There was evidence of burning in three contexts, fill deposit **683**, oven **407** and pit **325**. Deposit **683** contained mostly calcined bird and sheep/goat remains from environmental samples. Carnivore gnawing was identified on only six fragments of animal bone. Butchery evidence was minimal and the marks were mainly on cattle and sheep/goat remains in the form of heavy chops

and fine cut marks. A red deer antler from Phase 3 (deposit **755**), had a tine that had been removed by sawing and the beam had been chopped through.

## Discussion

- C.2.22 Skeletal element distribution shows that all three main domesticates were probably butchered and consumed on site. As the majority of the faunal material dates to the Roman period there is a limitation on interpreting changes in husbandry practices over time. Cattle continued to be well represented in all phases of occupation. They were less represented in Phase 3, although this was probably due to the small sample size for that phase. Cattle would have provided the greatest amount of meat of any of the domesticates and slaughtered primarily for meat as the ageing data suggests. The slight shift of less cattle slaughtered before 3 years of age in Phase 2.5 suggests that cattle may have become more valuable additionally for traction and dairying. Sheep/goat appeared to have become less important in Phases 2.4 and 2.5 as their NISP percentages declined – this may relate to the rise in dominance of cattle. The ageing data for sheep/goat implies their exploitation for secondary products was their primary purpose.
- C.2.23 The small amount of butchered red deer antler are probable off cuts, providing evidence of small scale craft activity.
- C.2.24 In a regional context, the assemblage from Old School Lane, Upware is fairly typical of a Roman settlement assemblage in this region of East Cambridgeshire. Assemblages tend to contain a wide variety of species with cattle being the dominant food source. The Roman phases of the zooarchaeological assemblage from Wicken Fen (Foster 2019) contained cattle comprising 54.3% of the NISP, followed by sheep/goat and horse. There was also a single piece of red deer antler retrieved. The representation of the main domesticates in comparable percentages highlight that the settlements have a similar economy in regards to husbandry practices.
- C.2.25 At Old School Lane, domestic mammals were the mainstay of the food economy, with cattle remains being the most well represented species. The dominance of cattle in the assemblage is typical for Roman settlement sites. Beef would have made up the most important part of the residents' diet. Sheep/goat would have been a secondary species for food, however from the ageing data it can be concluded they were probably exploited primarily for secondary products in addition to a source of meat.

|            |              | Phase 2.3 |                 | Phase 2.4 |                 | Phase 2.5 |                 |
|------------|--------------|-----------|-----------------|-----------|-----------------|-----------|-----------------|
|            |              | Unfused   | Fusing or Fused | Unfused   | Fusing or Fused | Unfused   | Fusing or Fused |
| Cattle     | Early fusion | 0         | 8               | 3         | 7               | 0         | 42              |
|            | Mid fusion   | 3         | 5               | 8         | 6               | 2         | 19              |
|            | Late fusion  | 3         | 2               | 1         | 8               | 8         | 8               |
| Sheep/goat | Early fusion | 2         | 3               | 0         | 3               | 1         | 6               |
|            | Mid fusion   | 2         | 3               | 0         | 0               | 0         | 0               |
|            | Late fusion  | 0         | 1               | 0         | 0               | 1         | 4               |

*Table 76. Summary of epiphyseal fusion for ageing (those phases and species with more than eight elements to assess)*

| Context | Phase | Species          | Element      | GL    | GLI  | G L m | Bd   | SD   | Bp    | SLC  | GLP  | HTC  | B T  | EWB (cm) |
|---------|-------|------------------|--------------|-------|------|-------|------|------|-------|------|------|------|------|----------|
| 60      | 2.1   | Cattle           | Phalanx 2    | 44.1  | 0    | 0     | 23.7 | 0    | 28.2  | 0    | 0    | 0    | 0    |          |
| 80      | 2.3   | Cattle           | Metatarsal 1 | 0     | 0    | 0     | 51.1 | 24.9 | 0     | 0    | 0    | 0    | 0    |          |
| 80      | 2.3   | Cattle           | Phalanx 1    | 58.1  | 0    | 0     | 28.5 | 0    | 28.2  | 0    | 0    | 0    | 0    |          |
| 156     | 2.3   | Sheep/Goat       | Phalanx 1    | 39.1  | 0    | 0     | 11.7 | 0    | 12.1  | 0    | 0    | 0    | 0    |          |
| 287     | 2.3   | Cattle           | Phalanx 1    | 69.8  | 0    | 0     | 37.2 | 0    | 38.2  | 0    | 0    | 0    | 0    |          |
| 288     | 2.3   | Sheep/Goat       | Metatarsal 1 | 0     | 0    | 0     | 0    | 0    | 18.5  | 0    | 0    | 0    | 0    |          |
| 298     | 3     | Horse            | Metatarsal 1 | 253   | 0    | 0     | 48.1 | 27.7 | 49    | 0    | 0    | 0    | 0    | 134.8    |
| 298     | 3     | Cattle           | Scapula      | 0     | 0    | 0     | 0    | 0    | 0     | 49.6 | 63.7 | 0    | 0    |          |
| 329     | 2.3   | Cattle           | Metacarpal 1 | 196   | 0    | 0     | 54.5 | 0    | 51.4  | 0    | 0    | 0    | 0    | 120.1    |
| 329     | 2.3   | Cattle           | Femur        | 310   | 0    | 0     | 82.2 | 30.2 | 100.3 | 0    | 0    | 0    | 0    | 100.1    |
| 331     | 2.3   | Cattle           | Phalanx 1    | 59.6  | 0    | 0     | 25.7 | 0    | 25.7  | 0    | 0    | 0    | 0    |          |
| 346     | 2.4   | Cattle           | Scapula      | 0     | 0    | 0     | 0    | 0    | 0     | 47.3 | 0    | 0    | 0    |          |
| 398     | 2.3   | Sheep/Goat       | Tibia        | 0     | 0    | 0     | 23.4 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 411     | 2.5   | Bird (Crane)     | Tibio-tarsus | 0     | 0    | 0     | 22.7 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 427     | 2.5   | Cattle           | Scapula      | 0     | 0    | 0     | 0    | 0    | 0     | 58.6 | 0    | 0    | 0    |          |
| 430     | 2.5   | Horse            | Phalanx 1    | 92    | 0    | 0     | 48.3 | 0    | 54.4  | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Phalanx 1    | 0     | 0    | 0     | 29.2 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Astragalus   | 0     | 58   | 52.2  | 38.7 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Metatarsal 1 | 217   | 0    | 0     | 58.9 | 0    | 51.2  | 0    | 0    | 0    | 0    | 118.3    |
| 430     | 2.5   | Sheep/Goat       | Pelvis       | 0     | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Radius       | 0     | 0    | 0     | 85   | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Horse            | Phalanx 1    | 87.3  | 0    | 0     | 48   | 0    | 55.2  | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Horse            | Metacarpal 1 | 202   | 0    | 0     | 46.1 | 32.8 | 45.9  | 0    | 0    | 0    | 0    | 129.5    |
| 430     | 2.5   | Sheep/Goat       | Tibia        | 0     | 0    | 0     | 23.1 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Metacarpal 1 | 0     | 0    | 0     | 0    | 0    | 49.8  | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Cattle           | Phalanx 1    | 62.6  | 0    | 0     | 27.9 | 0    | 27.6  | 0    | 0    | 0    | 0    |          |
| 430     | 2.5   | Sheep/Goat       | Tibia        | 0     | 0    | 0     | 24.3 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 432     | 2.5   | Cattle           | Astragalus   | 0     | 60.8 | 55.6  | 38.3 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 438     | 2.5   | Cattle           | Metatarsal 1 | 0     | 0    | 0     | 0    | 0    | 52.4  | 0    | 0    | 0    | 0    |          |
| 438     | 2.5   | Cattle           | Radius       | 0     | 0    | 0     | 69.2 | 35.6 | 0     | 0    | 0    | 0    | 0    |          |
| 438     | 2.5   | Cattle           | Metacarpal 1 | 0     | 0    | 0     | 57.1 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 441     | 2.2   | Horse            | Phalanx 1    | 82    | 0    | 0     | 46.4 | 0    | 54.7  | 0    | 0    | 0    | 0    |          |
| 441     | 2.2   | Cattle           | Scapula      | 0     | 0    | 0     | 0    | 0    | 0     | 52   | 0    | 0    | 0    |          |
| 442     | 2.2   | Cattle           | Horn Core    | 124.7 | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 477     | 2.5   | Cattle           | Phalanx 2    | 40.5  | 0    | 0     | 24.8 | 0    | 27.5  | 0    | 0    | 0    | 0    |          |
| 477     | 2.5   | Cattle           | Metacarpal 1 | 0     | 0    | 0     | 0    | 0    | 61.7  | 0    | 0    | 0    | 0    |          |
| 477     | 2.5   | Horse            | Calcaneus    | 99.5  | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 488     | 2.5   | Cattle           | Phalanx 1    | 0     | 0    | 0     | 28.7 | 0    | 29.8  | 0    | 0    | 0    | 0    |          |
| 488     | 2.5   | Cattle           | Tibia        | 0     | 0    | 0     | 65.9 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 516     | 2.4   | Cattle           | Metatarsal 1 | 0     | 0    | 0     | 0    | 0    | 44.3  | 0    | 0    | 0    | 0    |          |
| 522     | 2.4   | Sheep/Goat       | Phalanx 1    | 44.4  | 0    | 0     | 10.7 | 0    | 11.4  | 0    | 0    | 0    | 0    |          |
| 525     | 2.5   | Sheep/Goat       | Astragalus   | 0     | 28.8 | 27.4  | 19.2 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 531     | 2.4   | Cattle           | Metatarsal 1 | 222   | 0    | 0     | 56.7 | 29.6 | 52.2  | 0    | 0    | 0    | 0    | 121.0    |
| 531     | 2.4   | Cattle           | Metatarsal 1 | 0     | 0    | 0     | 56.6 | 0    | 49.5  | 0    | 0    | 0    | 0    |          |
| 542     | 2.5   | Cattle           | Metatarsal 1 | 211   | 0    | 0     | 54.2 | 25.3 | 46.1  | 0    | 0    | 0    | 0    | 114.9    |
| 579     | 2.5   | Bird (Red Kite?) | Tibio-tarsus | 111.8 | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 579     | 2.5   | Bird (Red Kite?) | Femur        | 77.3  | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 579     | 2.5   | Bird (Red Kite?) | Femur        | 77.4  | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 624     | 2.5   | Cattle           | Astragalus   | 0     | 68.5 | 62    | 40.3 | 0    | 0     | 0    | 0    | 0    | 0    |          |
| 685     | 2.5   | Cattle           | Metatarsal 1 | 0     | 0    | 0     | 0    | 0    | 45.5  | 0    | 0    | 0    | 0    |          |
| 685     | 2.5   | Cattle           | Metacarpal 1 | 0     | 0    | 0     | 63.7 | 0    | 61.9  | 0    | 0    | 0    | 0    |          |
| 685     | 2.5   | Cattle           | Humerus      | 0     | 0    | 0     | 0    | 0    | 0     | 0    | 0    | 40.3 | 75.4 |          |
| 685     | 2.5   | Cattle           | Phalanx 1    | 63.4  | 0    | 0     | 34.5 | 0    | 33.5  | 0    | 0    | 0    | 0    |          |

| Context | Phase | Species              | Element         | GL   | GLI  | G L m | Bd   | SD   | Bp   | SLC  | GLP  | HTC | B T | EWB (cm) |
|---------|-------|----------------------|-----------------|------|------|-------|------|------|------|------|------|-----|-----|----------|
| 686     | 2.5   | Cattle               | Metacarpal 1    | 0    | 0    | 0     | 0    | 0    | 51.5 | 0    | 0    | 0   | 0   |          |
| 687     | 2.5   | Cattle               | Metatarsal 1    | 222  | 0    | 0     | 58.2 | 30   | 52.2 | 0    | 0    | 0   | 0   | 121.0    |
| 687     | 2.5   | Cattle               | Tibia           | 0    | 0    | 0     | 60.5 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 687     | 2.5   | Horse                | Tibia           | 0    | 0    | 0     | 72.7 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 687     | 2.5   | Dog                  | Humerus         | 90.3 | 0    | 0     | 21.8 | 0    | 21.6 | 0    | 0    | 0   | 0   | 28.3     |
| 687     | 2.5   | Cattle               | Scapula         | 0    | 0    | 0     | 0    | 0    | 0    | 55.7 | 67.5 | 0   | 0   |          |
| 687     | 2.5   | Horse                | Tibia           | 0    | 0    | 0     | 74.3 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 687     | 2.5   | Cattle               | Scapula         | 0    | 0    | 0     | 0    | 0    | 0    | 56.4 | 63.4 | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Phalanx 1       | 0    | 0    | 0     | 29.4 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Phalanx 1       | 64.7 | 0    | 0     | 26.1 | 0    | 26.5 | 0    | 0    | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Phalanx 1       | 58   | 0    | 0     | 27   | 0    | 28.1 | 0    | 0    | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Phalanx 2       | 41.5 | 0    | 0     | 23.7 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Scapula         | 0    | 0    | 0     | 0    | 0    | 0    | 49   | 59.6 | 0   | 0   |          |
| 719     | 2.5   | Cat                  | Radius          | 92.3 | 0    | 0     | 12.4 | 0    | 6.8  | 0    | 0    | 0   | 0   |          |
| 719     | 2.5   | Cattle               | Phalanx 2       | 47.3 | 0    | 0     | 31.4 | 0    | 35.8 | 0    | 0    | 0   | 0   |          |
| 731     | 2.1   | Cattle               | Metatarsal 1    | 0    | 0    | 0     | 0    | 23.5 | 0    | 0    | 0    | 0   | 0   |          |
| 740     | 2.5   | Dog                  | Humerus         | 0    | 0    | 0     | 36.8 | 13.4 | 0    | 0    | 0    | 0   | 0   | 24.6     |
| 770     | 2.5   | Horse                | Radius          | 0    | 0    | 0     | 68.1 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 788     | 3     | Bird (Domestic Fowl) | Humerus         | 0    | 0    | 0     | 0    | 0    | 20.9 | 0    | 0    | 0   | 0   |          |
| 791     | 2.4   | Sheep/Goat           | Phalanx 1       | 37.8 | 0    | 0     | 13   | 0    | 12.9 | 0    | 0    | 0   | 0   |          |
| 791     | 2.4   | Sheep/Goat           | Phalanx 2       | 22.4 | 0    | 0     | 8.8  | 0    | 11.7 | 0    | 0    | 0   | 0   |          |
| 792     | 2.5   | Bird (Domestic Fowl) | Femur           | 0    | 0    | 0     | 0    | 0    | 16.3 | 0    | 0    | 0   | 0   |          |
| 792     | 2.5   | Sheep/Goat           | Phalanx 1       | 40   | 0    | 0     | 10.5 | 0    | 11.9 | 0    | 0    | 0   | 0   |          |
| 792     | 2.5   | Sheep/Goat           | Phalanx 1       | 36.8 | 0    | 0     | 11.1 | 0    | 12.4 | 0    | 0    | 0   | 0   |          |
| 821     | 2.5   | Sheep/Goat           | Phalanx 1       | 38.1 | 0    | 0     | 12.1 | 0    | 13.5 | 0    | 0    | 0   | 0   |          |
| 821     | 2.5   | Sheep/Goat           | Astragalus      | 0    | 29.6 | 28.6  | 18.7 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 823     | 2.5   | Cattle               | Metatarsal 1    | 0    | 0    | 0     | 55.8 | 26.2 | 0    | 0    | 0    | 0   | 0   |          |
| 823     | 2.5   | Cattle               | Phalanx 2       | 37.5 | 0    | 0     | 0    | 0    | 26.3 | 0    | 0    | 0   | 0   |          |
| 828     | 2.5   | Pig                  | Phalanx 2       | 24.9 | 0    | 0     | 15.4 | 0    | 17.9 | 0    | 0    | 0   | 0   |          |
| 846     | 2.5   | Bird (Mallard)       | Carpometacarpus | 60.2 | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 847     | 2.5   | Sheep/Goat           | Astragalus      | 0    | 30.3 | 28.9  | 19.6 | 0    | 0    | 0    | 0    | 0   | 0   |          |
| 893     | 2.1   | Sheep/Goat           | Radius          | 0    | 0    | 0     | 0    | 0    | 28.6 | 0    | 0    | 0   | 0   |          |
| 932     | 1     | Cattle               | Metatarsal 1    | 0    | 0    | 0     | 0    | 24.1 | 0    | 0    | 0    | 0   | 0   |          |
| 941     | 2.5   | Cattle               | Radius          | 0    | 0    | 0     | 0    | 0    | 84.5 | 0    | 0    | 0   | 0   |          |

Table 77. Table of measurements (mm)

| Abbreviation | Description                                    |
|--------------|------------------------------------------------|
| GL           | Greatest length                                |
| GLI          | Greatest lateral length                        |
| Bd           | Greatest breadth of distal end                 |
| BT           | Greatest breadth of trochlea                   |
| HTC          | Height of trochlea                             |
| Bp           | Greatest breadth of proximal end               |
| GLm          | Greatest length of medial half (in astragalus) |
| SD           | Smallest breadth of diaphysis                  |
| SLC          | Smallest breadth of collum                     |

|     |                                    |
|-----|------------------------------------|
| GLP | Greatest length of glenoid process |
| EWB | Estimated Wither's Height (in cm)  |

*Table 78. Abbreviations for table of measurements*

| Context | Phase | Species              | Element                | Burning   |
|---------|-------|----------------------|------------------------|-----------|
| 326     | 1     | Pig                  | Mandible               | Blackened |
| 326     | 1     | Pig                  | Mandible               | Blackened |
| 326     | 1     | Pig                  | Loose Mandibular Tooth | Blackened |
| 410     | 2.4   | Cattle               | Metacarpal 1           | Calcined  |
| 683     | 2.3   | Small Rodent         | Phalanx 1              | Calcined  |
| 683     | 2.3   | Small Rodent         | Phalanx 1              | Calcined  |
| 683     | 2.3   | Bird (domestic fowl) | Metacarpal 1           | Calcined  |
| 683     | 2.3   | Bird (domestic fowl) | Ulna                   | Calcined  |
| 683     | 2.3   | Bird (domestic fowl) | Metatarsal 1           | Calcined  |
| 683     | 2.3   | Bird (domestic fowl) | Phalanx 1              | Calcined  |
| 683     | 2.3   | Bird (domestic fowl) | Vertebra               | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Humerus                | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Astragalus             | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Phalanx 1              | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Phalanx 2              | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Tibia                  | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Phalanx 3              | Calcined  |
| 683     | 2.3   | Sheep/Goat           | Metapodial 1           | Calcined  |

*Table 79. Identifiable fragments with burning*

| Context | Phase | Species    | Element      | Gnawing   |
|---------|-------|------------|--------------|-----------|
| 685     | 2.5   | Cattle     | Phalanx 1    | Carnivore |
| 685     | 2.5   | Cattle     | Metacarpal 1 | Carnivore |
| 331     | 2.3   | Cattle     | Phalanx 1    | Carnivore |
| 850     | 2.3   | Cattle     | Phalanx 1    | Carnivore |
| 779     | 2.5   | Sheep/Goat | Radius       | Carnivore |
| 893     | 2.1   | Cattle     | Calcaneus    | Carnivore |
| 438     | 2.5   | Cattle     | Calcaneus    | Carnivore |

*Table 80. Identifiable fragments with gnawing*

| Context | Phase | Species | Element    | Butchery |
|---------|-------|---------|------------|----------|
| 430     | 2.5   | Cattle  | Calcaneus  | Chop     |
| 516     | 2.4   | Cattle  | Calcaneus  | Cut      |
| 430     | 2.5   | Cattle  | Astragalus | Cut      |

| Context | Phase | Species    | Element      | Butchery |
|---------|-------|------------|--------------|----------|
| 80      | 2.3   | Cattle     | Phalanx 1    | Cut      |
| 156     | 2.3   | Sheep/Goat | Pelvis       | Chop     |
| 430     | 2.5   | Cattle     | Phalanx 1    | Chop     |
| 755     | 2.5   | Red Deer   | Antler       | Sawn/Cut |
| 430     | 2.5   | Cattle     | Phalanx 1    | Chop     |
| 430     | 2.5   | Cattle     | Metacarpal 1 | Cut      |
| 847     | 2.5   | Sheep/Goat | Astragalus   | Cut      |
| 430     | 2.5   | Cattle     | Radius       | Chop     |
| 624     | 2.5   | Cattle     | Astragalus   | Cut      |
| 441     | 2.2   | Cattle     | Scapula      | Cut      |
| 346     | 2.4   | Cattle     | Scapula      | Chop     |

*Table 81. Identifiable fragments with butchery marks*

| Cattle | 8-18 mnts | 24-40 mnts | 40-50 mnts | 50 mnts + | Total |
|--------|-----------|------------|------------|-----------|-------|
|        | 3         | 3          | 4          | 3         | 13    |

*Table 82. Mandible wear per stage for cattle*

| Sheep/Goat | 5-7 mnts | 21-28 mnts | Mature/Adult | Total |
|------------|----------|------------|--------------|-------|
|            | 1        | 6          | 7            | 14    |

*Table 83. Mandible wear per stage for sheep/goat*

| Pig | 9-10 mnts | 25-27 mnts | Total |
|-----|-----------|------------|-------|
|     | 1         | 2          | 3     |

*Table 84. Mandible wear per stage for pig*

## C.3 Environmental samples

*By Rachel Fosberry*

### *Introduction*

- C.3.1 The results of assessment of approximately 54 samples taken during the excavations revealed a background scatter of charred plant remains from earlier phases of Roman activity and a marked increase in density during the later Roman period (Fosberry 2018). The most intense activity was centered around Roman Building **815** and surrounding features in the northern area of the site, which was extensively sampled.
- C.3.2 Extremely large quantities of fully-processed cereal grain, predominantly spelt wheat, were recovered from each of the post-pipes within the structural post holes of the building and there appeared to be very little chaff or weed seeds. There also appeared to be spatial variation between the assemblages from the post pipes which could

possibly imply distribution of stored products within the building that is assumed to have been destroyed by fire.

- C.3.3 A broadly contemporary clay-lined pit **512** located in the east of the site was also investigated to characterise its disuse fills.
- C.3.4 Subsequent analysis of these samples was recommended with the aim of characterising the individual deposits and investigating spatial distribution in addition to addressing the research aims relating to the agricultural economy of a Late Roman fen-edge settlement. The revised research aims targets the aisled building. The aims of the detailed analysis of the charred assemblages from each of the post-pipes is to determine the function of the building, clues to its use and destruction and its implications in terms of the status and character of the wider settlement. A 3rd/4th century aisled barn at Great Holts Farm, Essex, destroyed by fire, was used as a comparative site (Germany 2003). Detailed analysis by Peter Murphy on the charred assemblages from the post-pipes of this structure produced evidence for the storage of agricultural products, including spelt wheat, barley and peas, that appear to have been stored in separate areas within the barn.

### **Methodology**

- C.3.5 The samples were processed by tank flotation using modified Siraf-type equipment for the recovery of preserved plant remains, dating evidence and any other artefactual evidence 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 secondary flotation was carried out on the residues from samples that proved rich in charred plant remains to ensure maximum recovery. Addition of the dried residue to clean water resulted in the charred material immediately floating to the top of the container producing second flots which were then combined with the original flot for quantification.
- C.3.6 The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60. 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 (2010) 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.3.7 The samples have been quantified with individual cereal grains, chaff elements and seeds counted and recorded on Tables 85-86. Quantification of extremely large assemblages is difficult as counting of individual items in small sub-samples with subsequent multiplication leads to inaccurate representation of some items and omission of others. An attempt to produce a more meaningful interpretation has been achieved by counting the number of grains and chaff elements in a sub-sample,

multiplying by fraction sorted (denoted by \*). This method allows for a comparison of samples from each post-pipe with regard to spatial variation and the overall volume of the deposit within the feature. Wherever possible, the whole flot has been sorted for less frequent items such as weed seeds. Quantification of cereal grains can also be problematic due to the tendency of the material to break into small pieces which is particularly evident in these assemblages. Fragmented cereal grains have been counted if over half of the grain has survived or if the embryo ends of smaller fragments are present.

- C.3.8 Items that cannot be easily quantified such as small bones have been scored for abundance according to the following criteria:

+ = rare, ++ = moderate, +++ = frequent, ++++ = abundant

- C.3.9 Key to table \*=estimated (through counting of sub-sample and multiplication)

S= silicified

## Results

### Preservation

- C.3.10 Preservation of charred cereal grains is variable both between and within individual assemblages. Most of the near-complete grains are identifiable as spelt (*Triticum spelta*) or emmer (*T. dicoccum*) wheat (or most commonly spelt/emmer) or barley (*Hordeum vulgare*) from their morphology. No attempt has been made to distinguish between spelt and emmer grains based on their morphology due to the overlap of distinguishing characteristics (Reed *et al* 2019, 632). Most of the grains are more 'spelt-like' in their appearance (elongated and with straight sides) but there is a significant proportion of the assemblages where the grains are more 'droplet-shaped' which can be characteristic of emmer wheat. Where spikelets have been preserved, they have been identified as spelt through the more-diagnostic chaff elements present and spikelet forks and glume bases are, in most cases, identifiable to species although poorly-preserved, degraded fragments are simply identified as hulled wheat. There is no evidence of the more-rounded grains that are characteristic of free-threshing bread wheat (*T. aestivum/turgidum* sp.). Barley is generally a minor component in the assemblages. Preservation of twisted ventral grooves is a good indication that six-row barley is present, despite the lack of chaff.
- C.3.11 Insect damage was recognised through the examination of modern reference material supplied by David Smith (University of Birmingham) during a training workshop for Archaeobotanical Working Group on the Identification of common insect grain pests in April 2018. In the absence of preserved insect remains, evidence of infestation is reliant on the recognition of the physical evidence caused by insects. Experimental charring of modern weevil affected grain revealed that the characteristic weevil hole damage is only likely to be recognised where preservation is exceptionally good (Pelling *et al* 2020). The morphological changes include visible egg holes (often several per grain), visible exit holes (usually through the embryo end of the grain), 'empty' grains where the interior structure is missing. A large proportion of the grains also

exhibit surface alteration, often as longitudinal scars where the grain surface appears to have been eaten, or this may be evidence of bacterial or fungal attack.

C.3.12 Weed seeds are rare within the assemblages and preservation was variable.

### *Phase 2.5: Late Roman*

The most productive samples for charred plant remains from this phase are from aisled building (815) and associated features located in the north-east corner of the northern area and pit 512. Hearth/oven 371 did not contain any significant preserved remains, including charcoal and well 465, located towards the south of the site, contained only occasional waterlogged seeds of rushes (*Juncus* sp.) and stinging nettles.

#### *Clay-lined feature 512*

C.3.13 Samples were taken from the two major basal deposits (580 and 587) overlying the clay lining in feature 512 and from one of the upper fills in the eastern part of the feature (585). They each produced charred grain and weed seeds, with the most abundant assemblages recovered from fill 587. Spelt and barley grains are frequent and there is evidence of germination of a few of the spelt grains through the presence of a developed embryo, shrunken sides and a glossy appearance. Samples from fill 587 contain the greatest density of charred grain (79 grains per litre of soil) of which six-row barley predominates. The grains are reasonably well-preserved and there is no evidence of any of the barley grains having commenced germination. Weed species include stinking mayweed (*Anthemis cotula*), corncockle (*Agrostemma githago*), goosefoots (*Chenopodium* sp.), parsley-piert (*Aphanes arvensis*), dead-nettle (*Lamium* sp.), vetch/tare (*Vicia/Lathyrus* sp.) and docks (*Rumex* spp.) which are all likely to have been growing amongst the cereal crops. Grasses (Poaceae), ribwort plantain (*Plantago lanceolata*) and annual knawel (*Sherardia arvensis*) may indicate grassland and the use of hay as fuel/kindling, although their habitats are varied, and they could also have been harvested with the crops. Rushes (*Juncus* sp.), sedges (*Carex* spp.), great fen sedge (*Cladium mariscus*) and marsh marigold (*Caltha palustris*) are indicative of wet/damp ground.

C.3.14 The feature was keyhole shaped which is the traditional shape for corn driers of this date. The assemblage of charred grain within this feature would be consistent with a corn drier although the usual Roman fuel choice of hulled wheat chaff is notably absent. It is possible that sedges and wood was used as fuel instead. These features are considered to be multifunctional (van der Veen 1989, 303) with possible uses including drying and parching grain and for heating malted grain to halt germination. It is unusual that there was no evidence of *in-situ* burning and the entire feature was lined with clay, which suggests a possible use as a steeping tank for grain malting. Charophyte oospores (the reproductive bodies of stonewort plants) are found in freshwater and their presence within these deposits suggests that water was utilised in some way.

| Sample No.                                                |                                        | 74  | 80  | 81  |
|-----------------------------------------------------------|----------------------------------------|-----|-----|-----|
| Context No.                                               |                                        | 580 | 587 | 585 |
| Cut                                                       |                                        | 512 | 512 | 512 |
| Volume processed (L)                                      |                                        | 6   | 6   | 4   |
| Flot Volume (ml)                                          |                                        | 10  | 30  | 10  |
| <b>CHARRED CEREAL GRAIN</b>                               |                                        |     |     |     |
| <i>Avena</i> sp. caryopsis                                | Oats (wild or cultivated)              |     | 4   | 4   |
| <i>Hordeum vulgare</i> L. caryopsis                       | domesticated 6-row Barley              | 12  | 292 | 23  |
| <i>Triticum spelta/dicoccum</i> L. caryopsis              | Spelt/Emmer wheat grain                | 73  | 45  | 93  |
| <i>Triticum</i> cf. <i>spelta</i> L. germinated caryopsis | Sprouted spelt wheat grain             | 3   |     | 4   |
| Cereal indet. Caryopsis                                   | Indeterminate cereal grain             | 9   | 131 | 35  |
| <b>TOTAL GRAIN</b>                                        |                                        | 97  | 472 | 159 |
| Grain per litre soil                                      |                                        | 16  | 79  | 40  |
| <b>CHARRED CEREAL CHAFF</b>                               |                                        |     |     |     |
| <i>Hordeum vulgare</i> L. rachis internode                | domesticated Barley chaff              |     |     | 1   |
| <i>Triticum spelta</i> L. spikelet fork                   | Spelt Wheat chaff                      |     |     | 2   |
| <i>Triticum spelta</i> L. glume base                      | Spelt Wheat chaff                      | 3   |     |     |
| <b>LEGUMES</b>                                            |                                        |     |     |     |
| medium <i>Vicia/Lathyrus</i> sp. (2-4mm) seed             | medium-seeded Vetches/Peas/Garden Peas |     |     | 3   |
| <b>CHARRED WILD SEEDS AND FRUITS</b>                      |                                        |     |     |     |
| <i>Agrostemma githago</i> L. seed                         | Corncockle                             | 1   |     |     |
| <i>Anthemis cotula</i> L. achene                          | Stinking Chamomile                     | 5   | 2   | 4   |
| <i>Aphanes arvensis</i> L. seed                           | Parsley-piert                          |     | 2   |     |
| <i>Caltha palustris</i> L. seed                           | marsh marigold                         | 1   |     |     |
| <i>Carduus/Cirsium</i> sp. achene                         | Thistles                               |     | 3   |     |
| <i>Chenopodium</i> sp. seed                               | Goosefoots                             | 3   | 2   |     |
| <i>Chenopodium album</i> L. seed                          | Fat-hen                                | 3   | 2   | 1   |
| <i>Galium aparine</i> L. nutlet                           | Cleavers                               | 1   |     |     |
| <i>Lamium</i> sp. Nutlet                                  | Dead-nettles                           |     | 1   |     |
| <i>Malva</i> sp. nutlet                                   | Mallows                                | 3   |     |     |
| <i>Odontites</i> sp. seed                                 | Red Bartsia                            |     |     | 1   |
| <i>Plantago lanceolata</i> L. seed                        | Ribwort Plantain                       |     |     | 3   |
| small Poaceae indet. (< 2mm) caryopsis                    | small-seeded Grass Family              |     |     | 2   |
| <i>Prunella vulgaris</i> L. nutlet                        | Selfheal                               |     |     | 1   |
| <i>Rumex</i> sp. achene                                   | small-seeded Docks                     | 7   |     | 5   |
| <i>Rumex</i> cf. <i>crispus</i> L. achene                 | Curled Dock                            |     | 4   | 8   |
| <i>Sherardia arvensis</i> L. seed                         | Field madder                           |     |     | 1   |
| <i>Urtica dioica</i> L. seed                              | Common Nettle                          |     |     | 2   |
| <i>Vicia/Lathyrus</i> sp. Seed                            | small-seeded Vetches/Tares             | 8   | 2   |     |
| <b>WETLAND PLANT SPECIES</b>                              |                                        |     |     |     |
| elongate lenticular <i>Carex</i> sp. nut                  | elongate & flat-seeded Sedges          | 1   |     | 1   |
| small trigonous <i>Carex</i> sp. (<2mm) nut               | small triangular-seeded Sedges         |     |     | 1s  |
| large trigonous <i>Carex</i> sp. (>3mm) nut               | large triangular-seeded Sedges         |     |     |     |
| <i>Cladium mariscus</i> (L.) Pohl nut                     | Great Fen-sedge                        | 8   | 47  | 11  |

| Sample No.             |        | 74 | 80  | 81 |
|------------------------|--------|----|-----|----|
| <i>Juncus</i> sp. seed | Rushes | 4  | 3   |    |
| Ostracods              |        |    | +   |    |
| Chara oogonia          |        | +  | +++ |    |
| Est Charcoal vol (ml)  |        | <1 | <1  | 30 |

Table 85. Quantification of samples from feature 512

### *Building 815 and associated deposits*

- C.3.15 Abundant charred cereal remains are again present in the northern corner of the site, particularly in the area of Building **815** and in two excavated slots of ditch **756** (**756**, **817**) located to the west of the building. Samples taken from the postholes from the use-phase (Phase 2.4) of Building **815** contain charred cereal remains, but given that the Phase 2.5 postpipes contained such an abundance of charred remains, this is likely to attest to post-depositional mixing and most of this material is probably intrusive. Samples from each of the six post-pipes withing the structural postholes of Building **815** were analysed; in some cases, there were two fills with samples from each, where only one fill was noticed, samples were taken from two areas within the fill.
- C.3.16 In total, approximately 18L of soil was examined for each post-pipe, enabling comparison of density and composition of charred plant remains (Fig. 11b). Each of the assemblages is comprised predominantly of hulled wheat grains with smaller components of barley and chaff elements. Weed seeds are very rare, signifying that the grain has been meticulously cleaned of contaminants. Preservation of the grains is mostly good enough for them to be identified as wheat or barley but there is a high degree of surface pitting and abrasion that is consistent with insect damage and a charred pupa or larva was recovered from postpipe **845**. A significant proportion of the wheat grains were fractured. This could also be the result of insect damage or it may have been caused during the processing stage in which hulled wheat is pounded to remove the outer husk. All of the barley and the vast majority of the hulled wheat has been dehusked. The singular exception was noted in postpipe **844** in which a small proportion (approximately 5%) of the spelt grains survive as spikelets. It is possible that some of the other grains were burnt as spikelets and subsequently disintegrated (either within the burial environment or during flotation) although the amount of chaff present is much lower than would have been expected if this were the case, even taking into consideration the bias towards the preservation and survival of grain being higher than that of chaff (Boardman and Jones 1980). Where chaff is present, it is notable that it is present in greatest density in the postpipes (**774**, **827**, **843**) from the eastern side of the building. Spelt wheat chaff is more common than emmer wheat, the latter only really identified with certainty in postpipe **774**.
- C.3.17 There is significant variation in the density of grain in the postpipes with the largest quantity of grain in postpipe **774** showing a distribution that is greatest in the south-eastern area of the structure and the least in the north west. Spatial variation within the building is also seen in the distribution of small bone that was recovered from each of the three postpipes (**778**, **845**, **789**) from the western side. Samples taken from

surface layers within the building footprint all contain spelt/emmer and barley grains but preservation is poor, possibly due to trampling.

- C.3.18 The charred assemblage from ditch **756** is similar in content to those from the eastern postpipes of Building **815** with regard to the amount of grain and chaff present, whereas the samples from ditch slot **817** most resemble the western postpipe assemblages. The ditch samples also contain a few more weed seeds. The assemblage from intervention **939** produced a generally similar assemblage of spelt/emmer wheat and barley with a small amount of hulled wheat chaff. This sample also contains mineralised insect eggs and a calcitic nodule which are both indicative of cess.
- C.3.19 Samples taken from hollows **813** and **901** both contain charred cereal grains, indicating the abundance of grain in this area that has naturally accumulated in these hollows.

| Sample No.                                                       |                                    | 120      | 121      | 122      | 126      | 105      | 111      | 106      | 125      | 123      | 124      | 109      | 110      | 102   | 158   | 115   | 167   |
|------------------------------------------------------------------|------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|-------|-------|
| Context No.                                                      |                                    | 828      | 828      | 844      | 844      | 775      | 775      | 779      | 843      | 846      | 847      | 790      | 792      | 770   | 820   | 819   | 941   |
| Feature No.                                                      |                                    | 827      | 827      | 843      | 843      | 774      | 774      | 778      | 778      | 845      | 845      | 789      | 789      | 756   | 817   | 817   | 939   |
| Feature type                                                     |                                    | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Postpipe | Ditch | Ditch | Ditch | Ditch |
| Volume processed (L)                                             |                                    | 9        | 10       | 9        | 9        | 8        | 8        | 8        | 8        | 9        | 9        | 8        | 10       | 8     | 14    | 16    | 9     |
| Flot Volume (ml)                                                 |                                    | 120      | 180      | 350      | 500      | 950      | 1000     | 80       | 20       | 70       | 90       | 20       | 150      | 200   | 80    | 150   | 80    |
| Percentage sorted                                                |                                    | 25       | 33.3     | 20       | 10       | 5        | 5        | 100      | 100      | 100      | 100      | 100      | 33       | 20    | 25    | 33.3  | 25    |
| <b>CHARRED CEREAL GRAIN</b>                                      |                                    |          |          |          |          |          |          |          |          |          |          |          |          |       |       |       |       |
| <i>Avena</i> sp. caryopsis                                       | Oats (wild or cultivated)          |          |          |          |          |          | 20*      |          |          |          |          |          | 2        |       |       |       |       |
| <i>Hordeum vulgare</i> L. caryopsis                              | domesticated 6-row Barley          | 88*      | 117*     | 35*      | 100*     | 1020*    | 1806*    | 3        |          | 13       | 27       | 20       | 171*     | 45*   | 84*   | 42*   | 116*  |
| <i>Triticum spelta/dicoccum</i> L. caryopsis                     | Spelt/Emmer wheat grain            | 1200*    | 1092*    | 1130*    | 5200*    | 10560*   | 18360*   | 398      | 28       | 107      | 556      | 168      | 2052*    | 2095* | 676*  | 852*  | 516*  |
| <i>Triticum spelta/dicoccum</i> L. fragmented caryopsis          | fragmented Spelt/Emmer wheat grain | 240*     | 120*     | 305*     | 520*     | 1760*    | 5220*    | 725*     |          | 49       | 124      | 79       | 408*     | 625*  | 384*  | 639*  | 148*  |
| <i>Triticum spelta</i> L. spikelet                               | Spelt spikelet (2-grains)          |          |          | 16       | 32       |          |          |          |          |          |          |          |          |       |       |       |       |
| Cereal indet. Caryopsis                                          | Indeterminate cereal grain         | 236*     |          |          |          |          | 640*     |          | 39       |          |          | 4        | 66*      |       |       |       |       |
| TOTAL GRAIN                                                      |                                    | 1764     | 1329     | 1502     | 5884     | 14360    | 26046    | 1126     | 67       | 169      | 707      | 271      | 2697     | 2765  | 1144  | 1533  | 780   |
| Grain per litre soil                                             |                                    | 196      | 133      | 167      | 654      | 1795     | 3256     | 141      | 8        | 19       | 79       | 34       | 270      | 346   | 82    | 96    | 87    |
| <b>CHARRED CEREAL CHAFF</b>                                      |                                    |          |          |          |          |          |          |          |          |          |          |          |          |       |       |       |       |
| <i>Triticum spelta</i> L. spikelet fork                          | Spelt wheat chaff                  |          | 4        | 15       | 340*     | 400*     | 40*      |          |          |          | 2        |          | 12       | 65*   | 8*    | 1     | 16*   |
| <i>Triticum spelta/dicoccum</i> L. spikelet fork                 | Spelt/emmer chaff                  | 48       | 14       | 9        | 610*     | 860*     | 180*     |          |          | 2        | 1        |          | 6        | 75*   |       |       |       |
| <i>Triticum spelta</i> L. glume base                             | Spelt wheat chaff                  | 3        |          | 15       | 730*     | 720*     | 220*     | 3        |          | 3        | 2        |          | 17       | 70*   | 48*   |       | 24*   |
| <i>Triticum dicoccum</i> Schübl glume base                       | Emmer wheat chaff                  |          |          |          |          |          | 20*      |          |          |          |          |          |          |       |       |       |       |
| <i>Triticum dicoccum</i> Schübl spikelet fork                    | Emmer wheat chaff                  |          |          |          |          |          | 160*     |          |          |          |          |          |          |       |       |       |       |
| <i>Triticum dicoccum</i> Schübl / <i>spelta</i> L. glume base    | Emmer/spelt chaff                  | 11       | 240      | 855*     |          | 580*     | 100*     |          |          |          | 2        |          |          | 25*   | 8*    |       |       |
| <i>Triticum dicoccum</i> Schübl / <i>spelta</i> L. spikelet fork | Emmer/spelt chaff                  | 4        |          |          |          |          |          |          |          |          |          |          |          |       |       |       |       |
| <i>Triticum spelta</i> lower rachis internode                    | Spelt wheat chaff                  |          |          |          | 20*      |          |          |          |          |          |          |          |          |       |       |       |       |
| cereal culm node                                                 | straw fragment                     |          |          |          | 1        |          |          |          |          |          |          |          |          |       |       |       |       |
| TOTAL CHAFF (SF = 2 x gb)                                        |                                    | 118      | 276      | 893      | 2630     | 2560     | 1080     | 3        | 0        | 7        | 10       | 0        | 53       | 375   | 72    | 2     | 56    |
| chaff per litre soil                                             |                                    | 13       | 28       | 99       | 263      | 320      | 135      | 0.4      | 0        | 1        | 1        | 0        | 5        | 47    | 5     | 0     | 6     |

| Sample No.                                                                         |                                        | 120 | 121 | 122 | 126 | 105 | 111 | 106 | 125 | 123 | 124 | 109 | 110 | 102 | 158 | 115 | 167 |
|------------------------------------------------------------------------------------|----------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>CHARRED WILD SEEDS AND FRUITS</b>                                               |                                        |     |     |     |     |     |     |     |     |     |     |     | 5   |     |     |     |     |
| <i>Agrostemma githago</i> L. seed                                                  | Corncockle                             |     |     | 1   |     | 20* |     |     | 1   |     |     |     |     |     |     | 2   | 1   |
| <i>Bromus</i> sp. caryopsis                                                        | Bromes                                 |     |     |     |     |     |     |     | 1   |     |     |     | 1   |     |     | 1   |     |
| <i>Centaurea</i> sp. Seed                                                          | Cornflower-type                        |     |     |     |     |     |     |     |     |     |     |     | 1   |     |     | 1   |     |
| <i>Chenopodium</i> sp. seed                                                        | Goosefoots                             |     |     |     |     |     |     |     |     |     |     |     | 1   |     |     |     |     |
| <i>Juncus</i> sp. seed                                                             | Rushes                                 |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |     |     |
| <i>Malva</i> sp. nutlet                                                            | Mallows                                |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |     |     |
| <i>Pisum sativum</i> L. seed                                                       | Garden Pea                             |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   | 1   |
| <i>Ranunculus</i> cf. <i>acris</i> L./ <i>repens</i> L./ <i>bulbosus</i> L. achene | cf. Meadow/Creeping/Bulbous Buttercup  |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |     |     |
| small <i>Trifolium</i> sp. (<1mm) seed                                             | small-seeded Clover                    |     |     |     |     |     |     |     |     |     |     | 1   |     |     |     |     |     |
| medium <i>Vicia/Lathyrus</i> sp. (2-4mm) seed                                      | medium-seeded Vetches/Peas/Garden Peas |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |     |
| <b>OTHER REMAINS</b>                                                               |                                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| small bone                                                                         |                                        |     |     |     |     |     |     |     | +++ | +++ | +   | ++  | ++  |     |     |     |     |
| calcitic nodule                                                                    |                                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |
| charred maggot                                                                     |                                        |     |     |     |     |     |     |     |     |     | 1   |     |     |     |     |     |     |
| mineralised insect eggs                                                            |                                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 24  |

Table 86. Quantification of samples from Building 815 and associated ditches

## Discussion

- C.3.20 The abundance of charred grain recovered from the site is an indication of the scale of production and processing of cereals in this area during the Late Roman period. It should be noted that the grain recovered will only be a tiny fraction of what was originally burnt due to the specific requirements required for preservation (Boardman and Jones 1990), which suggests the amount of original grain was extensive.
- C.3.21 The agricultural regime of the Late Roman period in this region saw a dramatic increase in the cultivation of spelt wheat (Lodwick in Allen *et al* 2017, 149), with emmer wheat persisting as a minor crop. Spelt is a hulled wheat in which the grain is tightly enclosed in spikelets that each contain (normally) two grains and snap off easily from the rest of the ear. When the grains are held within the spikelets they are more resistant to insect attack and to accidental germination through exposure to moisture. Hulled wheats, both spelt and emmer, require a number of processing stages in order to release the grain (caryopsis) from the tough outer chaff of the spikelet. This is best described by Hillman (1981) and Wilkinson and Stevens (2003, 195), and involves stages including harvesting, fine sieving, parching and pounding, threshing, winnowing and finally course-sieving to produce clean grain suitable for grinding/milling into flour. Each of these stages produces characteristic plant product and waste assemblages with different ratios of grain:chaff:weed seeds. The composition of the Old School Lane assemblages suggests that the wheat grain had passed through all of the processing stages and was the intended final product. The small proportion of chaff that probably remained adhering to the grain may have been considered an acceptable and unavoidable contaminant.
- C.3.22 Barley is a minor component in all of the assemblages from the building area but predominates in the clay-lined pit (512). The barley was probably cultivated as a separate crop to the wheat but it is possible that they were grown as a maslin or the barley could be a contaminant of the wheat crop. The only other explanation is that the two cereals were mixed during processing. Barley is often considered to be a fodder crop for animal consumption but analysis of cereal bran fragments in archaeological faecal remains from military and civilian sites near Hadrian's Wall in Northern England showed that barley was also for human consumption, most likely as 'whole, cracked or pearled barley in soups or broths' (Britton & Huntley 2011, 50). Furthermore, recent isotopic studies results indicate that wheat and barley show similarities in the methods of cultivation (particularly manuring) suggesting that barley had a higher status than a fodder crop (Lodwick *et al* 2020, 10). The isotopic studies also confirm that cereal cultivation increased in productivity during the Roman period and became extensive (through larger agricultural units and less manuring), in contrast to intensive (with high labour input and manuring). Cattle bones dominated the Old School Lane faunal assemblage (Foster, App. C.2) which is pertinent as the extensification of spelt cultivation is thought to be linked to an increase in the use of cattle as traction (Albarella *et al* 2008, cited in Lodwick *et al* 2020).
- C.3.23 A Late Roman store-house or granary at Great Holts Farm, near Chelmsford, Essex was constructed with eight large postholes within a footprint measuring 5m x 12m. The structure was destroyed by a fire and each post subsequently removed and the

resulting void filled with the burnt cereal remains (Murphy *et al* 2000, 36). The charred assemblages from the Great Holts Farm post-pits also comprised prime grain with little or no chaff and very few weed seeds. The cereals included wheat, predominantly spelt with traces of emmer, and six-row hulled barley which is almost identical to the Old School Lanes assemblages. Late Roman granaries at Godmanchester also produced charred assemblages of spelt wheat (76%), bread or club wheat (2%), emmer (2%) and six row barley (20%) which were interpreted as possibly indicating winter sown crops (Green 2017, 117).

- C.3.24 The scarcity of chaff at Old School Lane suggests that the earlier stages of cereal processing in which the grain is dehusked was taking place elsewhere. It is most likely that processing, particularly the threshing stage, took place in the open air. It is worth noting that there is no evidence of corn-dryers on this site, although the aisled building was located on the edge of the excavated area, meaning that it is possible that there were corn dryers further north. It is relatively common to find corn dryers installed within (often earlier) buildings in the Late Roman period (Lodwick in Allen *et al* 2017, 59).
- C.3.25 There is evidence that milling was taking place on site through the recovery of a small upper millstone (Timberlake, this report), although this may be earlier than the major crop assemblages. A corn dryer would have been necessary to dry the cereals after harvest and were also used to harden the grain prior to milling as well as for parching spikelet prior to dehushing (van der Veen 1989, 303). It was originally thought that the clay-lined pit may have been used as a corn dryer, although there is no evidence of heating and it appears instead to have functioned for a process involving water. Interpretation as a steeping tank is possible, but there was very little evidence for the presence of malted grain on site. The proportion of germinated grain within the disuse fills is too low and none of the grain in the granary has been malted. It is possible that the carbonised remains had an alternative origin and were deposited in the feature after it fell out of use. At Culver Street, Colchester, the presence of germinated grain within a burnt granary was interpreted as the storage of malt (Murphy 1992, 282). The assemblages from feature **512** do not appear to be associated with those from the Building 815 due to the predominance of barley over wheat.
- C.3.26 The degree of insect infestation in the Upware granary assemblages is extensive, since virtually all of the spelt grains (and to a lesser extent the barley) have evidence of damage through the characteristic entrance and exit holes and also surface damage. Whilst it may have been considered unpalatable for human consumption, the level of contamination that would render it unsuitable for animal consumption is not known. Insect affected grain is first seen in Britain in the Roman period and is considered to be the result of imported infested seed from the continent (Buckland 1978, cited in Smith & Kenward 2011, 244). Evidence of the actual insects is usually recovered from waterlogged deposits rather than charred assemblages due to the fragility of the insect resulting in disintegration and destruction on burning. The most common granary pest is the granary weevil, *Sitophilus granarius*, the adults and larvae feeding on whole grains (Smith & Kenward *ibid*, 245). A single larva from postpipe **845** has been carbonised but not identified. Smith and Kenward (2011, 254) also consider the effect of the changing climate on the prevalence of grain pests as the cooler, wetter weather

conditions in the later Roman period would have resulted in greater moisture content of grains on harvest. Obvious insect damage was recognised in charred grain from a Roman fort in Ambleside Cumbria (Carruthers 1993) and larvae were present in a Late Roman corn dryer at Grateley, Hampshire (Campbell 1998). There was no visible evidence for insect attack or fungal spoilage in the Great Holts Farm assemblages.

- C.3.27 There is spatial variation between the postpipe assemblages that could potentially be the result of the storage of different grain products in different areas of the building (Fig. 11b). As noted at Great Holts Farm, some degree of mixing will have occurred when the building burnt down and was dismantled. At Great Holts Farm there is a clearer distinction of spatial storage with wheat predominant in the southern part of the building and barley in the north-western part. The variation within the Old School Lane building is seen mainly through the density of grain, suggesting that more was stored in the south-east of the building, although this may be a reflection of the size of the postpipes as **774**, which contained the most grain, was also the largest of the postpipes. Additional post holes within the building may represent dividing walls or raised storage areas. If grain had been stored in a raised area such as a loft it must have been strong enough to support the weight of the grain, particularly if the grain was stored in ceramic storage jars rather than sacks. The pottery assemblage from Old School Lane produced a large amount of very large Horningsea storage jars, concentrated in the area of the building (App. B.8) and it is possible that these vessels were used to store the grain.
- C.3.28 The recovery of large quantities of grain at Old School Lane implies large-scale storage for a specific purpose. The locality of the site in relation to the River Cam and the Old Tillage Roman canal (formerly Car Dyke) is likely to be significant with regards transport of grain by water. Analysis of sediments from the Old Tillage canal by Mark Robinson revealed the presence of *Oryzaephilus surinamensis*, a grain pest that affects grain that has already been damaged by other insects or fungal growth (Robinson 2000 cited in J. Evans *et al* 2017, 25). Insect-affected grain is thought to have been associated with the movement of large volumes of grain through the production and trade of surplus, often over long distances (Smith & Kenward, *ibid.*, 254) and there are accounts of grain being exported to the Rhineland in the mid 4th-century AD (Taylor 1999; Mattingly 2006, 505). The local agricultural production site at Langdale Hale produced abundant hulled wheat chaff that is considered to be indicative of large-scale processing of grain for export (Evans *et al* 2013).
- C.3.29 In conclusion, the detailed sampling of Building **815** and contemporary deposits has identified large-scale storage of fully processed, insect-infested grain that is assumed to be intended for export, most likely along the navigable watercourses of the southern fens, which the site was very well placed to access.

## C.4 Marine Mollusca

*By Carole Fletcher*

### **Introduction**

#### **Introduction**

- C.4.1 A total of 1.565kg of shell or shell fragments were collected by hand from ditches, pits, post pipes and a midden deposit during the archaeological works. The shells recovered are almost all edible examples of oyster *Ostrea edulis*, from estuarine and shallow coastal waters. The shell is moderately well-preserved and does not appear to have been deliberately broken or crushed, however, some have suffered post-depositional damage.

#### **Methodology**

- C.4.2 The shells were weighed and recorded by species, with right and left valves noted, when identification could be made, using Winder (2011) as a guide. The minimum number of individuals (MNI) was not established, due to the small size of the assemblage from most features.
- C.4.3 Several oyster shells show evidence of damage, in the form of a small 'V' or 'U'-shaped hole on the outer edge of the left or right valve. This damage is likely to have been caused by a knife during the opening, or 'shucking', of the oyster, prior to its consumption. This damage has been recorded in the catalogue.

#### **Results**

- C.4.4 Shell was recovered from three ditches (658, 752 and 892) and two pits in Phase 2.1, a total of 13 shells (0.102kg). Phase 2.2 produced a similarly small assemblage of shell from ditches 442, 713 and 765 (6 shells, weighing 0.126kg). From Phase 2.3 oyster shells weighing 0.343kg (16 shells) were recovered, all from ditches (79, 101, 155, 174, 189, 194, 232, 295, and 382). Phase 2.4 also produced low numbers of shell from three ditches (121, 416, 513) and a post-setting (884), totalling six shells, weighing 0.095kg.
- C.4.5 The bulk of the assemblage was recovered from nine ditches and two post pipes dating to Phase 2.5. The 24 shells, weighing 0.467 kg, were mostly oyster, but also including a single mussel and a whelk, both from post pipe 845. Again, each feature produced only one or two shells, the exception being ditch 817, which produced three oyster shells, one left valve and two right valves.
- C.4.6 Shell in Phase 3 was mostly recovered from a dark earth midden layer, which produced 21 oyster shells, weighing 0.210kg, including three shucked shells. A further two oyster shells recovered from ditches 107 and 787.

#### **Discussion**

- C.4.7 Given its small size, only broad conclusions can be drawn, in that shellfish were reaching the site from the coastal regions, indicating trade with the wider area. Although not closely datable in themselves, the shells may be dated by their

association with pottery or other material also recovered from the features. The shells representing general discarded food waste. The mollusca recovered are few in number and represent a small number of meals, indicating transportation of a marine food source to the site and forming a small part of the Romano-British and Roman diet.

## C.5 Pollen

*By Mairead Rutherford*

### **Introduction**

- C.5.1 Three sub-samples from a 30cm long monolith sample collected from Test Pit J2, taken through surface layers inside the aisled building, were processed for pollen.

### **Methodology**

- C.5.2 The samples were prepared using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles > 170 microns, silicates, and cellulose, respectively. The sample was then stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000cs silicone oil. Slides were examined at a magnification of 400x by ten equally-spaced traverses across two slides to reduce the possible effects of differential dispersal on the slides (Brooks and Thomas 1967) or until at least 100 total land pollen grains were counted. Pollen identification was made following the keys of Moore *et al* (1991), Faegri and Iversen (1989), and a small modern reference collection. Plant nomenclature follows Stace (2010) and fungal spores nomenclature follows van Geel and Aptroot (2006). The preservation of the pollen was noted, and an assessment was made of the potential for further analysis.

### **Results**

- C.5.3 The results of the pollen assessment are tabulated below (Table 87). Unfortunately, none of the sub-samples contained sufficient pollen for confident interpretation. Rare palynomorphs were recorded from deposits 522 and 807 and included occurrences of 'robust' pollen types such as dandelion-type (*Taraxacum*-type) and grasses (*Poaceae*), including large grasses/cereal types and ribwort plantain (*Plantago lanceolata*). Rare tree pollen of alder (*Alnus*) and pine (*Pinus*) was present in fill 807. This deposit also contained non-pollen palynomorphs, of which several types of fungal spore were identified. These included *Glomus* (HdV-207), *Chaetomium* (HdV-7A), *Sporomiella* (HdV-113), *Podospora* (HdV-368) and *Sordaria* (HdV-55A/B).
- C.5.4 The pollen grains, together with the fungal spores may be interpreted (with caution) to suggest an environment associated with possible grassy areas and disturbed soils. Cereal-type pollen may be indicative of arable agriculture in the vicinity of the aisled building or local cereal processing, or cereal-type pollen grains may have entered the building deposits along with straw or animal dung. The dimensions for cereal-type pollen overlap with those for wild grasses but can be distinguished with careful

identification and within the context of the overall pollen assemblage (Andersen 1979). Sordariaceous fungal spores and Podospora (HdV-368) are generally associated with animals in the environment, as is the obligate coprophilous fungal spore Sporomiella (HdV-113). Chaetomium species are cellulose-decomposing fungi, and can occur on plant remains, fibres, paper and dung. Apart from occurring in natural habitats, the spores have been recorded from archaeological settlement sites, where substances such as dung, damp straw, cloths, leather, would have provided suitable substrates (van Geel and Aptroot 2006).

|                                     |                  |           |           |           |
|-------------------------------------|------------------|-----------|-----------|-----------|
| <b>Preservation</b>                 |                  | -         | -         | -         |
| <b>Potential</b>                    |                  | <b>NO</b> | <b>NO</b> | <b>NO</b> |
| <b>Sample No.</b>                   |                  | 152       | 152       | 152       |
| <b>Context No.</b>                  |                  | 522       | 807       | 812       |
| <b>Trees/Shrubs</b>                 |                  |           |           |           |
| <i>Alnus</i>                        | Alder            |           | 1         |           |
| <i>Pinus</i>                        | Pine             |           | 1         |           |
| <b>Crops</b>                        |                  |           |           |           |
| <i>Cerealia</i>                     | Cereal-type      | 1         | 1         |           |
| <b>Herbs</b>                        |                  |           |           |           |
| <i>Amaranthaceae/Chenopodiaceae</i> | Goosefoot family |           | 1         |           |
| <i>Plantago lanceolata</i>          | Ribwort plantain | 1         |           |           |
| <i>Poaceae</i>                      | Grasses          | 7         | 8         |           |
| <i>Taraxacum-type</i>               | Dandelion type   | 1         | 3         |           |
| <b>Total land pollen</b>            |                  | <b>10</b> | <b>15</b> | <b>0</b>  |
| Number of traverses                 |                  | 10        | 10        | 10        |
| <b>Microscopic charcoal</b>         |                  | +         | +         |           |
| <b>NPP</b>                          |                  |           |           |           |
| <i>Chaetomium</i> HdV-7A            |                  |           | 2         |           |
| <i>Glomus</i> HdV-207               |                  | 2         | 10        | 2         |
| <i>Podospora</i> HdV-368            |                  |           | 1         |           |
| <i>Sordaria</i> HdV-55A/B           |                  |           | 1         |           |
| <i>Sporomiella</i> HdV 113          |                  |           | 1         |           |
| Fungal spores indeterminate         |                  |           | 4         |           |
| Broken grains                       |                  | 1         |           |           |
| Crumpled grains                     |                  |           | 4         |           |

Table 87. Raw pollen counts from samples taken from Test Pit J2 monolith

## APPENDIX D RADIOCARBON DATING

| Lab Code   | Age     | $\delta^{13}C$<br>‰ | Calibrated date range,<br>95.4% probability                                                                       | Sample type                                   | Context                                                      |
|------------|---------|---------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------|
| BRAMS-4090 | 1704±25 | -23.4               | cal AD 255-285 (19.9%)<br><b>cal AD 325-416 (75.5%)</b>                                                           | Charred grain:<br>Triticum<br>dicoccum/spelta | Deposit 775: fill of postpipe<br><b>774</b> ; Building 815   |
| BRAMS-4091 | 3013±25 | -22.6               | 1384-1341 cal BC (15.5%)<br><b>1311-1194 cal BC (75.3%)</b><br>1175-1161 cal BC (2.2%)<br>1144-1130 cal BC (2.4%) | Cremated human<br>bone                        | Deposit 247, fill of pit <b>245</b>                          |
| BRAMS-4092 | 1950±25 | -20.6               | 35-14 cal BC (2.4%)<br><b>cal AD 5-130 (92.2%)</b><br>cal AD 144-154 (0.9%)                                       | Human bone,<br>neonate femur                  | 814, partial remains of<br>neonatal burial in pit <b>813</b> |

Table 88. Radiocarbon dates

The calibrated date ranges have been calculated using the program OxCal v4.3 (Bronk Ramsey 1995; 2001; 2009) and the IntCal20 data set (Reimer et al 2020).

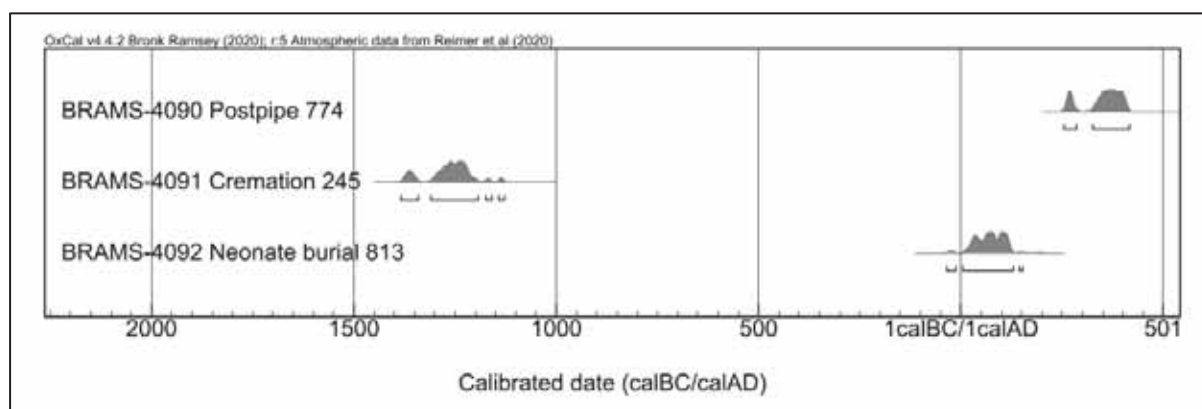


Fig. D.1. Probability distributions of the calibrated radiocarbon dates (Table 88).



Tuesday, 10 November 2020

## Report on Radiocarbon Age Determination for BRAMS-4090


43 Woodland Road,  
BRISTOL, BS8 1UU,  
UK

**Submitter:** Rachel Fosberry  
**Submitter's Code:** <111> (775) (Triticum dicoccum/spelta)  
**Project:** WICOSL18  
**Sample material:** Macrofossils  
**Pretreatment Code:** ABA

**F<sup>14</sup>C** 0.8088 ± 0.25 %

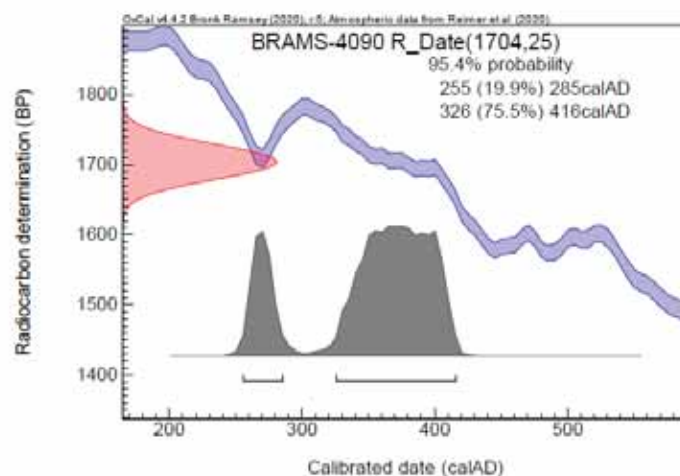
**Result** 1704 ± 25 BP

**Indicative δ<sup>13</sup>C** -23.4 ‰

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

### Calibration Plot

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




Dr. Timothy Knowles  
BRAMS Manager



Monday, 30 November 2020

## Report on Radiocarbon Age Determination for BRAMS-4064



**Submitter:** Rachel Fosberry  
**Submitter's Code:** <1> (68) (cremated bone)  
**Project:** ENF149031  
**Sample material:** Cremated bone  
**Pretreatment Code:** AHO

**F<sup>14</sup>C** 0.6921 ± 0.0021

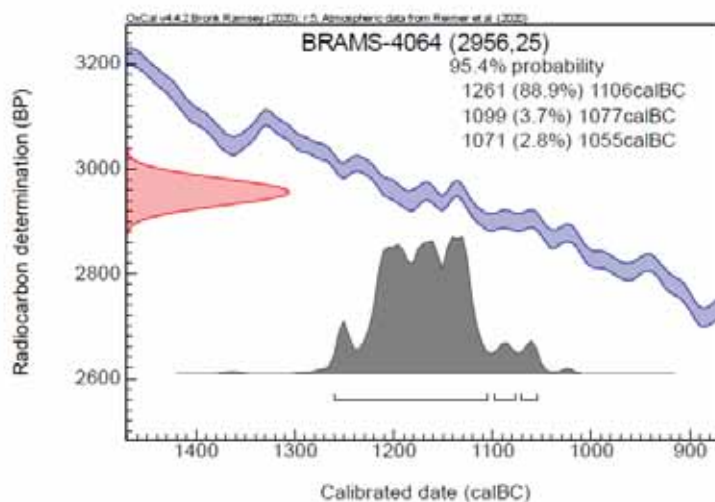
**Result** 2956 ± 25 BP

**Indicative δ<sup>13</sup>C** -19.6 ‰

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

### Calibration Plot

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



Dr. Timothy Knowles  
BRAMS Manager



Tuesday, 17 November 2020

## Report on Radiocarbon Age Determination for BRAMS-4092



**Submitter:** Rachel Fosberry  
**Submitter's Code:** 814 (femur (neonate))  
**Project:** WICOSL18  
**Sample material:** Bone  
**Pretreatment Code:** BC

**F<sup>14</sup>C** 0.7845 ± 0.24 %

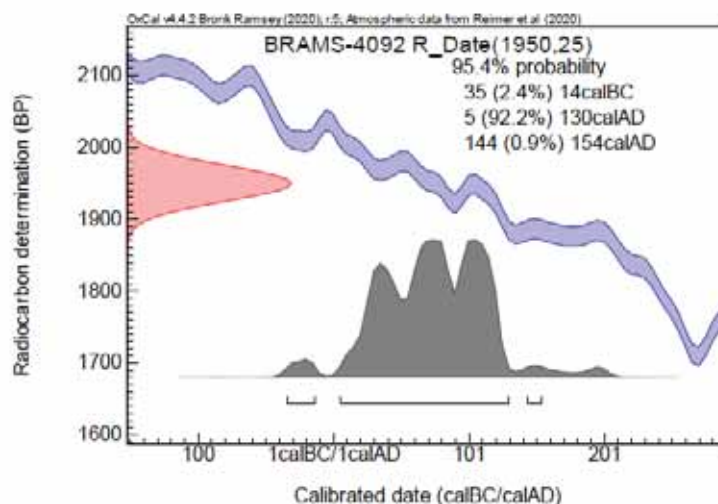
**Result** 1950 ± 25 BP

**Indicative δ<sup>13</sup>C** -20.6 ‰

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

### Calibration Plot

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




Dr. Timothy Knowles  
BRAMS Manager

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## APPENDIX F OASIS REPORT FORM

### Project Details

|                    |                                                                           |                  |            |
|--------------------|---------------------------------------------------------------------------|------------------|------------|
| OASIS Number       | oxfordar3-408279                                                          |                  |            |
| Project Name       | Roman Settlement Remains South of Old School Lane, Upware, Cambridgeshire |                  |            |
| Start of Fieldwork | 11/12/2017                                                                | End of Fieldwork | 11/07/2018 |
| Previous Work      | Yes                                                                       | Future Work      | No         |

### Project Reference Codes

|                  |                                           |                      |                                  |
|------------------|-------------------------------------------|----------------------|----------------------------------|
| Site Code        | WICOSL18                                  | Planning App. Number | 15/00482/OUT and<br>16/01307/OUT |
| HER Number       | ECB5205                                   | Related Numbers      |                                  |
| Prompt           | National Planning Policy Framework (NPPF) |                      |                                  |
| Development Type | Rural Residential                         |                      |                                  |

### Techniques used (tick all that apply)

- |                                                              |                                                          |                                                           |
|--------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|
| <input type="checkbox"/> Aerial Photography – interpretation | <input checked="" type="checkbox"/> Open-area excavation | <input type="checkbox"/> Salvage Record                   |
| <input type="checkbox"/> Aerial Photography - new            | <input type="checkbox"/> Part Excavation                 | <input type="checkbox"/> Systematic Field Walking         |
| <input type="checkbox"/> Field Observation                   | <input type="checkbox"/> Part Survey                     | <input type="checkbox"/> Systematic Metal Detector Survey |
| <input type="checkbox"/> Full Excavation                     | <input type="checkbox"/> Recorded Observation            | <input type="checkbox"/> Test-pit Survey                  |
| <input type="checkbox"/> Full Survey                         | <input type="checkbox"/> Remote Operated Vehicle Survey  | <input type="checkbox"/> Watching Brief                   |
| <input type="checkbox"/> Geophysical Survey                  | <input type="checkbox"/> Salvage Excavation              |                                                           |

| Monument                  | Period                                | Object          | Period                               |
|---------------------------|---------------------------------------|-----------------|--------------------------------------|
| Pit                       | Middle Bronze Age ( - 1600 to - 1000) | Pottery         | Early Bronze Age ( - 2500 to - 1500) |
| Ring gully                | Late Prehistoric ( - 4000 to 43)      | Pottery         | Late Bronze Age ( - 1000 to - 700)   |
| Pit                       | Iron Age ( - 800 to 43)               | Pottery         | Middle Iron Age ( - 400 to - 100)    |
| Boundary ditch            | Roman (43 to 410)                     | Pottery         | Late Iron Age ( - 100 to 43)         |
| Enclosure ditch           | Roman (43 to 410)                     | Pottery         | Roman (43 to 410)                    |
| Pit                       | Roman (43 to 410)                     | Coin            | Roman (43 to 410)                    |
| Posthole                  | Roman (43 to 410)                     | Bracelet        | Roman (43 to 410)                    |
| Well                      | Roman (43 to 410)                     | Brooch          | Roman (43 to 410)                    |
| Adult inhumation burial   | Roman (43 to 410)                     | Finger ring     | Roman (43 to 410)                    |
| Cremation burial          | Roman (43 to 410)                     | Pin             | Roman (43 to 410)                    |
| Neonate inhumation burial | Roman (43 to 410)                     | Tweezer         | Roman (43 to 410)                    |
| Oven                      | Roman (43 to 410)                     | Knife           | Roman (43 to 410)                    |
| Aisled building           | Roman (43 to 410)                     | Nail            | Roman (43 to 410)                    |
| Midden                    | Roman (43 to 410)                     | Key             | Roman (43 to 410)                    |
| Ditch                     | Post Medieval (1540 to 1901)          | Spearhead       | Early Medieval (410 to 1066)         |
| Pit                       | Post Medieval (1540 to 1901)          | Flint arrowhead | Neolithic ( - 4000 to - 2200)        |

|  |  |                |                                       |
|--|--|----------------|---------------------------------------|
|  |  | Worked flint   | Late Prehistoric ( - 4000 to 43)      |
|  |  | Millstone      | Roman (43 to 410)                     |
|  |  | Quernstone     | Roman (43 to 410)                     |
|  |  | Tile           | Roman (43 to 410)                     |
|  |  | Kiln furniture | Roman (43 to 410)                     |
|  |  | Slag           | Roman (43 to 410)                     |
|  |  | Worked bone    | Roman (43 to 410)                     |
|  |  | Glass          | Roman (43 to 410)                     |
|  |  | Faunal remains | Late Prehistoric ( - 4000 to 43)      |
|  |  | Faunal remains | Roman (43 to 410)                     |
|  |  | Human remains  | Roman (43 to 410)                     |
|  |  | Human remains  | Middle Bronze Age ( - 1600 to - 1000) |

Insert more lines as appropriate.

### Project Location

|                    |                     |                                                                                                   |
|--------------------|---------------------|---------------------------------------------------------------------------------------------------|
| County             | Cambridgeshire      | Address (including Postcode)<br>Land South of Old School Lane, Upware,<br>Cambridgeshire, CB7 5ZR |
| District           | East Cambridgeshire |                                                                                                   |
| Parish             | Wicken              |                                                                                                   |
| HER office         | Cambridgeshire      |                                                                                                   |
| Size of Study Area | 0.4ha               |                                                                                                   |
| National Grid Ref  | TL 5375 7005        |                                                                                                   |

### Project Originators

|                           |                                   |
|---------------------------|-----------------------------------|
| Organisation              | Oxford Archaeology East (OA East) |
| Project Brief Originator  | Gemma Stewart (CCC HET)           |
| Project Design Originator | Matthew Brudenell (OA East)       |
| Project Manager           | Matthew Brudenell (OA East)       |
| Project Supervisor        | Leanne Robinson Zeki (OA East)    |

## Project Archives

|                          | Location   | ID       |
|--------------------------|------------|----------|
| Physical Archive (Finds) | CCC Stores | ECB5205  |
| Digital Archive          | OA East    | WICOSL18 |
| Paper Archive            | CCC Stores | ECB5205  |

| Physical Contents   | Present?                            | Digital files associated with Finds | Paperwork associated with Finds     |
|---------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Animal Bones        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Ceramics            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Environmental       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Glass               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Human Remains       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Industrial          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Leather             | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Metal               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Stratigraphic       |                                     | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Survey              |                                     | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Textiles            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Wood                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Worked Bone         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Worked Stone/Lithic | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| None                | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Other               | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |

### Digital Media

|                                |                                     |
|--------------------------------|-------------------------------------|
| Database                       | <input checked="" type="checkbox"/> |
| GIS                            | <input checked="" type="checkbox"/> |
| Geophysics                     | <input type="checkbox"/>            |
| Images (Digital photos)        | <input checked="" type="checkbox"/> |
| Illustrations (Figures/Plates) | <input checked="" type="checkbox"/> |
| Moving Image                   | <input type="checkbox"/>            |
| Spreadsheets                   | <input checked="" type="checkbox"/> |
| Survey                         | <input checked="" type="checkbox"/> |
| Text                           | <input checked="" type="checkbox"/> |
| Virtual Reality                | <input type="checkbox"/>            |

### Paper Media

|                                  |                                     |
|----------------------------------|-------------------------------------|
| Aerial Photos                    | <input type="checkbox"/>            |
| Context Sheets                   | <input checked="" type="checkbox"/> |
| Correspondence                   | <input checked="" type="checkbox"/> |
| Diary                            | <input type="checkbox"/>            |
| Drawing                          | <input type="checkbox"/>            |
| Manuscript                       | <input type="checkbox"/>            |
| Map                              | <input type="checkbox"/>            |
| Matrices                         | <input type="checkbox"/>            |
| Microfiche                       | <input type="checkbox"/>            |
| Miscellaneous                    | <input checked="" type="checkbox"/> |
| Research/Notes                   | <input type="checkbox"/>            |
| Photos (negatives/prints/slides) | <input type="checkbox"/>            |
| Plans                            | <input checked="" type="checkbox"/> |
| Report                           | <input checked="" type="checkbox"/> |
| Sections                         | <input checked="" type="checkbox"/> |
| Survey                           | <input type="checkbox"/>            |

## Further Comments

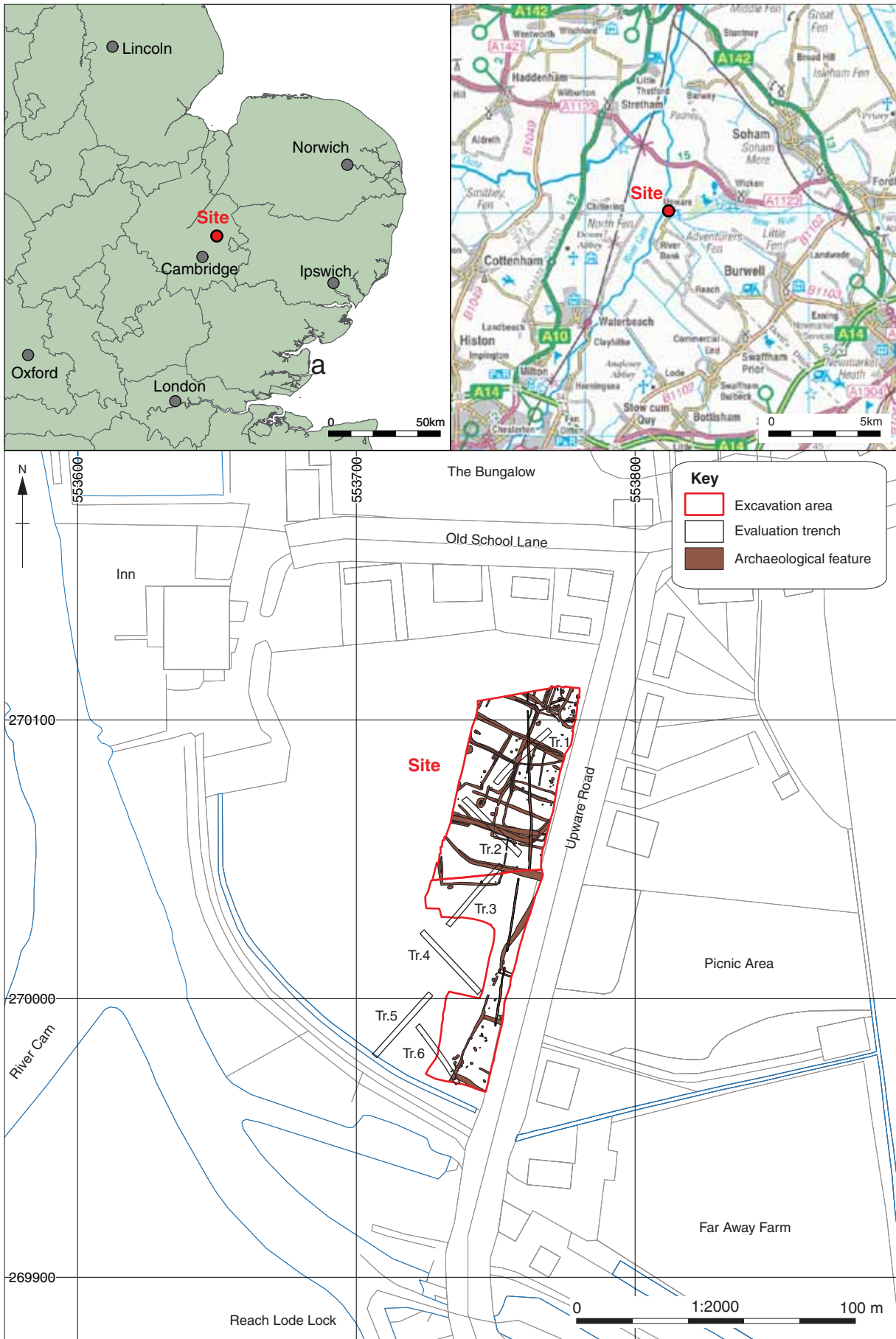
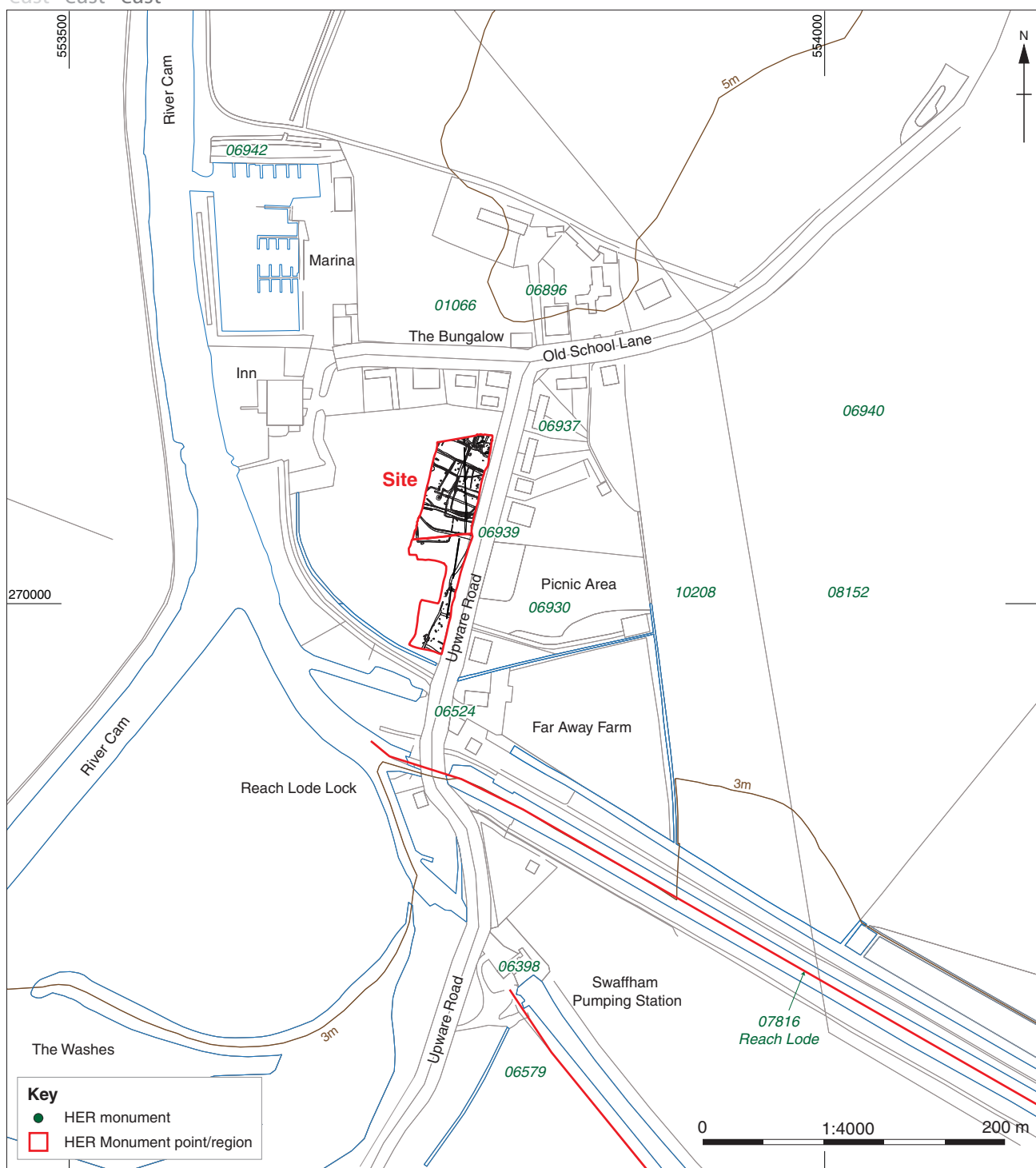


Figure 1: Site location showing archaeological excavation in development area



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Figure 2: Excavation area and HER data.

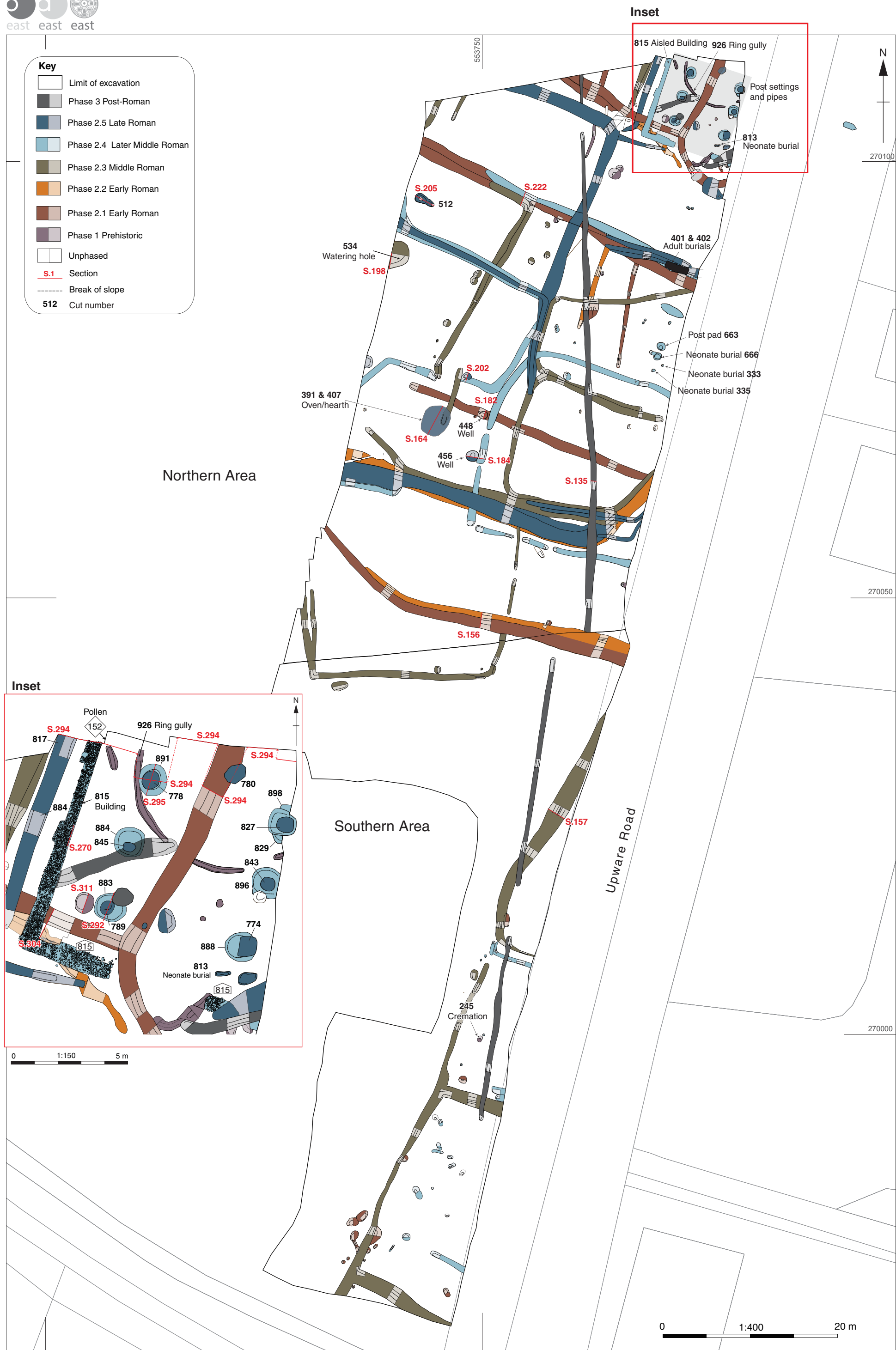


Figure 3: Phased plan of all archaeological features with key features labelled

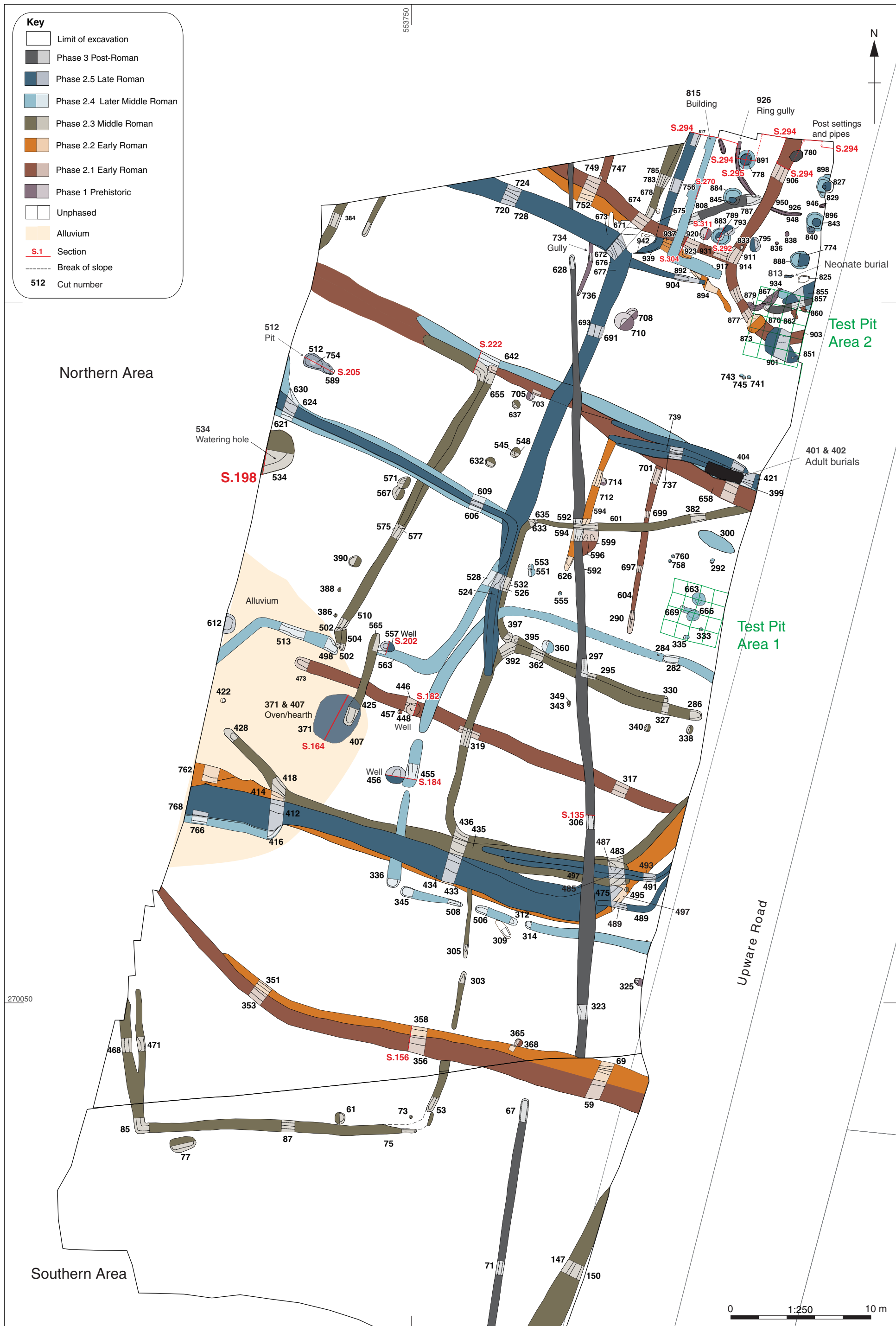


Figure 4: Phase plan of Northern Area

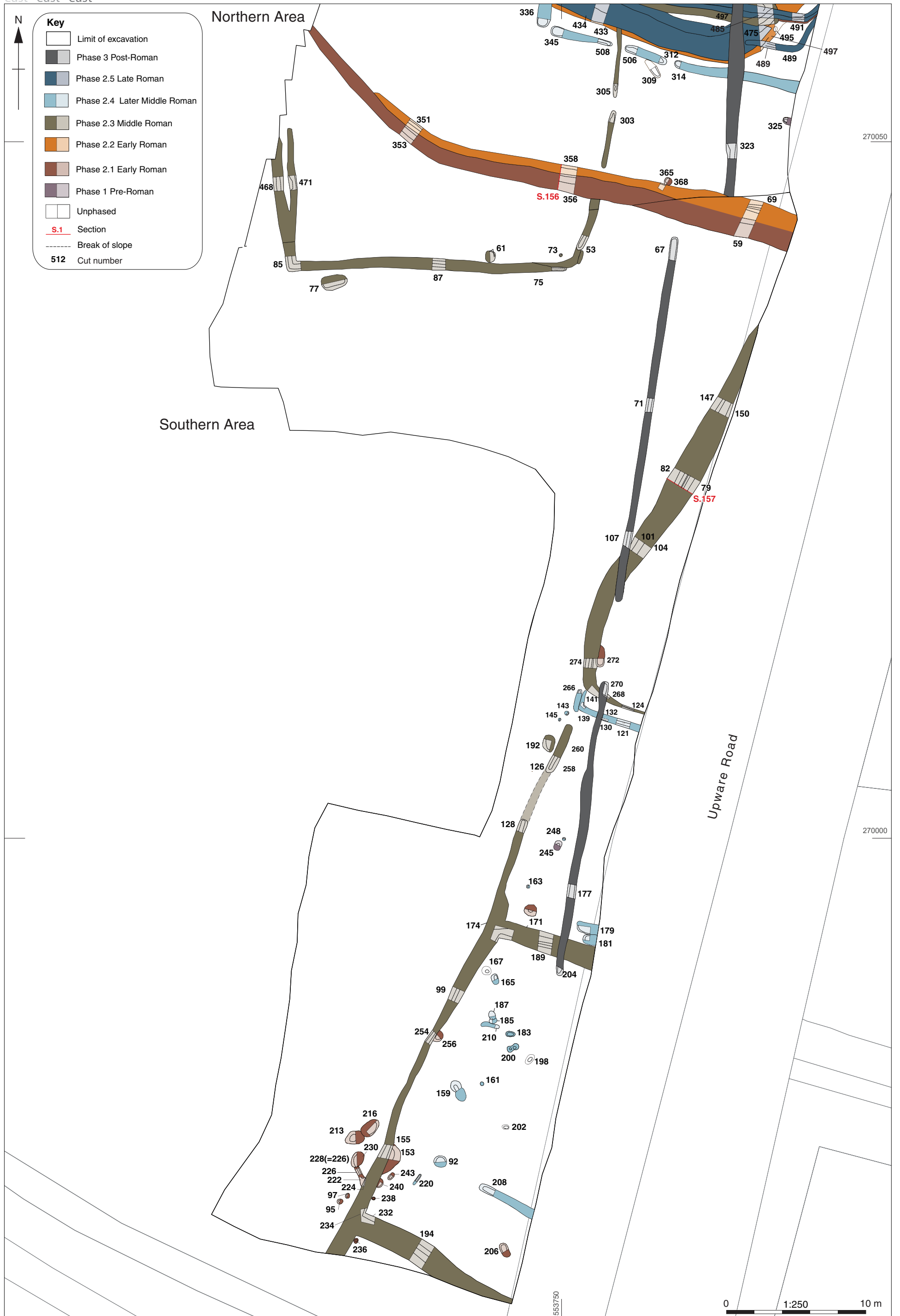


Figure 5: Phase plan of Southern Area

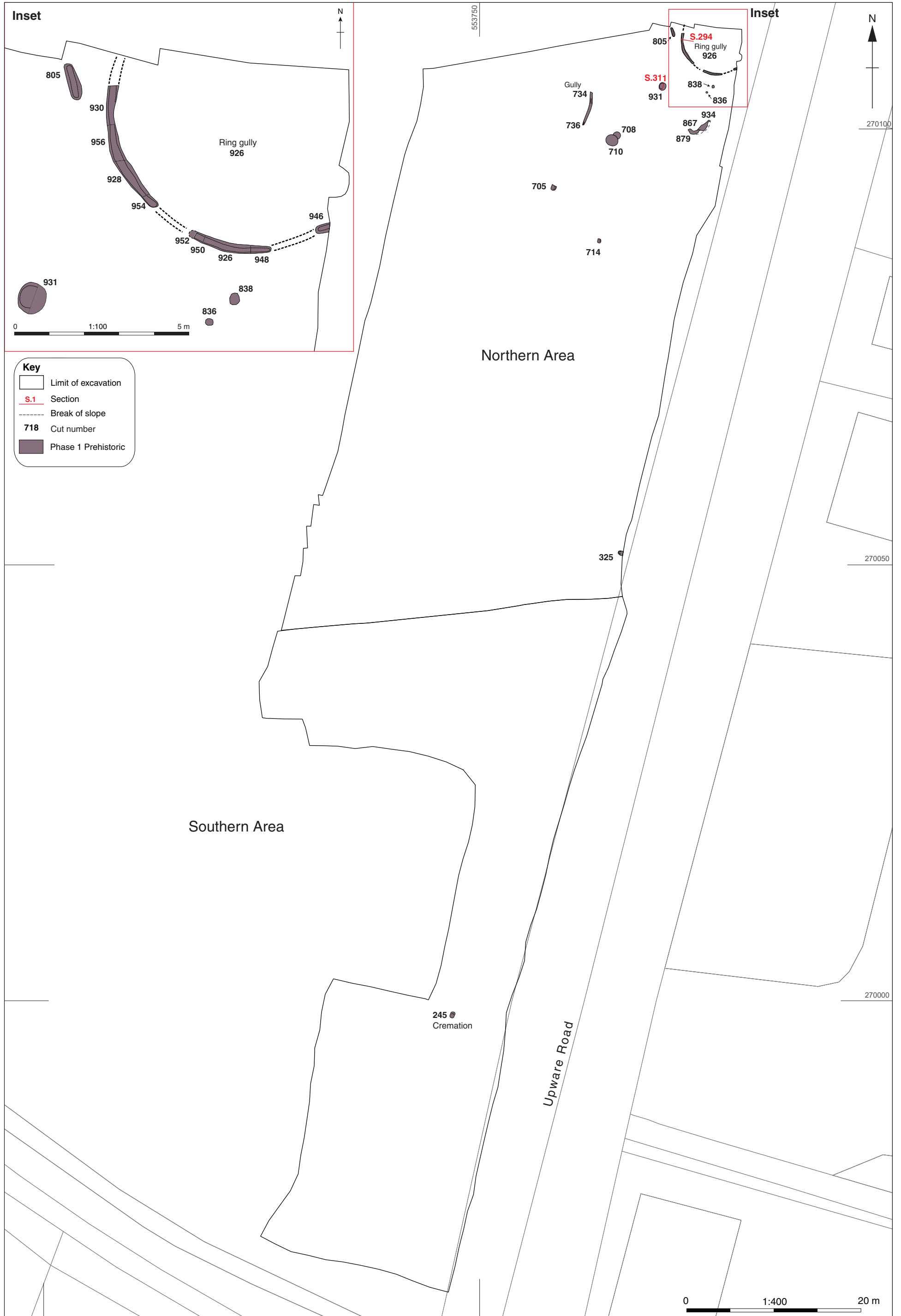


Figure 6: Phase 1: Prehistoric



Figure 7: Phase 2.1: Middle Roman 1 features



Figure 8: Phase 2.2: Middle Roman 2 features



Figure 9: Phase 2.3: Middle/Late Roman features 1



Figure 10: Phase 2.4: Middle/Late Roman features 2

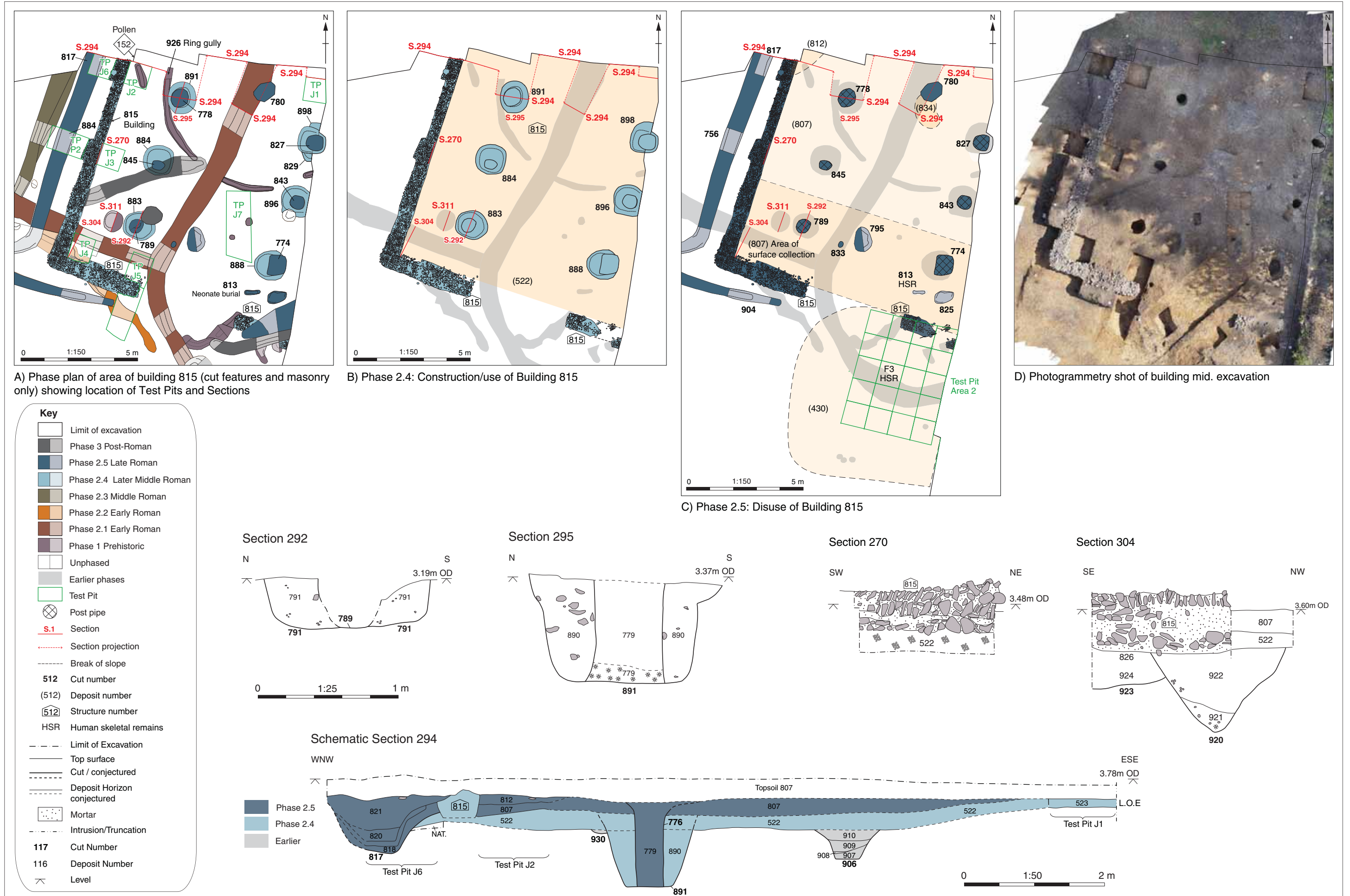


Figure 11: Aisled Building 815

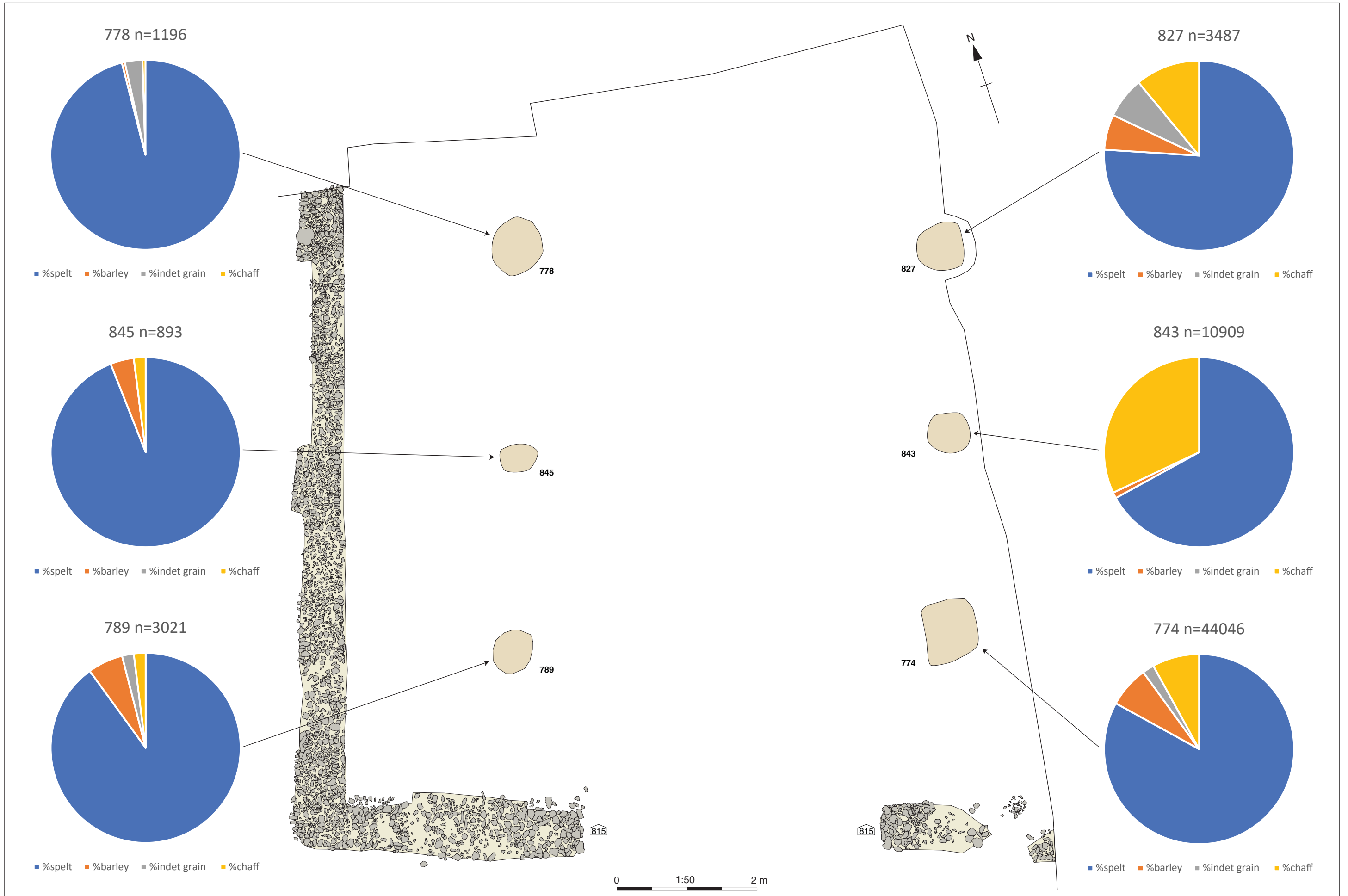


Figure 11b: Summary composition of charred grain and chaff remains from Phase 2.5 postpipe deposits, Building 815

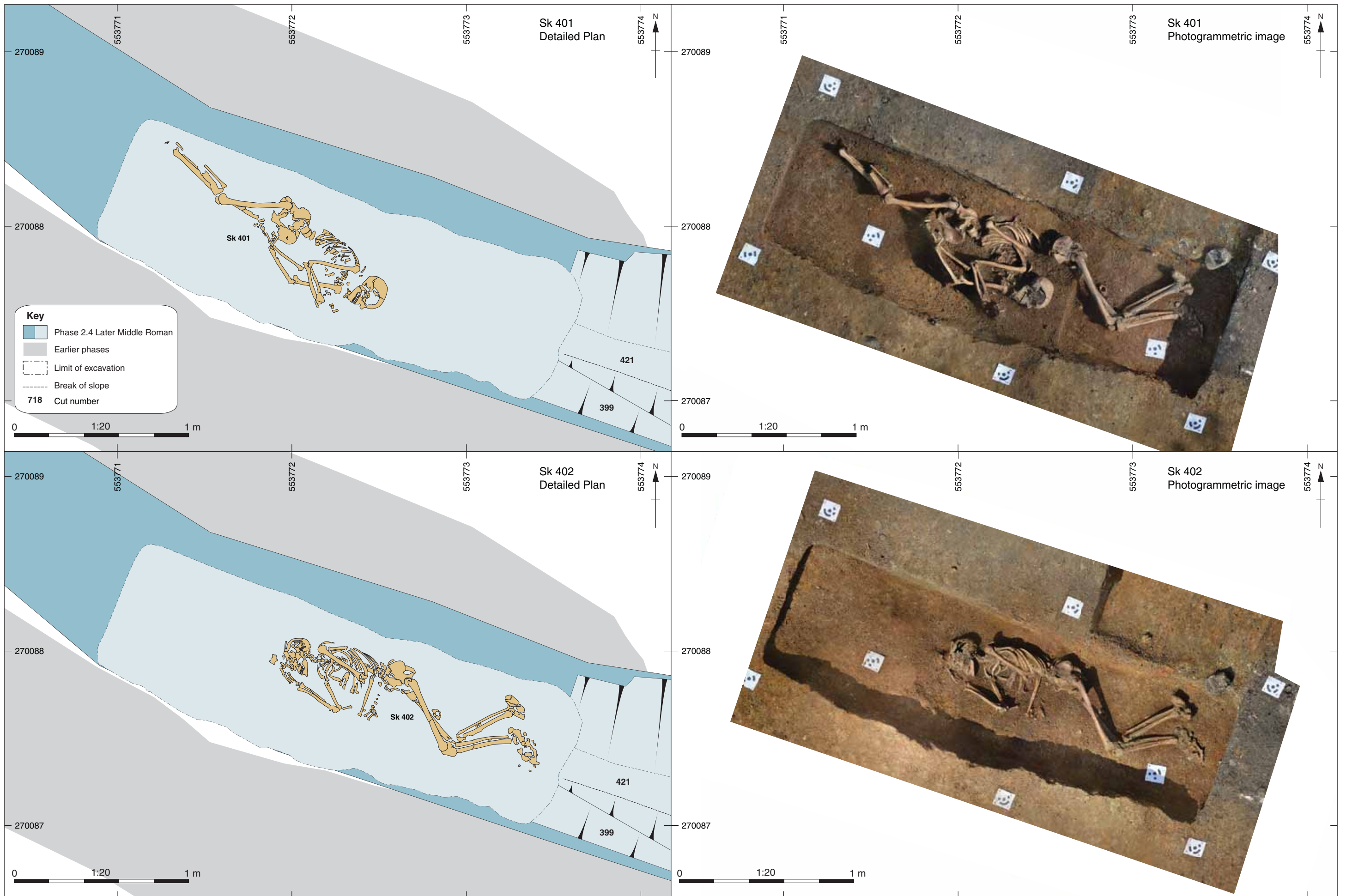


Figure 12: Double Inhumation burial Sk 401 and Sk 402

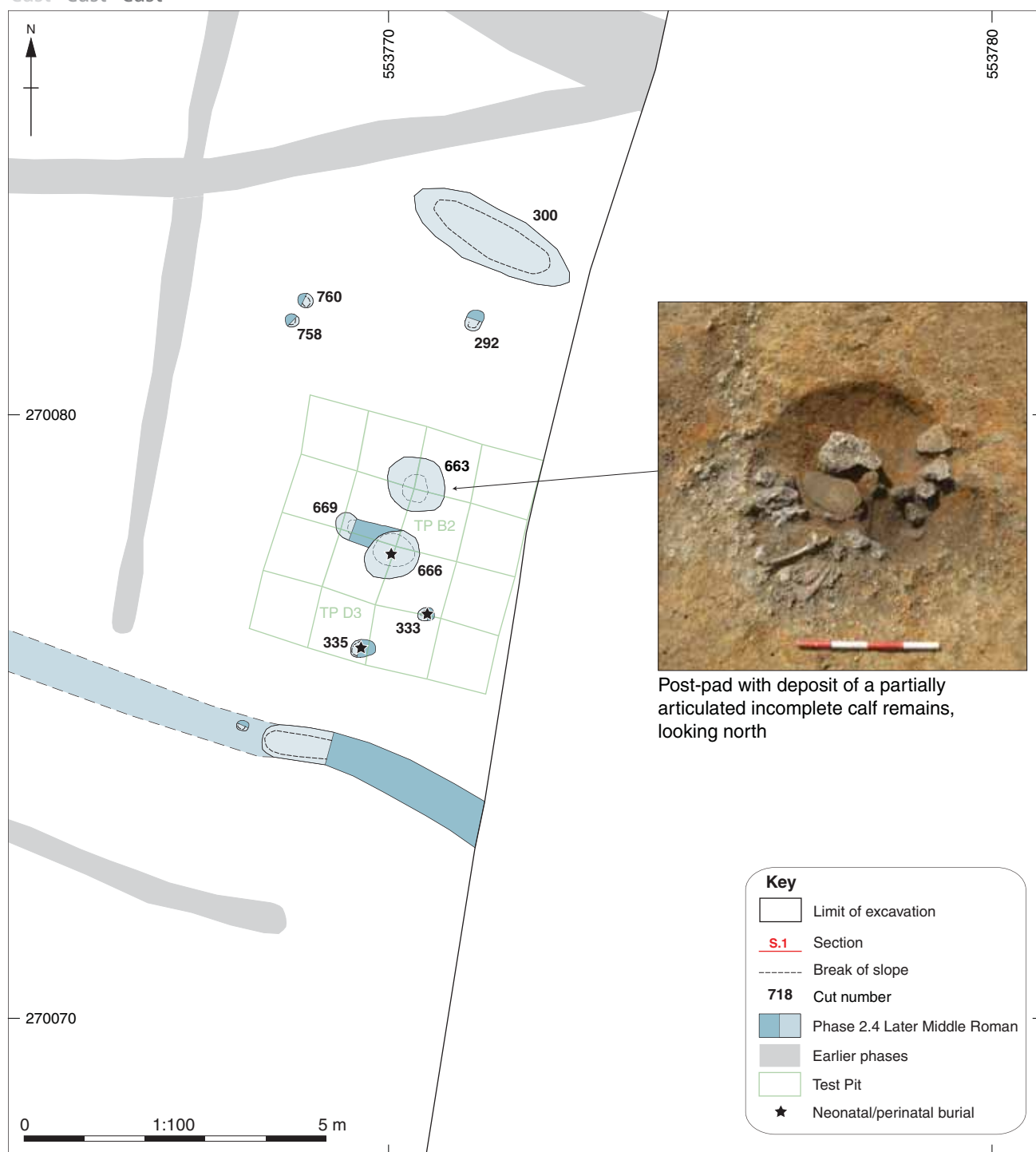


Figure 13: Post pad and neonatal burials (Test Pit Area 1)

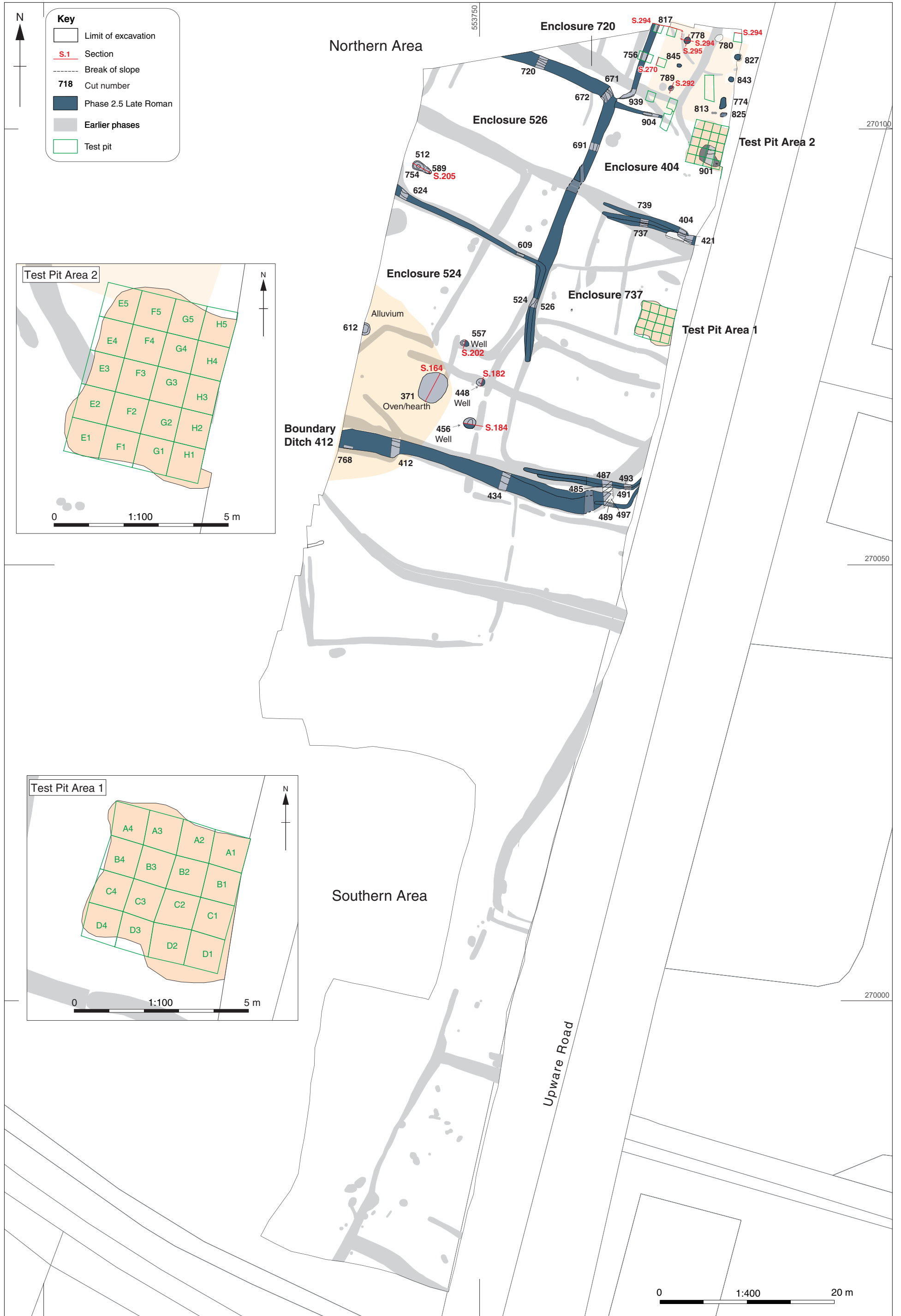


Figure 14: Phase 2.5: Late Roman features

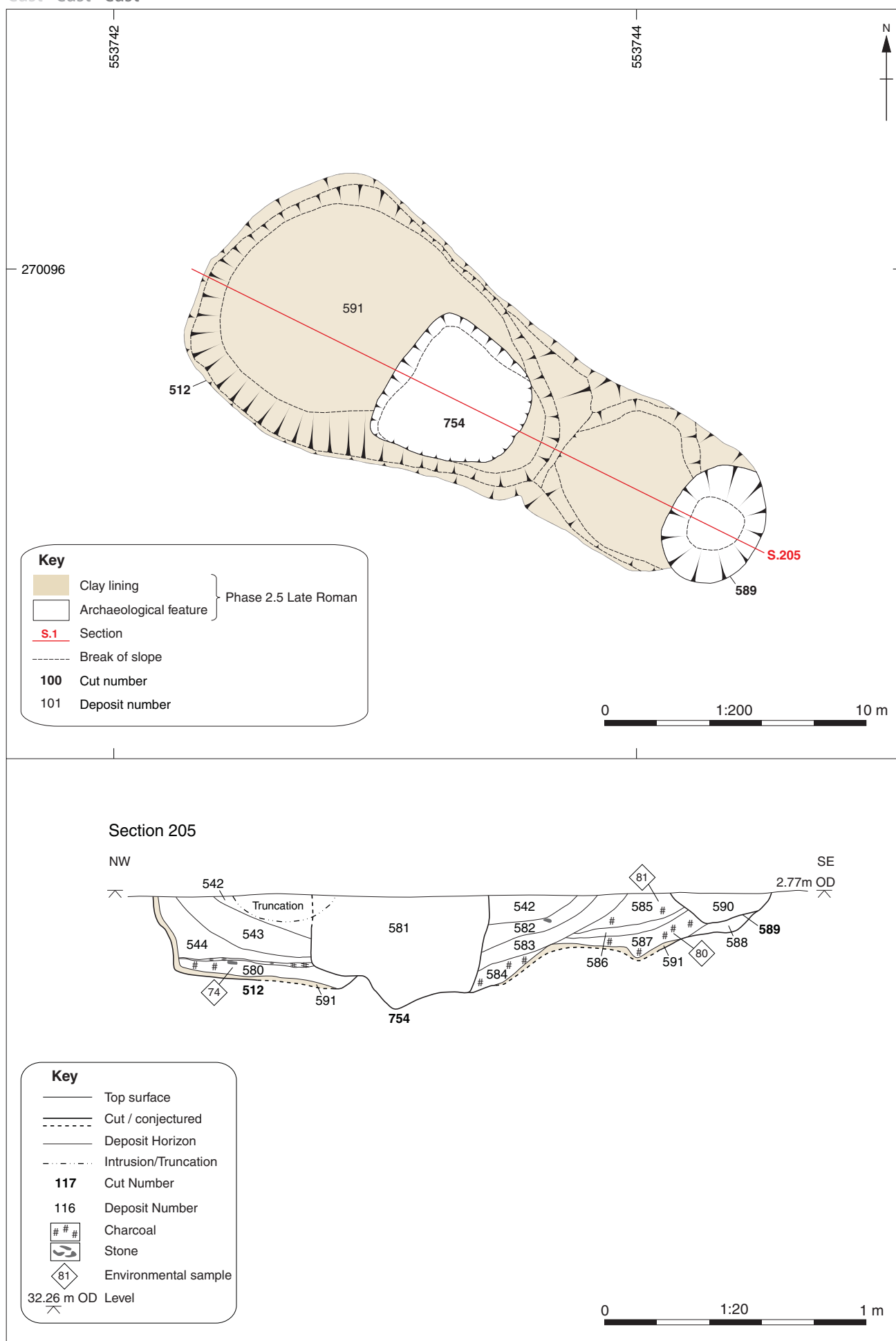


Figure 15: Pit/oven 512

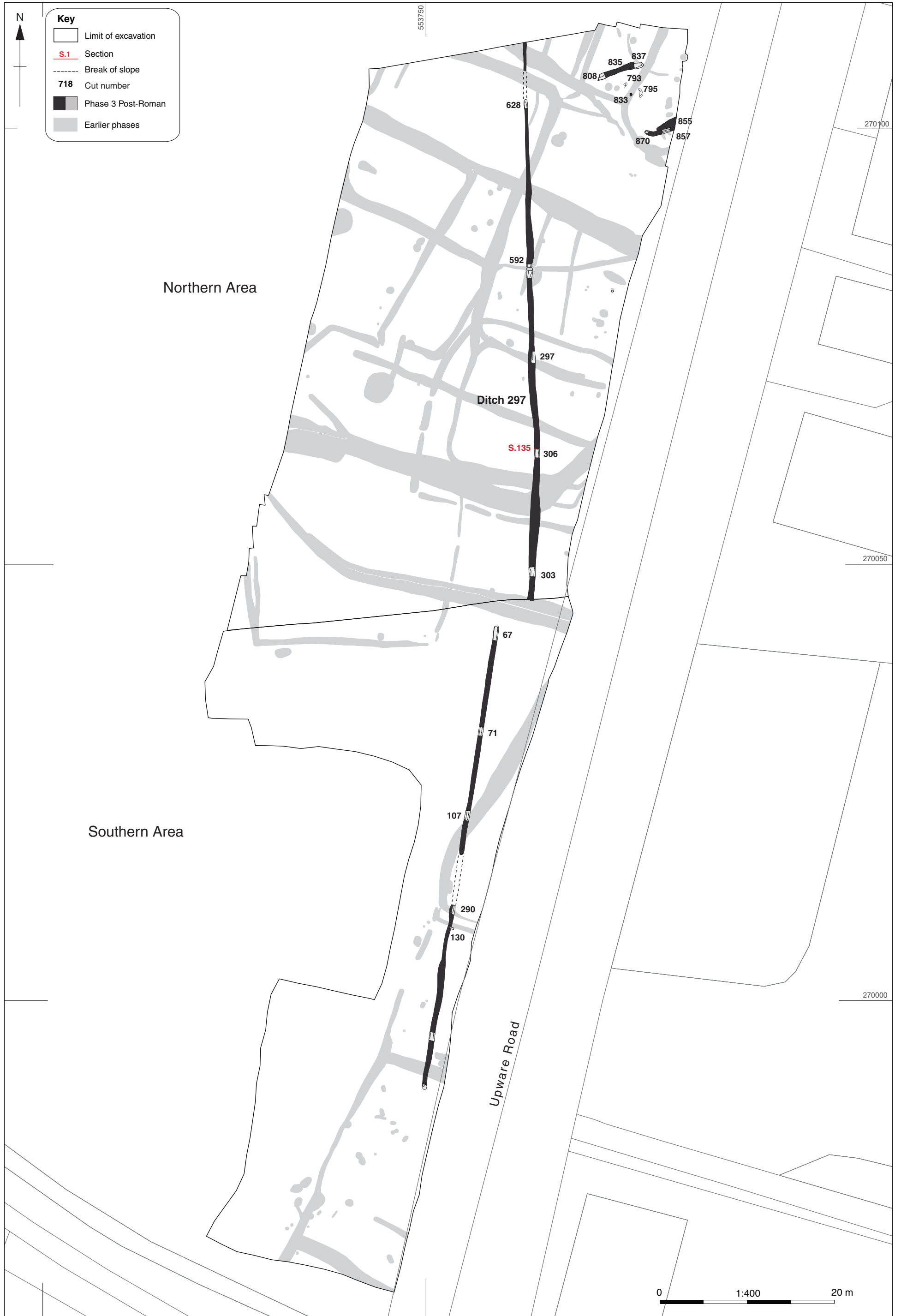


Figure 16: Phase 3: Post-Roman features

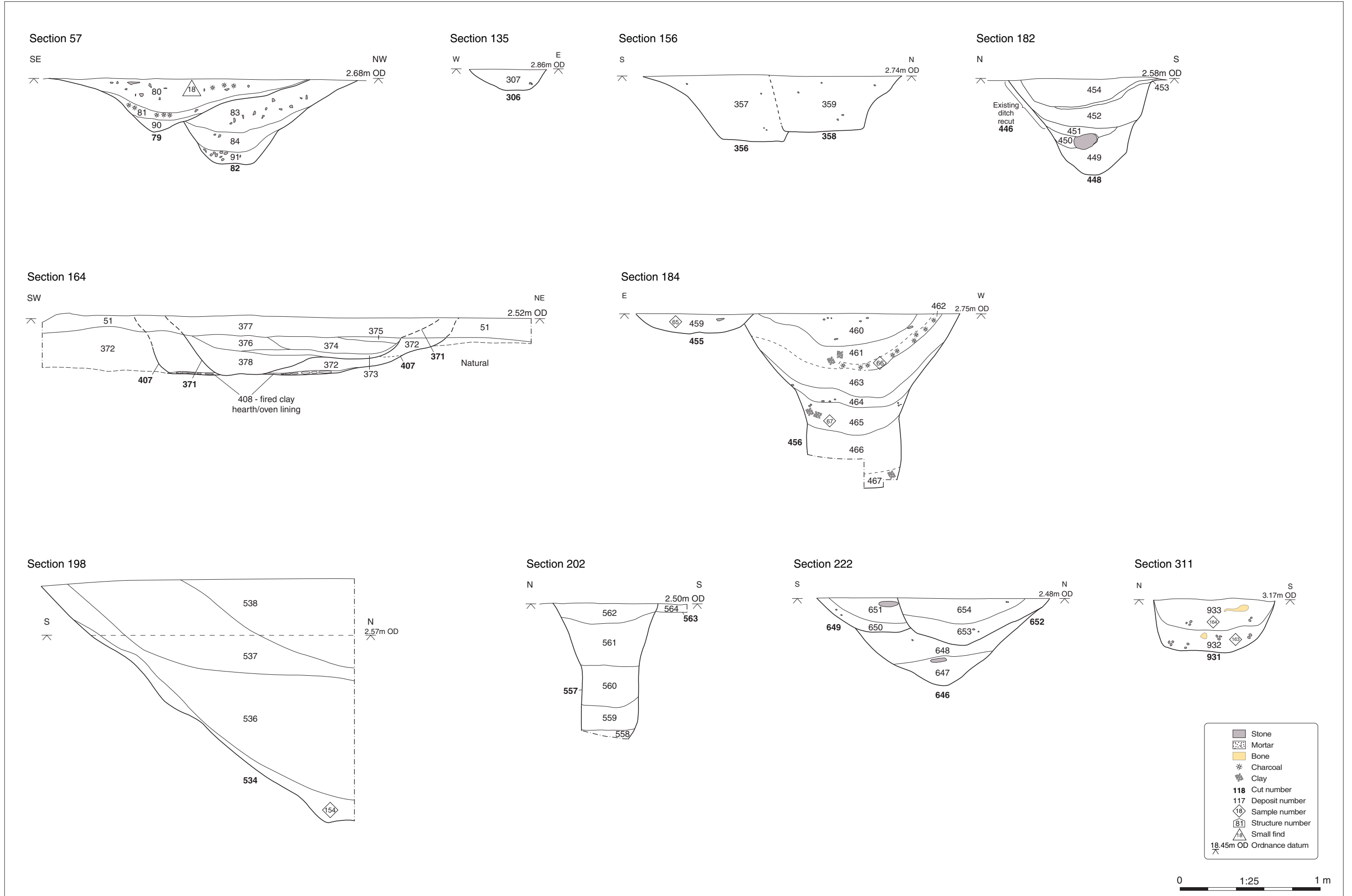


Figure 17: Selected sections

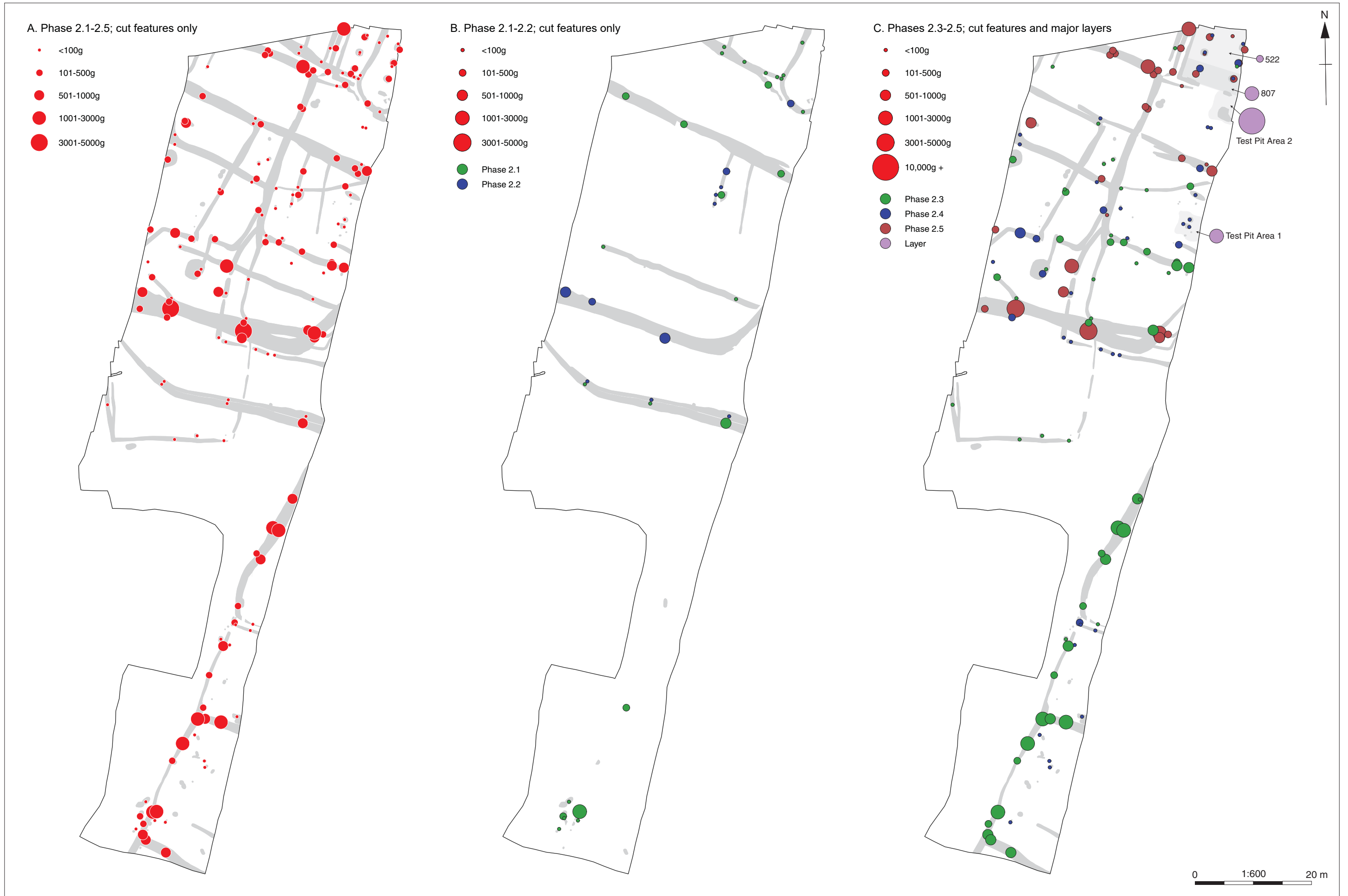


Figure 18: Roman pottery distributions



Figure 19: Metalwork distributions

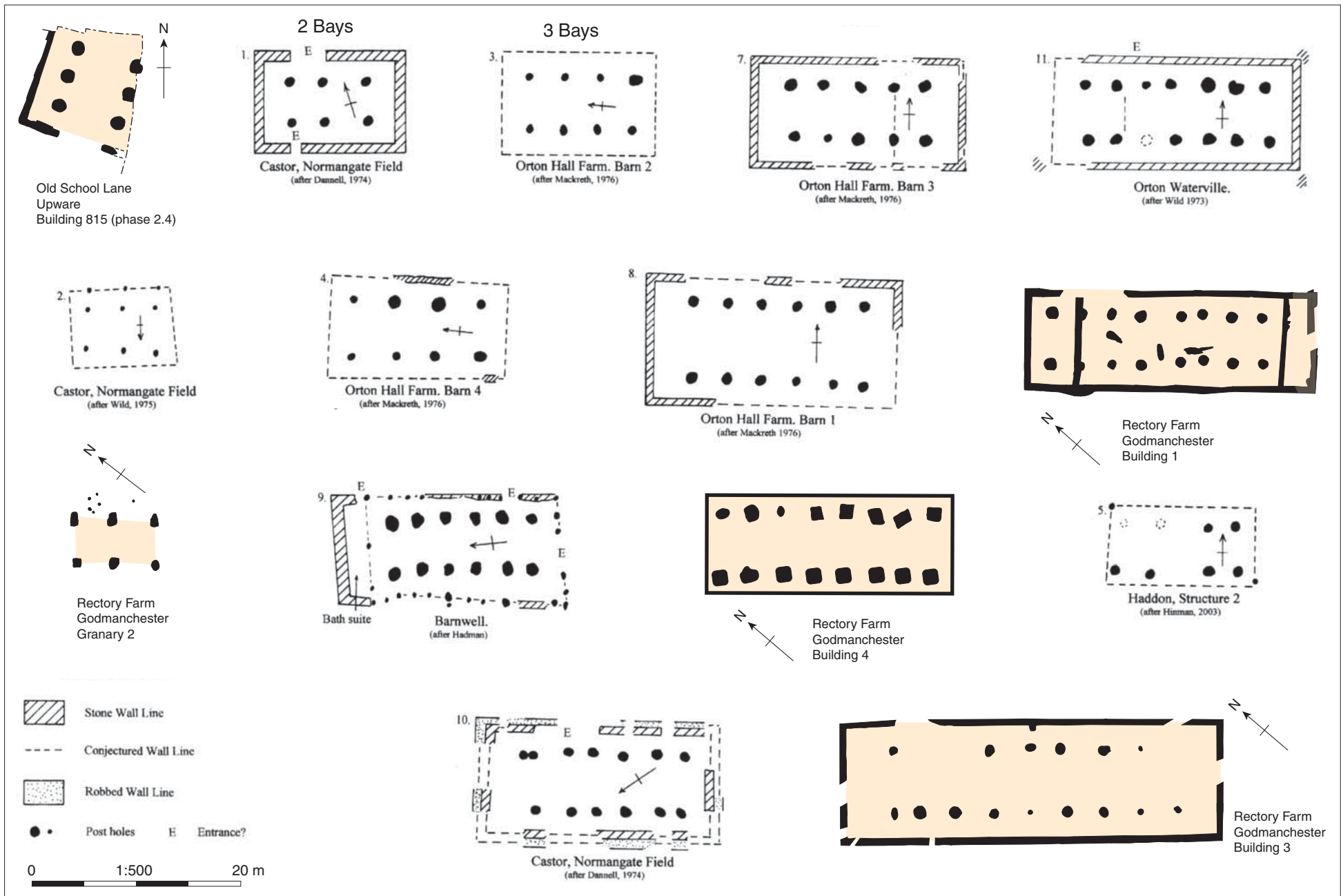


Figure 20: Aisled Building comparisons (after Lyons 2019, fig. 6.6)

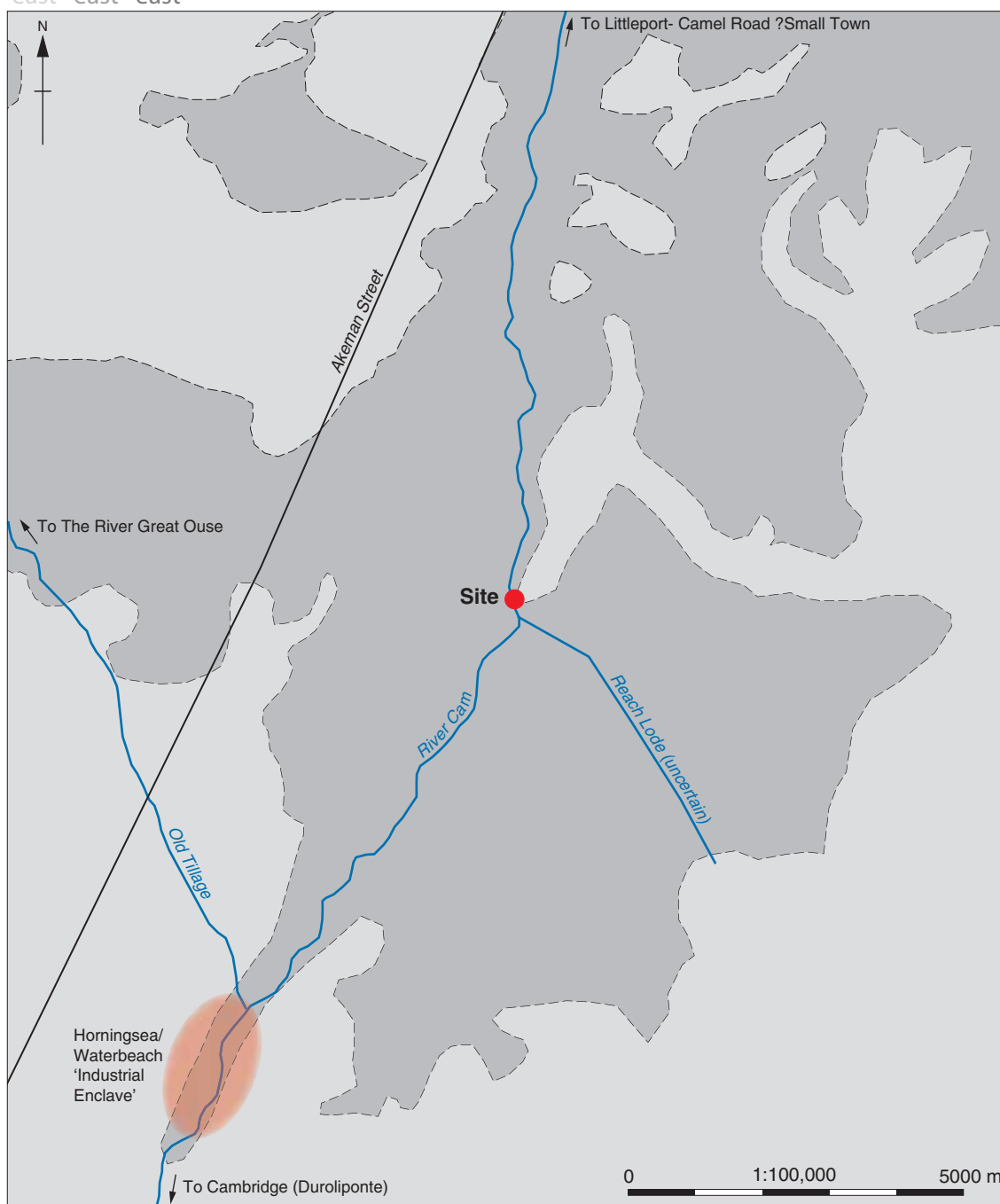


Figure 21: Site location in relation to major Roman communication/transport routes and the contemporary fen edge. (Extent of fenland deposits based on the 2.5m contour, following Waller 1994, 75)

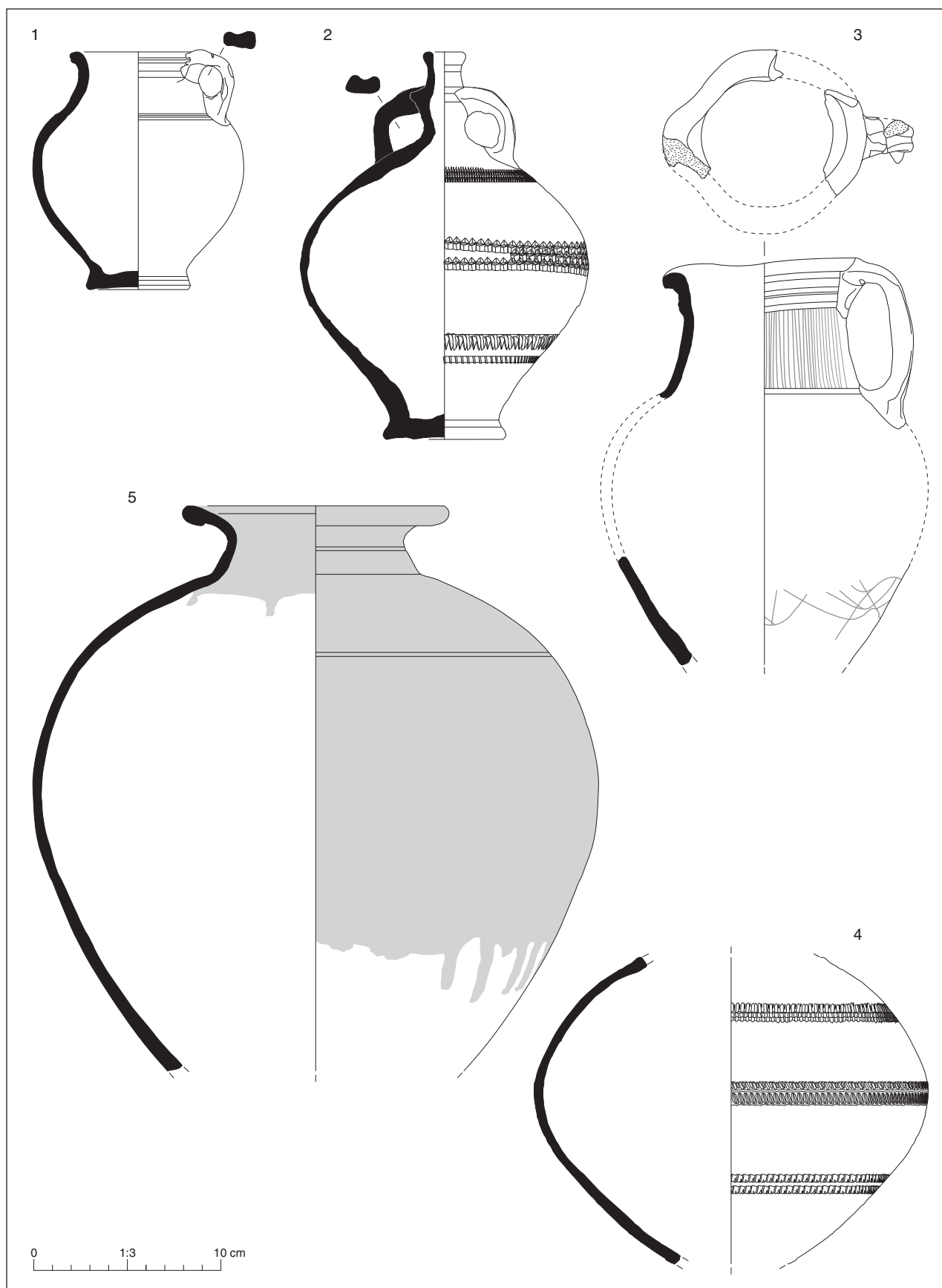


Figure 22: Roman pottery

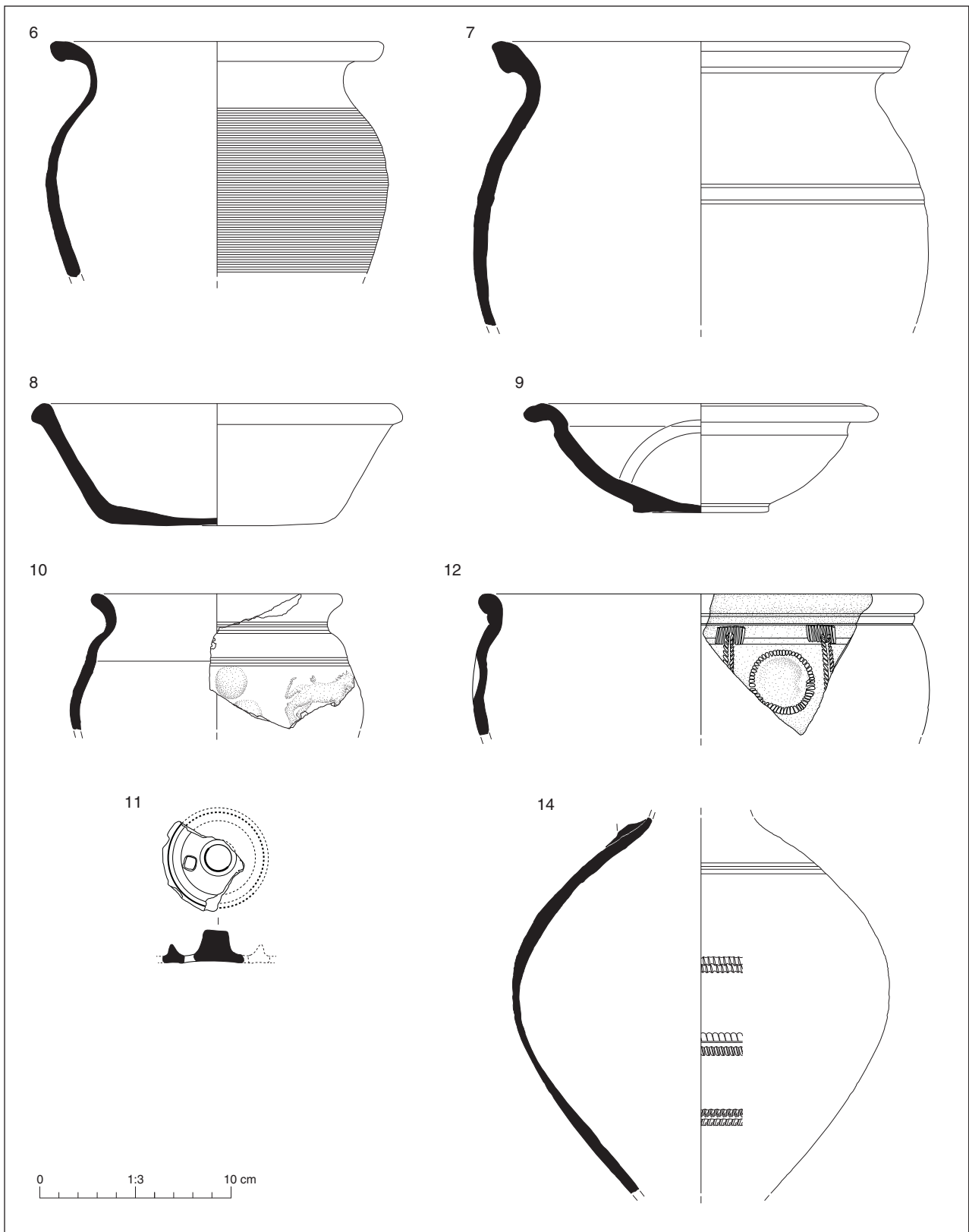


Figure 23: Roman pottery

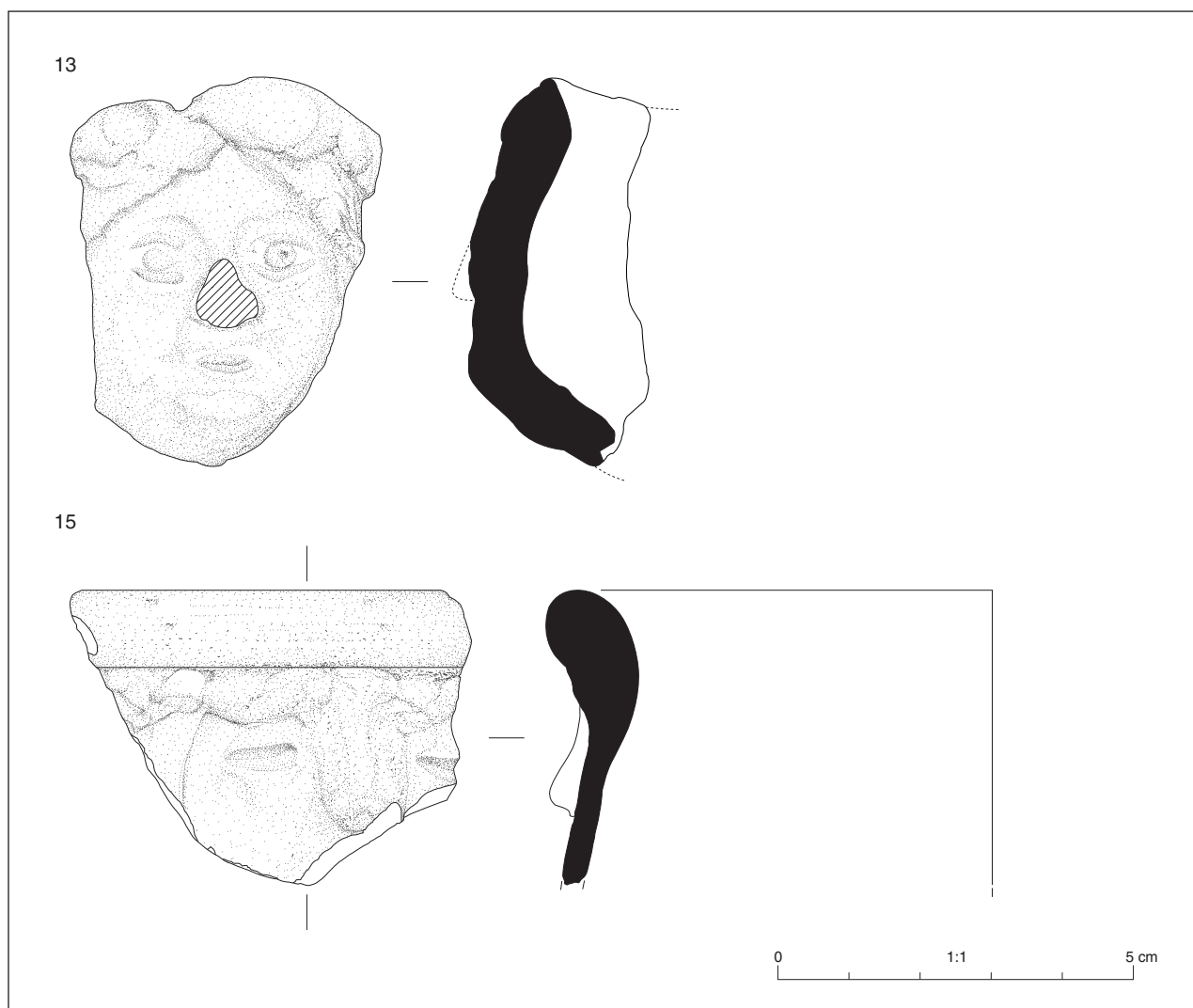


Figure 24: Roman pottery

SF 162. Bone hinge (Deposit 430; Phase 2.5)



SF 103. Copper alloy pin (Subsoil 51)



(2:1)



0 1:1 5 cm

SF 164. Copper alloy finger ring with blue glass intaglio (Fill (775) of postpipe 774; Phase 2.5)



SF 107. Copper alloy centreplate brooch with glass boss (Fill (642) of Ditch 399, Enclosure 399; Phase 2.4)



0 2:1 40 mm

SF 112. Copper alloy pin (Subsoil 51)



0 1:1 5 cm

Figure 25: Roman Small Finds

Heat affected roofing tile (Collyweston slate; Subsoil 51)



SF 19. Whetstone made on reused quern stone fragment (Millstone grit, Subsoil 51)



Figure 26: Photographs of worked stone objects



Plate 1: Aerial view of excavation of the Northern Area



Plate 2: Aerial view of excavation of the Southern Area



Plate 3: Well/watering hole 534 (Phase 2.3), mid excavation, looking northwest



Plate 4: Aisled building 815 with post-settings part-excavated, looking south



Plate 5: Working shot of excavation within Aisled Building **815**, looking south



Plate 6: Exposed stone footing in Test Pit J4 at the southeast corner of Building **815**, looking west



Plate 7: Detail of footing construction of aisled building **815**



Plate 8: Post-setting **884** with post-pipe **845** removed, looking east



Plate 9: East facing section of Posthole 891 (Phase 2.4) following removal of fills of postpipe



Plate 10: Well 557 (Phase 2.5), cutting ditch 563 (Phase 2.4)



Plate 11: Clay-lined pit **512** (Phase 2.5), half sectioned with clay lining exposed, looking east



Plate 12: South facing section of clay-lined pit **512**, with clay lining exposed



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