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## Ringstead Sustainability Reduction Scheme

### *Archaeological Mitigation Report*

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## Summary

Between the 1st of November 2018 and the 20th of February 2019 Oxford Archaeology East (OA East) conducted a programme of archaeological work comprising trial trenching, excavation and monitoring along three sections of the Anglia Water Ringstead Sustainability Reduction Scheme pipeline, between the modern villages of Ringstead, Sedgeford and Docking, northwest Norfolk (TF 7622 3666 to TF 7096 3870).

The most significant archaeological remains were encountered towards the western end of the route, little more than 100m west of the Peddars Way Roman road, where trial trenching revealed a series of north to south and east to west aligned ditches and gullies of Roman date. As a result of the trenching, an excavation area measuring 8m by 190m was opened around the Roman remains prior to the construction of the pipeline.

This excavation revealed that the ditches found during the trial trenching were part of a dense concentration of Roman boundary/enclosure ditches. In addition, several large probable extraction pits were revealed in the centre of the excavation area. The western half of the excavation area also contained several pits containing pottery, oyster shell and animal bone, the heavily truncated remains of a ring gully, and a corn dryer filled with a substantial quantity of charred grain - all suggestive of domestic activity. Finds of note included a fragment of stamped mortarium dating to the late 2nd century AD, and a bone handled knife. The pottery assemblage, coupled with stratigraphic analysis, suggest that activity here is likely to have begun in the late 1st of 2nd century AD and to have reached a peak in the 3rd and 4th centuries AD. Finds of Roman date made over an extensive area adjacent to the site suggest it formed part of a larger area of settlement/activity, probably closely associated with the Peddars Way Roman Road.

Some evidence for earlier, prehistoric activity was also recovered during the excavation in the form a small pit associated with Beaker pottery and residual Neolithic and Early Bronze Age pottery.

Elsewhere along the pipeline route, few significant archaeological remains were encountered. Monitoring was carried out of the pipeline construction along the projected line of Peddars Way but no traces of the road were visible. A final phase of monitoring was also carried out in the last open cut area of the pipeline (Area E), where a small section of a ditch containing Roman pottery was recorded.

## Acknowledgements

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The project was managed for Oxford Archaeology by Matt Brudenell. The fieldwork was directed by Neal Mason, who was supported by Belle Nielson, Jack Traill and Andrew Smith. Survey and digitising was carried out by Katie Hutton. Thanks are extended to the teams of OAE staff who cleaned and packaged the finds under the management of Natasha Dodwell, processed the environmental remains under the direction of Rachel Fosberry, and prepared the archive under the supervision of Katherine Hamilton.

# 1 INTRODUCTION

## 1.1 Location and scope of work

- 1.1.1 Oxford Archaeology East (OAE) was commissioned by Anglian Water to undertake a programme of trial trenching, excavation and monitoring along the route of the Ringstead Sustainability Reduction Scheme water pipeline, between the villages of Ringstead, Sedgeford and Docking in west Norfolk (Fig. 1; NGR: TF 7096 3870 to TF 7622 3666).
- 1.1.2 The c.7.5km scheme crossed the parishes of Ringstead, Sedgeford and Docking. From the west, the pipeline ran south from land west of Ringstead Road, Ringstead and followed the road towards Sedgeford. It then turned east and followed the line of the former West Norfolk railway branch line for c.3km. The route then turned south for a short distance, before continuing east along the north side of the Docking/Sedgeford Road (B1454). Finally, the route crossed south of Docking Road on the outskirts of Docking, terminating at land west of Bircham Road.
- 1.1.3 The original plans for the scheme called for an open cut along the majority of the route, however subsequent changes to the construction design – with some sections being drilled - prompted alterations to the mitigation strategy, in consultation with NCCES (see below).
- 1.1.4 The work was undertaken as a direction from the local planning authority (NCCES) and a brief was set by James Albone for a programme of archaeological work (Albone 2018). A Written Scheme of Investigation (WSI) was produced by OA detailing the methods by which OA East proposed to meet the requirements of the brief, and in compliance with the Anglian Water Code of Practice (Brudenell 2018a).
- 1.1.5 Archaeological work was originally required along five specific sections of the pipeline route (Sections A-E) to fulfil the requirements of the brief (Figs 2 and 3). However, under the direction of NCCES, changes/additions were made following the results of the trial trenching phase and in response to changes to the construction design, culminating in the sequence of work detailed below in Table 1 (see Fig. 3):

Mitigation area (Fig. 3)	NGR	Chainage	Mitigation requirement	Date carried out
A	TF 7177 3746 to TF 7211 3748	2050-2350m	Trial trenches 1-4 (30m x 2m)	1st – 8th November 2018
			Strip, map and excavation (190m x c.6-8m)	19th November – 7th December 2018
			Monitoring between eastern end of excavation area and beginning of Trench 4 (across projected line of	3rd & 8th January 2019

Mitigation area (Fig. 3)	NGR	Chainage	Mitigation requirement	Date carried out
			Peddars Way Roman road)	
B	TF 7333 3745 to TF 7360 3743	3575-3850m	Trial trenches 5-7	1st – 8th November 2018
C	TF 7407 3731 to TF 7424 3716	4400-4800m	Trial trenches 8-11	1st – 8th November 2018
E	TF 7617 3672 to TF 7623 3662	6500-7050m	Monitoring of last area of open cut, south of 'The Mount' (NHER 1643, Fig. 2)	20th February 2019

Table 1: The sequence of archaeological mitigation works

1.1.6 Trial trenching was carried out in three of the five areas, A, B and C. The trenching in Area B did not reveal any archaeological features or finds, whilst a single undated pit was exposed in one trench in Area C. The most substantial works were carried out in Area A, where trial trenching was followed by a strip map and excavation phase which focused on a dense are of Roman features encountered in Trenches 1 and 2. This excavation phase was carried out in line with a supplementary Method Statement prepared by OAE (Brudenell 2018b). Following the excavation phase, a programme of monitoring was also carried out in Area A where're the pipe trench was cut across the projected course of the Peddars Way Roman Road. This programme of monitoring replaced the original plan to monitor the cutting of the pipe trench in Area D, and as a consequence no archaeological works were undertaken in Area D.

1.1.7 The brief originally called for a further programme of monitoring in Area E, where the planned line of the open cut passed close to an earthwork mound (NHER 1643) known as The Mount (see Fig. 2). However, the construction design was altered so that the pipeline route in much of Area E was drilled. Nonetheless, a day of monitoring was carried out in the northern part of Area E, in the last section of open cut pipe trench.

1.1.8 The site archive is currently held by OA East and will be deposited with the appropriate county stores under the Accession Number NWHCM:2019.60 in due course.

## 1.2 Topography and geology

1.2.1 As mapped by the British Geological Survey (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>, accessed 28th May 2019), the superficial geology of the route was dominated by Sheringham Cliffs Formation deposits of clay, silt, sand and gravel. These overlaid the solid geology of chalk belonging to the Lewes Nodular Chalk Formation, Culver Chalk Formation, Portsdown Chalk Formation, Holywell Nodular Chalk Formation and New Pit Chalk Formation. Summary details of the geology, topography and land-use of each of the archaeological investigation areas is given below in Table 2.

Mitigation area	Superficial geology	Solid geology	Topography and landuse
A	Clay, silt, sand and gravel	Chalk	Broadly flat, 36-38m OD. Arable
B	Clay, silt, sand and gravel	Chalk	Gently rising to the east, 46-50m OD. Arable
C	Clay, silt, sand and gravel	Chalk	Broadly flat, 59-60m OD. Arable
E	Clay, silt, sand and gravel	Chalk	Broadly flat, 91-92m OD. Pasture and woodland

Table 2: The geology and topography of the mitigation areas

### 1.3 Archaeological and historical background (Fig. 2)

1.3.1 A brief archaeological and historical background of each of the areas subject to archaeological works (Area A-C and E) is provided below. These are based on a search of the Norfolk County Council Historic Environment Record (NHER) for an area of 1km around the pipeline route, supplemented by information outlined in the WSI (Brudenell 2018). The location of selected HER entries and cropmarks recorded by the National mapping programme are plotted in Fig. 2.

#### Area A

1.3.2 This section of the route lay immediately south of two cropmark ring ditches which are likely to be the remains of a ploughed-out Bronze Age barrow (NHER 43432). The pipeline also crossed the line of Peddars Way Roman road (NHER 1289), which is visible in the field to the north as a light soilmark with flanking ditches. Metal detecting and systematic fieldwalking of this field and the fields immediately to the south and west of Area A (plotted in Fig 2 as ENF93658) has recovered large quantities of multi-period finds including worked flint, Iron Age to post-medieval pottery, and Roman to post-medieval coins, dress accessories, fittings and fixtures, with the bulk of finds made in the field immediately to the north of the Excavation Area (NHER 59938).

#### Area B

1.3.3 Area B passed through the mapped extent of a Bronze Age barrow cemetery recorded from aerial photography (NHER 45008). The cemetery comprises a dispersed group of 14 cropmark ring ditches (NHER 12829-31; 43337; 43346-7), roughly aligned north to south and covering an area of some 30 ha. The main cluster of ring ditches is centred upon a group of seven ring ditch cropmarks (NHER 12829) located c. 130m north of the pipeline route.

1.3.4 The cropmark complex to the north of Area B also includes cropmarks of rectilinear enclosures and linear ditches (NHER 43348). Some are possibly medieval or post-medieval in date and appear to have the same alignment as fields marked on a 1631 estate map of Sedgford. Other linear ditches, forming part of a different incomplete field system, are also present and could be prehistoric or Roman in origin.

1.3.5 Approximately 200-300m to the south of Area B cropmarks of rectilinear enclosures and trackways, probably defining a small settlement or farmstead of Roman date, are

visible on aerial photographs. Two groups of enclosures are located on each side of a north to south aligned trackway (NHER 13070).

### ***Area C***

- 1.3.6 This section of the route lay immediately east of a possible site of an early Anglo-Saxon cemetery (NHER 1611). This was discovered in the early 19th century when quarrying exposed a 'line' of cremation vessels. To the north of Area C, the cropmark of at least one Bronze Age ring ditch (NHER 11590) is also recorded.

### ***Area E***

- 1.3.7 This section of the route crossed an area where Roman coins and pottery dating to Roman, Saxon and medieval periods have been recovered (NHER 41772). In the field west of Bircham Road is a post medieval earthwork marking a woodland boundary (NHER 34174), whilst in woodland immediately west of the pipeline there is an upstanding earthwork mound known as the 'The Mount' (NHER 1643). The Mount has been previously interpreted as a Bronze Age barrow, medieval beacon or spoil heap. However, it is now thought to be an 18th century garden feature associated with Docking Hall (NHER 1656), and is depicted on a mid-18th century map of the estate. Fragments Saxon pottery and post-medieval building material have been recovered from the mound.

## 2 MITIGATION AIMS AND METHODOLOGY

### 2.1 Trial trenching (Areas A-C)

#### *Aims*

2.1.1 The trial trenching sought to establish the character, date and state of preservation of archaeological remains within Areas A-C. The scheme of works aimed to:

- Establish the presence or absence of archaeological remains, characterise where they were found (location, depth and extent), and establish the quality of preservation of any archaeological and environmental remains.
- Provide sufficient coverage to establish the character, condition, date and purpose of any archaeological deposits.
- Provide sufficient coverage to evaluate the likely impact of past land uses, and the possible presence of masking deposits.
- Set the results in the local, regional, and national archaeological context – and, in particular, its wider cultural landscape and past environmental conditions.
- Provide sufficient information to construct an archaeological mitigation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables, and orders of cost.

#### *Methodology*

2.1.2 All work was conducted in accordance with the Norfolk County Council's *Standards for Development-led Archaeological Projects in Norfolk* (Robertson et al 2018) and the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Field Evaluation* (2014).

2.1.3 A total of 11 trenches measuring 30m long and 2m wide were excavated in Areas A-C (A: 4 trenches; B: 3 trenches; C: 4 trenches). All trenches were positioned along the centre line of the 12m wide working area of the scheme. A plan of the trench layout is presented in Fig. 3.

2.1.4 All trenches were opened by a 21 tonne 360-type excavator under the constant supervision of a professional archaeologist, to a depth where the horizon of either archaeological deposits or natural geology was reached.

2.1.5 A representative sample of all archaeological features encountered within the trenches was investigated and recorded to adequately characterise the remains on site and to allow decisions to be made regarding future mitigation, whilst at the same time minimising disturbance to archaeological structures, features and deposits.

2.1.6 Investigation slots through all linear features were at least 1m in width. Discrete features were half-sectioned or excavated in quadrants where they were large or deep.

2.1.7 All archaeological features were hand excavated, drawn and photographed by professional archaeologists and all finds retained unless identified as being modern in date.

- 2.1.8 Environmental samples were taken for flotation processing to look for any charred or mineralised ecofacts (plant remains). These samples were taken from most features to evaluate their ecofactual potential. Any features seen to have a high charcoal content during excavation were also sampled.
- 2.1.9 Archaeological features and excavated slots were recorded using a Leica GS08 GPS with Smartnet capabilities.

## 2.2 Excavation (Area A) and monitoring (Areas A and E)

### *Aims*

- 2.2.1 The overall aim of these investigations was to preserve by record the archaeological evidence contained within the footprint of the easement areas, prior to damage by the construction of the pipeline, and to investigate the origins, date, development, phasing, spatial organisation, character, function, status, and significance of the remains revealed, and place these in their local, regional and national archaeological context.
- 2.2.2 In Area A, particular attention (through excavation and monitoring) was paid to the relationship of the apparent farmstead and the Peddars Way Roman road, in order to assess the extent to which the farmstead features were aligned to the road.

### *Excavation Methodology*

- 2.2.3 Within the 12m wide working area of the scheme a 190m long excavation area was opened beginning 30m west of Trench 1 and terminating 50m to the east of Trench 2 (Fig. 3). The southern 6m of the working area was not stripped to allow for topsoil and subsoil storage, leaving the remaining 6m which was stripped to the surface of the natural geology, where archaeological remains were visible during the trial trenching. Owing to the variable depth of the overlying topsoil and subsoil, the width of the easement had to be periodically reduced to allow sufficient space to safely store the soil within the working area.
- 2.2.4 The methodology followed for the archaeological excavation was the same as that detailed above for the trial trenching, with the following adaptations:
- All archaeological features were excavated, and in the case of linear features, an intervention was dug at intervals of no greater than 10m.
  - All stratigraphic relationships were hand dug and investigated where they were not obvious in plan.
  - A machine slot was excavated to a depth of 0.5m across the large group of intercutting pits (Extraction Activity – **79, 82, 84** and **138**) just to the west of the centre of the area, to assist the excavation of these features. The remaining variable depths of these features was hand dug and fully recorded.

### *Monitoring Methodology*

- 2.2.1 Area A: a small section of pipe trench (c.0.5m wide by c.13m long) was monitored while it was dug by a mechanical excavator, and the pipe laid, across the projected line of the Peddars Way Roman, between Trenches 3 and 4 (Fig. 6).

2.2.2 Area E: monitoring of topsoil stripping of the pipeline easement in Area E sought to establish the extent of archaeological remains at the easternmost limit of the pipeline (Fig. 8). This was the easternmost extent of the open cut phase of the pipeline.

2.2.3 In both cases, an archaeological remains encountered were excavated, and recorded, and any finds were retrieved, all within the constraints of the ongoing pipeline construction work.

## 2.3 Research Frameworks

2.3.1 The mitigation works took place within the context of, and sought to contribute to, the goals of the Regional Research Frameworks relevant to the area:

- Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011, East Anglian Archaeology Occasional Papers 24)
- Research and Archaeology: A Framework for the Eastern Counties: 1. Resource Assessment (Glazebrook 1997, East Anglian Archaeology Occasional Papers 3)
- Research and Archaeology: A Framework for the Eastern Counties: 2. Research Agenda and Strategy (Brown & Glazebrook 2000, East Anglian Archaeology Occasional Papers 8)

## 3 RESULTS

### 3.1 Introduction and presentation of results

- 3.1.1 The results of the trial trenching, excavation and monitoring (watching briefs) are presented below, and include a stratigraphic description of the archaeological remains. Details of all contexts are included in Appendix A, with finds and environmental reports presented in Appendices B and C respectively.
- 3.1.2 Cut numbers have been assigned to each archaeological intervention and appear in **bold**. Where a feature was excavated in more than one location a master number (the lowest cut number assigned to an individual feature) has been assigned, which is used on the figures (in bold blue typeface) and the text below. Where appropriate, features have also been assigned to groups.
- 3.1.3 This report presents the results of various stages of archaeological work by area, from west to east along the linear scheme.
- 3.1.4 In summary, a dense area of archaeological features, largely relating to Roman settlement activity, was encountered at the western part of Area A in Trenches 1 and 2, which were subsequently investigated in a larger open area excavation (referred to below as the Excavation Area).
- 3.1.5 In the eastern part of Area A, one east-north-east to west-south-west post-medieval boundary ditch was revealed in Trench 3 and monitoring was undertaken over the projected course of Peddars Way – although this failed to locate any features or finds which could be associated with this routeway.
- 3.1.6 Further east, the excavation of three trial trenches in Area B did not expose any archaeological features/deposits and no finds were recovered, whilst a single undated pit was discovered during the excavation of four trenches in Area C. Finally, monitoring in Area E exposed a short length of a single Roman ditch.

#### *Dating and phasing*

- 3.1.7 The large, mostly Roman, pottery assemblage was used to broadly date most of the features recorded in the Excavation Area, but given that much of this material has date ranges spanning several centuries and the high potential for both residual and intrusive finds, the phasing of the features relies heavily on the stratigraphic relationships between features. Where Roman pottery finds are included in tables below the following abbreviations have been used for (AD) date ranges:

C= Century

E= Early

M= Mid

L= Late

For example: MC1-C2 = mid-1st to 2nd century AD.

- 3.1.8 On the basis of the analysis of the stratigraphic relationships of the features encountered in the Excavation Area, supported by the evidence of datable finds, six

separate phases of activity have been distinguished which have, tentatively, been attributed to the following broad periods:

Period 1: Later prehistoric (c.4000 BC – c.1st century AD)

Period 2: Early to Mid-Roman (late 1st to 2nd century AD)

Period 3: Mid to Later-Roman (late 2nd to 3rd century AD)

Period 4: Late Roman (3rd to 4th centuries AD)

Period 5: Post-Roman (5th century AD onwards)

Period 6: Post-medieval to modern (c.AD 1500 to 1900)

## 3.2 General soils and ground conditions

3.2.1 The natural geology of sand and gravels, with areas of silty clay, was overlain by a dark reddish-brown silty subsoil with an average thickness of 0.25m, which in turn was overlain by dark greyish-brown silty topsoil with an average thickness of 0.3m.

3.2.2 Ground conditions throughout the excavation were generally good, with the winter conditions not proving detrimental. Archaeological features, where present, were easy to identify against the underlying natural geology.

## 3.3 The Excavation Area (incorporating Trial Trenches 1 & 2) (Figs. 4 – 5e)

### *Introduction*

3.3.1 In this section the archaeological remains encountered in Trenches 1 and 2 and the Excavation Area are described by period. As set out above, the excavation area measured 190m long and up to 7m wide and exposed a relatively dense area of features. A phased plan of all features is provided in Fig. 4, with individual phase plans presented in Figs 5a-e and selected sections illustrated in Fig. 9. For ease of reference the excavation area has been divided into thirds (western, central and eastern), as indicated on the relevant plans.

### *Period 1: Later prehistoric (c.4000 BC – c.AD 1st century) (Fig. 5a)*

3.3.2 The prehistoric features revealed on the site consisted of three partially exposed, heavily truncated ditches (**42**, **65** and **144**), in the western third of the excavation area, and one sub-circular pit (**172**) close to the eastern limit of the excavation area. The dating of the ditches is tentative, and in the absence of dateable finds is based solely upon their stratigraphic relationships with later features. Given the restrictions of the size of the excavated area, and the heavy truncation suffered by the ditches, their function also remains uncertain. The pit, however, contained a small assemblage of Beaker pottery and worked flint and attests to an episode of activity on the site during the Early Bronze Age.

3.3.3 Aside from these features, a notable assemblage of residual Neolithic and Early Bronze Age pottery was recovered from one intervention (**67**) in Period 2 ditch **32**, which cut Period 1 ditch **65** (see below, Fig. 5c). This material comprised 14 sherds (109g) and included Early Bronze Age, Beaker, sherds as well as sherds belonging to a Middle

Neolithic Peterborough Ware vessel. It seems likely that this feature cut through one or more prehistoric features/deposits in this area.

### *Ditches*

- 3.3.4 Ditch **65** (Fig. 9, Section 15, Plate 1) extended for approximately 2.5m from the northern limit of the excavation area on a north-north-west to south-south-east alignment before terminating. It was truncated on its north-eastern side by Period 3 ditch **32**, and on its south-western edge by Period 4 pit **69** (Fig. 9, Section 15), with the surviving portion measuring 0.8m wide and 0.5m deep. It was too heavily truncated to accurately describe its sides, but its base was concave in shape. It contained a basal fill of dark greyish brown silty sand (64), which was overlain by a mid grey brown silty sand also with occasional flint and gravel inclusions (63), neither of which produced any finds.
- 3.3.5 Immediately to the west, ditch **144** (Fig. 9, Section 34) was slightly curvilinear in plan, here following a north-west to south-east alignment. It is possible that it continued as ditch **42** to the east, but heavy truncation by later features means this could not be proven. It was cut on its south-western edge by Period 4 pit/post hole **146**, and extended for approximately 6.5m from the northern limit of the Excavation Area, before being truncated by Period 3 ditch **39**.
- 3.3.6 With gently sloping sides and a flat base, this ditch measured 1m wide and 0.14m deep, giving it an almost furrow-like appearance. Its sole fill consisted of a light greyish-brown silty sand with frequent flint inclusions (145), which contained one fragment (1g) of fired clay.
- 3.3.7 Ditch **42** (**42**, **48**, **237**) was very heavily truncated and present only in two small sections, to the south and east of Period 3 ditch **39**. It was revealed very close to the southern limit of Trench 1, on a north to south alignment, and the subsequent stripping of the Excavation Area revealed it to branch to the east and west, forming a T-shaped junction. As noted above, it is possible that the westward branch was the continuation of ditch **144**.
- 3.3.8 Where it was possible to record the dimensions of this feature, it measured 1.07m wide and 0.36m to 0.48m deep. It had steep sides and a concave base, and contained a single fill in each intervention of mid to dark silty and sandy clays with frequent gravel inclusions (43, 49, 238; Fig. 9, Section 55). The fills of both interventions **42** and **48** contained substantial quantities of horse bone (over 3kg), very probably belonging to a single animal (Appendix C.2).

### *Beaker Pit 172*

- 3.3.9 Pit **172** (Fig. 9, Section 56; Plate 2) was located close to the eastern limit of the excavation area and was sub-circular in plan, with steeply sloping sides and an undulating base. It measured 1.39m long, 0.73m wide and 0.15m deep, and was filled by a dark reddish brown silty sand with frequent gravel inclusions (173) which produced three sherds (80g) of Early Bronze Age Beaker pottery and two small broken flint flakes which were not chronologically diagnostic. An environmental sample taken

from this fill contained occasional charred barley grains and a small quantity of intrusive hammerscale.

### *Period 2: Early to mid-Roman (late 1st to 2nd Century AD) (Fig. 5b)*

3.3.10 The features attributed to this phase consisted of a single ring gully close to the western limit of the excavation area, six north to south aligned ditches in the western and central thirds of the area, two ditches which appeared to form the southernmost portion of an enclosure and two east to west aligned ditches in the eastern third of the area. In most cases, where it was present, the pottery from these features was consistent with a broad late 1st to 2nd century AD date.

#### *Ring Gully 1*

3.3.11 Ring Gully 1 (**92, 120 & 148**) was located close to the western limit of the Excavation area. It was heavily truncated by later features (see Fig. 4) and was not entirely revealed, but measured 5.9m in diameter along its east to west axis at what appeared to be its widest point. There appears to have been a break in the ring gully on its south-eastern side, perhaps relating to an east or east-south-east facing entrance to this feature.

3.3.12 The ring gully was cut on its eastern and western sides by Period 3 ditch 39, and by Period 3 ditch **90** on its northern side (Fig. 9, Section 21). Aside from these stratigraphic relationships the only dating evidence recovered was one small sherd (2g) of Late 1st to 4th century AD pottery from intervention **148** (fill 149).

3.3.13 Measuring between 0.25m to 0.62m wide, and 0.03m to 0.06m deep, the gully had gentling sloping sides and a concave base. It was filled by a mid to dark-reddish brown clay sand with rare gravel inclusions (93, 121, 149)

#### *North to south aligned ditches*

3.3.14 A group of six ditches broadly north to south aligned ditches were revealed in the western and central thirds of the excavation area (**76, 227, 233, 244** and **251**). In all cases they were truncated by ditches belonging to Period 3.

3.3.15 Only one of these ditches (**46**) produced dateable pottery, 2 sherds (7g) dating to the mid-1st to 2nd century AD, which helps to establish that feature in this earliest phase of Roman activity. For the remaining ditches, their stratigraphic relationships and their shared alignment of these features, suggest they belong to this broad period.

3.3.16 Details of the dimensions, profile, fills and finds for each intervention excavated in these ditches are provided below in Table 3. The ditches varied in size, with maximum widths of between 0.45m and 1.38m and depths ranging from 0.56m to 0.17m. Aside from the pottery noted the only finds were recovered were three fragments of oyster shell from the upper fill ditch **233**.

Master Number	Cut	Sides	Base	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Fill Description (composition and inclusions)	Finds
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46	46	Gentle	Concave	1.22	0.56	47	0.56	Dark yellowish-brown silty clay with occasional gravel	2 sherds (7g) MC1-C2 pottery
46	227 (Fig. 9, Section 48)	Gentle	Concave	1.08	0.5	228	0.5	Mid reddish-brown silty sand with frequent gravel and flint	
	76	Steep	Concave	0.65	0.26	75	0.26	Dark greyish-brown silty sand with frequent gravel	
	102	Gentle	Flat	0.6	0.17	103	0.17	Mid greyish-brown silty sand with frequent flint and rare chalk	
	233	Gentle	Sub-flat	1.38	0.6	234	0.1	Dark greyish-brown sandy clay frequent flint (lower fill)	
235						0.09	Mid yellowish-brown sandy clay with abundant flint and gravel (middle fill)		
236						0.3	Mid grey-brown sandy clay with frequent flint and gravel (upper fill)	3 fragments (91g) of oyster shell	
	244	Steep	Concave	1.1	0.5	245	0.17	Dark grey-brown sandy clay with frequent gravel (upper fill)	
						246	0.5	Dark reddish-grey sandy clay with frequent gravel (lower fill)	
	251	Gentle	Flat	0.45	0.21	252	0.21	Mid brown-grey sandy clay with rare gravel	

Table 3: Summary context information for Period 2 north to south aligned ditches

### Enclosure 1

3.3.17 A series of ditches appearing to represent the southern part of small enclosure, Enclosure 1, were revealed in the central third of the excavation area. There was evidence that this enclosure had been subject to at least one phase of remodelling, with an earlier phase represented by ditches **192** and **170**, which were cut by ditch **153** (**174**, **186**, **194**), and which was itself subsequently cut along its southern edge by the ditch of Period 3 Enclosure 2 (Fig. 9, Sections 36 and 57). In its final form ditch **153** appears to have defined the southern end of a small sub-rectangular enclosure, measuring approximately 10m across on its east-west axis, whilst the earlier cut of ditch **170** may have defined a slightly larger area up to 12.5m across.

3.3.18 The only datable pottery recovered from these features were two sherds of late 1st to 4th century AD date from ditch **153** (intervention **186**) and a single sherd of 3rd to 4th

century AD pottery from ditch **170**, which is assumed to be intrusive. Details of the dimensions, profile, fills and finds for each intervention excavated in these ditches are provided below in Table 4.

- 3.3.19 Ditch **153 (174, 186, 194)**, was aligned north to south on its eastern side, extending for approximately 3.2m from the northern limit of the excavation area before curving westwards. It then continued for approximately 8.6m on an east to west alignment, before turning north-west for 3.6m, and continued beyond the northern limit of the excavation area.
- 3.3.20 Earlier ditch **192** (Fig. 9, Section 57) was heavily truncated both by the main enclosure ditch and Late-Roman ditch **124**, meaning it survived for only approximately 2.8m on an east to west alignment. Ditch **170**, however, was present approximately 2.5m to the west of the main enclosure ditch, on a similar alignment to the western branch of **153**.

Master Number	Cut	Width or Diameter (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds
	<b>170</b>	0.6	0.31	171	0.31	Mid greyish-brown silty sand with frequent flint.	1 sherd (14g) C3-C4 pottery
	<b>192</b>	0.32	0.1	193	0.1	Mid greyish-brown silty sand with frequent flint.	
<b>153</b>	<b>153</b> (Fig. 9, Section 36)	1.08	0.28	154	0.28	Mid greyish-brown silty sand with frequent flint and gravel.	
	<b>174</b>	1.4	0.15	175	0.15	Mid greyish-brown silty sand with frequent flint.	
	<b>186</b>	0.41	0.1	187	0.1	Mid greyish-brown silty sand with frequent flint.	2 sherds (18g) LC1-C4 pottery; 2 frags horse bone (162g); 1 frag (47g) Roman CBM
	<b>194</b> (Fig. 9, Section 57)	0.51	0.14	195	0.14	Mid greyish-brown silty sand with frequent flint.	

Table 4: Summary context information for ditches making up Enclosure 1

### Ditches 130 & 132

- 3.3.21 Two heavily truncated ditches (**130 & 132**; Plate 3) were revealed in the eastern third of the excavation area and, despite a lack of finds, have been tentatively assigned to this period based of their similarity in alignment and form to those of Enclosure 1. Both were broadly aligned east to west and appeared to curve northwards as they approached the northern edge of excavation.
- 3.3.22 Ditch **130** measured 0.28m wide and 0.06m deep, while ditch **132** measured 0.28m wide and 0.08m deep. The fills contained in both ditches consisted of a dark reddish-brown clay sand with occasional gravel and charcoal inclusions (131, 133), neither of which produced any finds.

### ***Period 3: Mid to Later-Roman (late 2nd to 3rd century AD) (Fig. 5c)***

- 3.3.23 Features attributed to Period 3 consist entirely of ditches, several of which appear to relate to sub rectangular enclosure systems, although the small exposure afforded by the pipeline easement dictates that their overall layout and morphology remain unclear. The western third of the site was dominated by two ditches, **39** and **32**, which defined the sides and corners of possible enclosures or paddocks of some kind. In the central third of the area, a series of ditches making the southern half of a sub-rectangular enclosure (Enclosure 2) were recorded, and in the eastern third of the area a single curvilinear/L-shaped ditch (**127**) was exposed.
- 3.3.24 Ditches 32 and 39 and the ditches of Enclosure 2 cut across many of the linear features belonging to Period 2 and the relatively small quantity of pottery recovered from these features was generally consistent with a 2nd to 3rd century AD date.

#### *Ditches 32, 39 and 90*

- 3.3.25 As noted above the western third of the area was dominated by two ditches, 32 and 39 which appear to represent parts of a system of sub-rectangular enclosure ditches. On the basis of their shared alignment and layout, these seem very likely to be contemporary, but there was also another short length of ditch which appears, on stratigraphic grounds, to have been slightly earlier. This feature, ditch **90**, was aligned north to south and extended for approximately 2.8m from the northern edge of the excavation area, it truncated Period 2 Ring Gully 1 at its northern extent, and was truncated by Period 3 ditch **39** at its southern extent.
- 3.3.26 It measured 1m wide and 0.14m deep, with gently sloping sides and a concave base (Fig. 9, Section 21). The sole fill was a mid reddish-brown clay sand with rare gravel inclusions (91). This fill contained one sherd (97g) of late 1st to 4th century AD pottery, three sherds (29g) of late 2nd to 4th century AD pottery, four sherds (147g) of 3rd to 4th century AD pottery and one fragment (100g) of Roman roof tile. One fragment (166g) of cattle bone and 14 fragments (320g) of oyster shell were also recovered from this fill.
- 3.3.27 Ditches 32 and 39 shared a common alignment and morphology and seem very likely to have been part of a unitary system of enclosure boundaries in this part of the site. As exposed within the confines of the area, they were both essentially L-shaped in plan, extending from the southern edge of the area on a north to south alignment, where they were approximately 8.7m apart. They then turned 90° to the west and continued parallel to each other for approximately 15m, whereupon ditch **32** turned northwards, running beyond the northern edge of the excavation, whilst ditch **39** continued for another 27m up to the western limit of the area. Summary details of the various interventions in ditches **32** and **39** are provided in Tables 5 and 6 respectively.

3.3.28 Ditch **32** produced a relatively small amount of pottery (124g) dated to the 3rd and 4th centuries AD, but as this was from an upper fill (72 of intervention **73**). Also present was a small assemblage of residual prehistoric pottery (see above, Period 1) and small quantities of animal bone and oyster shell. Also of note was that lower fill 74 of intervention **73** contained abundant chalk fragments at the base of the ditch. It was not possible to establish fully expose this deposit of as the feature was only partially revealed under the northern limit of the area.

3.3.29 Ditch **39** produced a larger pottery assemblage (360g) with a general date range from the late 2nd to 3rd century AD. Where pottery was recovered from the lowest fills of the ditch it was all of a type that could have been produced as early as the 1st century AD, although the majority was of a later date. This feature also contained a fragment of mortarium with the maker's stamp 'Regalis' (SF. 4, Fig. 10, Plates 6, 7, 19 & 20, App. B.3), produced in the late 2nd century AD, which was recovered from secondary fill 115 of intervention **119** (Fig. 9, Section 25). This was likely to be an item which was valued by its owners and may have been curated/in use for some time before being discarded into this ditch. Also recovered was an incomplete iron knife with a bone handle (see App. B.1) from fill 240 of intervention **239**. As with ditch **32**, small quantities of animal bone and oyster shell were also recovered (see Table 6).

Master number	Cut	Width or Diameter (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds
<b>32</b>	<b>32</b>	0.32	0.32	33	0.32	Mid orange-brown silty clay with occasional gravel	
	<b>67</b> (earlier cut)	0.74**	0.44	66	0.44	Mid yellowish-brown silty sand with moderate flint and gravel	10 sherds (83g) Early Bronze Age, 3 sherds (22g) Middle Neolithic, 1 sherd (4g) prehistoric pottery.
	<b>71</b> (earlier cut)	0.26**	0.26	70	0.26	Light greyish-brown silty sand with rare gravel	
	<b>73</b>	1.02	0.44	72	0.32	Dark greyish-brown silty sand with moderate gravel and flint (upper fill)	4 sherds (102g) C3-C4, 1 sherd (12g) C4 pottery, 2 frags Roman tile (287g), 3 frags (297g) cattle bone, 14 frags (732g) oyster shell.
				74	0.12	Dark grey silty sand with abundant chalk fragments (lower fill)	
	<b>78</b>	*	*	77	*	Dark greyish-brown silty sand with rare gravel	

Table 5: Summary context information, ditch 32

\*= These interventions were intended to investigate stratigraphic relationships, thus the full width and/or depth of this feature were not excavated at these point.

\*\*= These two dimensions belong to an earlier cut of the ditch, thus only the surviving width before truncation could be measured.

Master Number	Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Findings	Environmental Samples (number and contents)
39	39	*	*	40		Mid greyish-brown silty clay with occasional small flint (lower fill).	1 sherd (32g) MC1-C3, 1 sherd (1g) MC1-C4 pottery, 1 frag oyster shell (31g).	
				41	0.45	Mid greyish-brown clay silt with occasional small flint (Upper fill).	14 frags (118g) animal bone (cattle and horse).	
59 (Fig. 9, Sec 14)	59	1.7	0.62	60	0.5	Mid greyish-brown silty sand with occasional flint (upper fill).	10 sherds (109g) LC2-C4, 1 sherd (6g) LC1-C4, 1 sherd (15g) LC2-EC4 pottery, 2 frags animal bone (unidentifiable, 5g), 15 frags (228g) oyster shell.	
				61	0.12	Dark greyish-brown silty sand with moderate flint and gravel (lower fill).		
88 (Fig. 9, Sec 21)	88	1.61	0.7	89	0.23	Mid reddish-brown clay sand with occasional gravel (lower fill).	3 frags (98g) oyster shell	
				112	0.3	Dark reddish-brown clay sand with moderate gravel (middle fill).	5 sherds (125g) C3-C4, 1 sherd (17g) LC2-EC4 pottery, 1 frag Roman tile, 16 frags (120g) cattle bone, 11 frags (357g) oyster shell	
				113	0.3	Mid reddish-brown clay sand with moderate gravel (upper fill).	15 frags (419g) oyster shell	
119	119	1.94	0.56	114	0.2	Mid grey-brown silty sand with rare flint (upper fill).	1 frag (83g) Roman tile, 8 frags (188g) animal bone (horse, sheep/goat, cattle), 17 frags (374g) oyster shell.	
				115	0.1	Mid grey-brown silty clay with rare flint (lower fill).	1 sherd (20g) LC1-C4 pottery, 4 frags of mortarium (306) – including a fragment with maker's stamp 'Regalis' (Small Find 4).	
				117	0.26	Mid greyish-brown silty sand with frequent flint and gravel (upper fill).	2 frags (225g) animal bone (horse and cattle), 28 frags (737g) oyster shell.	
				118	0.18	Mid reddish-brown silty clay with frequent gravel and flint (lower fill).		

Master Number	Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds	Environmental Samples (number and contents)
	208	*	*	209		Dark red-brown clay sand with rare gravel.		
	239	*	0.63	240	0.63	Dark grey-brown sandy clay with abundant flint, gravel and iron panning.	1 bone-handled iron knife (SF 5), 1 sherd (35g) C3-C4 pottery, 23 frags (805g) animal bone (horse and cattle), 1 frag (55g) oyster shell.	16 – a single cereal grain, iron-rich deposit.

Table 6: Summary context information for ditch 39

\*= These interventions were intended to investigate stratigraphic relationships, thus the full width and/or depth of this feature were not excavated at these point.

### Enclosure 2 (Plates 8 & 13)

- 3.3.30 The southern extent of a probable rectangular enclosure, designated here as Enclosure 2, was partially revealed in the central third of the excavation area. The precise shape and dimensions of the ditches which formed the enclosure (**4 & 104**) is unknown, but within the stripped area it measured approximately 50m from east to west.
- 3.3.31 There were two phases of enclosure ditches making up this feature, with ditch **104** (**155, 196, 229, 256**; Plates 8 and 13) representing an earlier cut subsequently replaced by ditch **4** (**10, 17, 22, 24, 98, 158, 176, 200, 231**). Both ditches were aligned north to south on the eastern side of the enclosure before turning 90° westwards. After approximately 37m along this east to west alignment ditch **104** was entirely cut away by ditch **4**, which continued westwards for approximately 13m before turning northwards and forming the western side of the enclosure. Just to the east of the centre point of the southern side of the enclosure, a short length of north to south aligned ditch (**22**) formed a T-junction with ditch **4**, with which it seemed to be contemporary but presumably defined part of a separate boundary or enclosure to the south.
- 3.3.32 Enclosure 2 has been placed in the Mid to Later-Roman period largely on stratigraphic grounds; both ditches truncate the Period 2 ditches **244** and **251** and Enclosure 1. Furthermore, the ditches of Enclosure 2 were themselves truncated by four ditches (**124, 180, 182, 247, 249**) assigned to Period 4.
- 3.3.33 Details of the dimensions, profile, fills and finds for each intervention excavated in these ditches are provided below in Table 7.
- 3.3.34 The pottery assemblage from the ditches of Enclosure 2 fell mainly within the 3rd to 4th century AD range (26 sherds, 619g). A relatively large assemblage of bone was recovered (1.443kg), with cattle, sheep, goat and horse all represented alongside quantities of oyster shell were also recovered. Other finds included four fragments of roof tile. Sampling of a relatively dark and charcoal rich fill from intervention **155** (fill 157) produced a small number of charred cereal grains.

Master number	Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Findings	Environmental Samples (number and contents)
4	4	0.8	0.32	5	0.32	Mid greyish-brown silty sand with occasional flint	5 sherds (21g) C3-C4 pottery, 3 frags (289g) Roman roof tile.	
4	10	0.7	0.48	11	0.24	Mid greyish-brown silty sand with occasional flint (lower fill)		
				12	0.24	Dark brownish-grey silty sand with abundant charcoal and occasional small flint (upper fill)	2 sherds (10g) C3-C4 pottery, 3 frags (14g) fired clay, 4 frags (19g) sheep/goat bone, 8 frags (40g) oyster/mussel shell.	
4	17	1.58	0.52	18	0.05	Mid reddish-brown silty sand with occasional small flint and rare charcoal (lower fill)		
				19	0.48	Light greyish-brown silty sand with frequent small flint (upper fill)	5 sherds (46g) LC2-C4, 1 sherd (68g) C3-C4 pottery, 1 frag (25g) cattle bone, 3 frags (95g) oyster shell.	
4	22	0.8	0.24	23	0.24	Mid brownish-grey silty sand with occasional small flint	5 sherds (50g) C3-C4 pottery, 2 frags (10g) sheep/goat bone.	
4	24	*	0.25	25	0.25	Mid greyish-brown silty sand with occasional small flint	1 frag (16g) oyster shell.	
4	98	0.72	0.28	99	0.28	Mid greyish-brown silty sand with frequent flint and rare chalk		
4	158 (Fig. 9, Sec 36)	1.02	0.32	159	0.32	Mid greyish-brown silty sand with frequent flint and gravel		
4	176 (Fig. 9, Sec 40)	1.45	0.32	177	0.32	Mid greyish-brown silty sand with frequent flint and gravel		
4	200	1.2	0.34	201	0.34	Mid grey-brown silty sand with frequent flint	9 frags (330g) oyster shell.	
4	231	1.1	0.4	232	0.4	Mid grey-brown sand clay with frequent flint and gravel	3 sherds (67g) C3-C4 pottery	
104	104	1.34	0.59	105	0.59	Mid greyish-brown silty sand with frequent flint and rare chalk	1 sherd (3g) Iron Age, 1 (6g) MC2-C4 pottery, 3 frags (88g) oyster shell	

Master number	Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Findings	Environmental Samples (number and contents)
104	155 (Fig. 9, Sec 36)	1.14	0.6	156	0.38	Light brownish-grey silty sand with frequent flint and gravel (upper fill)	28 frags (122g) mixed sheep, goat, cattle, horse bone, 20 frags (534g) oyster shell.	
				157	0.06	Dark brownish-black silty sand with rare flint, frequent charcoal (Middle fill)	1 sherd (13g) unidentifiable pottery	11 – occasional barley and wheat grains
				160	0.1	Dark grey-brown silty sand with frequent flint and gravel (lower fill)	5 sherds (284g) C3-C4 pottery, 1 frag (182g) Roman roof tile, 10 frags (318g) mixed sheep/goat and cattle bone	
104	196 (Fig. 9, Section 57)	*	*	197		Mid grey-brown silty sand with rare flint	1 frag iron nail (SF 6), 8 sherds (186g) C3-C4 pottery, 1 frag (53g) CBM, 38 frags (928g) mixed cattle and sheep/goat bone, 17 frags (622g) oyster shell.	
104	229	1.09	0.2	230	0.2	Mid grey-brown sand clay with rare gravel and frequent flint		
104	256 (Fig. 9, Sec 40)	0.2	0.1	257	0.1	Light brown silty sand with frequent gravel		

Table 7: Summary information on features making up Enclosure 2

\*= These interventions were intended to investigate stratigraphic relationships, thus the full width and/or depth of this feature were not excavated at these point.

### Ditch 127

3.3.35 Ditch **127 (128, 136)** was exposed in the eastern third of the excavation area. This curvilinear feature entered the northern edge of the excavation area on a north-east to south-west alignment, then turning west to run straight on an east to west alignment for approximately 21m before terminating. This ditch was immediately to the south of Period 2 ditches **130** and **132**, and may have been related to them, but the presence of a small amount (2 sherds) of mid-2nd to 4th century AD pottery has led to its inclusion in this phase, as well as its similarity in alignment to the ditches of Enclosure 2.

3.3.36 The ditch ranged in was consistently around 0.9m wide and ranged in depth from 0.24m to 0.33m, with steep sides and a concave base (Fig. 9, section 29). The fills ranged from dark grey-brown to dark red-brown silty sands with frequent gravel and rare charcoal inclusions (126, 129, 137). Fill 129 contained one sherd (36g) of mid-2nd

to 4th century AD pottery and one sherd (8g) of 3rd to 4th century AD pottery. Fill 137 contained one fragment of an iron nail (SF 3).

#### *Period 4: Late-Roman (3rd to 4th centuries AD) (Fig. 5d)*

3.3.37 The features attributed to Period 4 had a different character to those belonging to the earlier phases, with many more discrete features sometimes associated with relatively substantial finds assemblages. A group of circular and sub-circular features representing pits and/or possible post holes was exposed in the western third of the excavation area (Pit and posthole Group 1). Within the area of this group was also a feature which may have served an oven or corn dryer (**62**). Beyond this group, to the east, the better preserved remains of a second corn dryer (**212**) was uncovered, containing a significant deposit of charred grains. East of this was a large group of probable extraction pits. Another small group of pit/post holes was identified in the central third of the area, the function of which was less certain. Finally, another group of probable boundary ditches was recorded in the western and central thirds of the area.

#### *Pit & Post Hole Group 1*

- 3.3.38 Located in the western third of the excavation area, this group comprised 13 discrete features. Due to the degree of truncation, lack of any post pipes being visible and the apparent lack of any spatial relationships which may have hinted at structures, it was not possible to distinguish with any certainty between those which were post holes and those which were pits.
- 3.3.39 These features have been placed in the Late-Roman phase through a combination of stratigraphic relationships and artefact dating. Pits/post holes **57**, **163** and **208** all truncated Period 3 ditch **39**, whilst pit/post hole **50** truncated Period 2 Ring Gully 1. Where recovered from these features, the dateable pottery supports this phasing.
- 3.3.40 The dimensions of each feature, along with fill, finds and environmental sample descriptions, are given below in Table 8. All the features in this group were circular or sub-circular to oval in plan, with steep to gently sloping sides and sub-flat to concave bases. They exhibited considerable variability in size, ranging between 1m and 0.27m in width, but were generally fairly shallow, measuring between 0.1m-0.32m deep. They were invariably filled by single deposits of mid to dark silty or clay sands, and in most cases appear to have been deliberately backfilled.
- 3.3.41 The general character of the finds recovered from these features strongly suggests settlement activity very nearby, and many of these features produced at least small quantities of domestic waste including pottery, bone and shell (see Table 8). Of particular note were pits **54** (Fig. 9, Section 13) and **163**, both of which contained relatively substantial finds assemblages. Alongside 286g of pottery, the basal charcoal rich-fill of pit **54** contained 288g of animal bone, some of which was burnt. Similarly, the fill of pit **163** contained pottery and animal bone, and a quantity of fired clay (845g) which may have been part of an oven lining and also produced abundant charred grain from a bulk environmental sample.

Cut	Length (m)	Width or Diameter (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Findings	Environmental Samples (number and contents)
50	0.63	0.53	0.1	51	0.1	Dark reddish-brown sandy clay with occasional flint		
54	1.4	0.95	0.32	53 (lower)	0.12	Dark brown silty sand, rare charcoal and flint	2 sherds (52g) MC1-C4, 4 sherds (96g) C2-C4, 1 sherd (138g) C3-C4 pottery, 187 frags (288g) of mixed animal, bird and amphibian bone.	3 – abundant charcoal, frequent bone frags (including burnt bone).
				52 (upper)	0.14	Mid grey-brown silty sand, rare flint	2 frags (77g) oyster shell.	
56	1.1	0.6	0.22	55	0.22	Mid grey-brown silty sand, occasional flint		
57		0.52	0.1	58	0.1	Mid grey-brown silty sand, frequent flint and gravel		4 – a single wheat grain.
69		0.44	0.12	68	0.12	Dark grey-brown silty sand, rare flint		
94		1.02	0.2	95	0.2	Mid reddish-brown clay sand, rare gravel	1 sherd (6g) C3-C4 pottery.	
96		0.27	0.08	97	0.08	Mid reddish-brown clay sand, rare gravel		
146		0.33	0.3	147	0.3	Mid greyish-brown silty sand, rare flint		
151	0.5	0.4	0.15	152	0.15	Dark reddish-brown clay sand, rare gravel	2 sherds (10g) C3-C4 pottery.	
163		0.98	0.31	164	0.31	Dark reddish-brown clay sand, occasional gravel and rare charcoal	1 sherd (12g) C2-C3, 1 sherd (2g) C3-C4 pottery, 33 frags (845g) of fired clay – possibly oven lining, 6 frags (1g) small mammal bone, 1 frag (16g) oyster shell.	13 – abundant charred grain.
178 (Fig. 9, Section)	0.53	0.52	0.24	179	0.24	Dark reddish-brown clay sand, rare gravel	151 frags (1.927kg) oyster shell.	

51, Plate 9)								
<b>210</b>	0.65	0.52	0.19	211	0.19	Dark reddish-brown clay sand, rare gravel and charcoal	1 sherd (1g) LC1-C2, 8 sherds (77g) C3-C4 pottery, 2 frags (172g) of possible weights, 1 frag (40g) fired clay.	15 – abundant charred grain.
<b>221</b>	0.42	0.39	0.17	222	0.17	Dark reddish-brown clay sand, rare gravel	1 frag (9g) LC1-C4 pottery.	

Table 8: Pit &amp; Post Hole Group 1

### Possible Oven/Corn Dryer 62

3.3.42 Possible oven feature **62** (Plate 10) was located in the western third of the excavation area, within the area of Pit and Post Hole Group 1. It was heavily truncated, surviving to a maximum depth of 0.14m. Oval in plan, it measured 1.14m long and 0.43m wide, with steep sides and an undulating base.

3.3.43 Partially present around the western edge of this feature was a possible lining of *in situ* fired clay which was 0.11m deep, 0.04m wide at its widest point (255). An environmental sample (19) taken from this deposit was found to be sterile. Overlying this and filling the feature was a dark brown clay sand with frequent charcoal and gravel inclusions (241). This was possibly the remains of a deposit which had accumulated at the bottom of this feature during its use. It contained two sherds (4g) of 1st to 4th century AD pottery, one sherd (9g) of Mid-1st to 4th century AD pottery and two sherds (7g) of 3rd to 4th century AD pottery. Also present were 20 fragments (47g) of fired clay (derived from lining deposit 255) which had slumped into the feature, four fragments (1g) of vole bone and two fragments (1g) of oyster shell. The environmental samples taken of this fill contained abundant charcoal, alongside charred cereal grains including wheat and barley.

### The Corn Dryer (Plate 11)

3.3.44 Corn dryer **212** probably related to the activity associated with Pit and Post Hole Group 1 and Oven/Corn Dryer **62**, was also located in the western third of the excavation area where it truncated Period 1 ditch **42** and Period 2 ditch **46**.

3.3.45 This feature had had a somewhat irregular sub-circular shape in plan (Plate 11), and measured 1.4m long, 1.2m wide and 0.6m deep, with steeply sloping sides and a flat base (Fig. 9, Section 48). No evidence of a remaining super-structure was found, with the exception of two large worked flint nodules which were probably used as foundation stones within the structure (Appendix B.2). These nodules were contained within the lower fill (0.14m thick) of the feature, which consisted of a very dark brown silty sand with abundant charcoal, flint and gravel inclusions (226). An environmental sample taken from this fill contained a very large assemblage of barley grain

(approximately 600 germinated grains per litre of fill sampled) and occasional emmer grains.

3.3.46 Above this was a dark brown silty sand (0.34m thick), probably the result of natural infilling (225). Recovered from this fill was one sherd (14g) of mid-2nd to mid-3rd century AD pottery, two sherds (60g) of 2nd to 4th century AD pottery, and one fragment (12g) of ceramic roof tile.

### Ditches

3.3.47 Four north to south aligned ditch lines were revealed in the western and central parts of the excavation area, all of which truncated features from the preceding phase and contained pottery consistent with an origin within Period 4. Three of these consisted of double, recut, ditches (**180**, recut by **182**; **249**, recut by **247** and **34 (204)**, recut by **36**) The fourth ditch line, **124 (198)**, did not show any sign of recutting and was also distinguished by a slightly curvilinear shape in plan. Details of these features, including dimensions, fill descriptions and associated finds are provided in Table 9.

3.3.48 The finds assemblage recovered from these ditches consisted of pottery mostly dating to the 3rd to 4th century AD, alongside relatively large amounts of animal bone and significant quantities of oyster shell.

Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds	Environmental Samples (number and contents)
<b>34</b>	0.82	0.11	35	0.11	Mid reddish-brown silty clay with frequent gravel	9 frags (282g) cattle bone, 4 (119g) oyster shell.	
<b>36</b> (recut of <b>34</b> )	1.8	0.52	37	0.36	Mid greyish-brown silty clay with frequent gravel and occasional charcoal (lower fill)	2 frags (66g) oyster shell.	2 – single barley grain
			38	0.24	Dark greyish-brown silty clay with frequent gravel and occasional charcoal (upper fill)	1 frag (201g) Roman roof tile, 14 frags (141g) unidentified animal bone, 4 frags (55g) oyster shell.	
<b>124</b>	0.74	0.4	125	0.4	Mid greyish-brown silty sand with moderate flint	1 sherd (12g) C2-C4, 2 sherds (12g) C3-C4 pottery, 2 frags (20g) unidentified animal bone, 5 frags (118g) of oyster/mussel shell	10 – occasional wheat grain
<b>180</b>	0.55	0.2	181	0.2	Mid greyish-brown sandy clay with occasional gravel	9 sherds (175g) LC2-C4, 1 sherd (4g) C2-C4 pottery, 1 frag (158g) Roman roof tile, 1 frag (18g) fired clay, 37 frags (391g) mixed large animal bone, 5 frags (231g) oyster shell.	
<b>182</b> (recut of <b>180</b> )	0.8	0.35	183	0.35	Mid greyish-brown sandy clay with rare gravel		

Cut	Width (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds	Environmental Samples (number and contents)
<b>198</b> (Fig. 9, Section 57)	*	*	199	*	Mid brown-grey with rare gravel	4 sherds (139g) C3-C4 pottery 3 frags (120g) oyster shell.	
<b>204</b> (Fig. 9, Section 44)	*	*	205	*	Dark grey-brown sandy clay with frequent flint	1 sherd (25g) C3-C4 pottery	
<b>247</b> (recut of <b>249</b> ; Fig. 9, Section 58)	0.5	0.23	248	0.23	Dark grey-brown sandy clay with rare gravel	1 frag iron nail (SF 7), 3 sherds (145g) LC1-C4, 2 sherds (14g) C3-C4 pottery, 7 frags (411g) cattle and horse bone, 2 frags (98g) oyster shell.	
<b>249</b> (Fig. 9, Section 58)	0.8	0.2	250	0.2	Dark reddish-grey sandy clay with frequent gravel		

Table 9: Period 4 ditches

\*= These interventions were intended to investigate stratigraphic relationships, thus the full width and/or depth of this feature were not excavated at these point.

### Extraction pits

- 3.3.49 An area of probable quarrying/extraction was located in the western third of the excavation area, immediately to the east of recut ditch line **34/36**, and to the west of the western extent of Period 3 Enclosure 2. This group consist of six pits (**26**, **79**, **84**, **138**, **161**, **165**) and one small pit or posthole (**242**). These features have been included in this phase partly because the pottery assemblage suggests this (for example, 3rd to 4th century AD pottery was recovered from the lower fill of pit **84**), and partly because two of the features are cut by Period 5 ditches **30** and **141**. However, it must be stated that their lack of stratigraphic relationships with earlier features, and the fact that their longevity would have allowed for the accumulation of finds from later phases, both mean that these features could have earlier origins. Summary information on all of these features are provided below in Table 10.
- 3.3.50 The largest of these probable extraction pits formed a sequence of intercutting pits partly revealed against the northern edge of excavation (**79**, **84** and **138**; Fig. 9 Section 33), all were sub-circular in plan, with moderately steeply sloping side, and the largest (pit **84**) was up to 1m deep and measured almost 10m in width. All appeared to be filled by naturally accumulating deposits, and were sealed by a single capping layer (**87**), in which there was a small feature interpreted as an animal burrow (**82**).
- 3.3.51 To the west was another relatively large pit, **165**, measuring over 2.6m in length and up to 0.56m deep which had an uncertain relationship with a small pit or posthole (**242**) on its southwestern edge. To the south of this were two smaller discrete probable extraction pits (**26** and **161**).

Cut	Length (m)	Width or Diameter (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds	Environmental Samples (number and contents)
26		1.16	0.16	27	0.16	Dark greyish-brown silty clay with occasional flint and very rare charcoal	1 frag iron nail (SF 1), 4 sherds, (18g) MC1-C4, 1 sherd (2g) LC1-C4, 1 sherd (12g) C3-C4 pottery.	1 – occasional wheat and barley grains.
79		0.97	0.2	80	0.08	Mid reddish-brown sandy clay with frequent gravel (upper fill)		
				81	0.12	Mid reddish-brown clay silt with occasional gravel and flint (lower fill)		
84	5.6	9.47	1	85	0.4	Dark greyish-brown clay silt with frequent flint and gravel (upper fill)		8 – a single oat grain.
				86	0.3	Light reddish-brown clay silt with frequent flint and gravel (lower fill)	3 sherds (349g) C3-C4 pottery, 2 frags (294g) Roman roof tile, 2 frags (159g) cattle bone, 1 frag (62g) oyster shell.	9 – occasional wheat grain.
138	3.8	4.37	1	139	0.57	Dark greyish-brown sandy clay with frequent gravel and flint (middle fill)	2 sherds (15g) LC1-C4, 2 sherds (6g) LC2-EC4, 1 sherd (14g) C3-C4 pottery.	
				140	0.22	Light grey-brown sandy clay with frequent gravel and flint (lower fill)		
161	2.6	1.06	0.42	162	0.42	Mid greyish-brown sandy clay with occasional flint and gravel	1 sherd (5g) LC1 - C4, 1 sherd (17g) C3-C4 pottery, 2 frags (73g) oyster shell.	
165	2.7	2.5	0.56	166	0.28	Mid yellowish-brown sandy clay with frequent flint and gravel (lower fill)	3 frags (5g) fired clay, 12 frags (243g) oyster shell.	
				167	0.23	Mid grey-brown sandy clay with	10 sherds (89g) C3-C4, 1 frag (3g) sheep/goat bone,	

Cut	Length (m)	Width or Diameter (m)	Depth (m)	Fill(s)	Thickness (m)	Description (composition and inclusions)	Finds	Environmental Samples (number and contents)
						frequent flint (upper fill)	6 frags (87g) oyster shell.	
<b>242</b> (post hole)	0.68	0.68	0.17	243	0.17	Light reddish-brown clay sand with frequent gravel		

Table 10: Extraction pits

### Ring Gully 2

3.3.52 Located approximately 25m to the east of the Extraction Activity, Ring Gully 2 (**188**; Plate 14) was partially exposed, extending from the northern limit of the excavation area. This heavily truncated curvilinear feature measured 6.49m east to west at its widest point, but this was unlikely to be representative of the full diameter of the feature as the apex of the curve was not revealed.

3.3.53 This feature has been attributed to this period on the basis of its associated pottery (see below), and at its eastern extent, it truncated Period 2 ditch **251**. With gently sloping sides and a concave base, the gully measured 0.67m wide and 0.16m deep (Fig. 9, Section 43). The sole fill was a mid grey-brown silty sand with frequent flint inclusions (189). One sherd (5g) of late-2nd to early-4th century AD pottery and three sherds (18g) of 3rd to 4th century AD pottery were recovered from this fill, along with three fragments (69g) of oyster shell. An environmental sample (14) taken from this fill contained occasional barley and wheat grains.

### Pit 20

3.3.54 Pit **20** was located approximately 8m to the south-east of Ring Gully 2, in the central third of the excavation area, and was partly cut into the infilled ditch of Period 3 Enclosure 2. Measuring 1.17m in diameter and 0.21m deep, it had gently sloping sides and a concave base. The sole fill (21) was a dark reddish-brown silty sand with occasional flint inclusions. Three sherds (40g) of 3rd to 4th century AD pottery were recovered from this fill, along with 2 fragments (20g) of cattle bone and two fragments (58g) of oyster shell.

### Pit & Post Hole Group 2

3.3.55 This group consisted of two circular pits and two circular post holes located very close to the eastern extent of Enclosure 2 in the central third of the excavation area (Plate 13). Pit **106** cut the ditch of Period 3 Enclosure 2 ditch **104** on its western side. The function of these features is uncertain, but it seems probable that they were part of a larger group of similar features located beyond the excavation area. The sole datable artefact recovered from this group of features was one sherd (3g) of 3rd to 4th century AD pottery from fill 107 of pit **108**, a find consistent with the phasing of these features. Also recovered were 14 fragments (10g) of duck bone. Fill 111 of post hole **110** contained 46 fragments (140g) of mixed dog and sheep/goat bone, with the dog bone all belonging to one animal – perhaps suggesting the burial of a complete carcass.

Details of the profiles, dimension and fills of these features are presented below in Table 11.

Feature type	Cut	Sides	Base	Fill	Diameter (m)	Depth (m)
Post hole	<b>100</b>	Near vertical	Flat	101	0.26	0.21
Pit	<b>106</b>	Steep	Flat	107	0.78	0.09
Pit	<b>108</b>	Gentle	Concave	109	0.88	0.23
Post hole	<b>110</b>	Near vertical	Flat	111	0.32	0.22

Table 11: Pit and Post Hole Group 2

### ***Period 5: Post-Roman (5th century AD onwards) (Fig. 5e)***

- 3.3.56 Five features were attributed to this period, which were shown to be stratigraphically later than the latest Roman features. The small quantities of finds from their fills may largely represent residual material and there is no firm dating evidence for any of these features.
- 3.3.57 The westernmost feature assigned to this phase was ditch **30 (168, 202 (Fig. 9, Section 44), 215)**, which was revealed in the western third of the excavation area, close to the group of extraction pits belonging to Period 4. This L-shaped feature extended from the southern limit of the area on a north-northwest to south-southeast alignment for approximately 3.2m, before turning eastwards and running east to west for approximately 9.7m before terminating. Along its route it cut three feature assigned to Period 4 (ditch **34**, extraction pit **165** and post hole **242**), and was itself truncated very near its terminus by ditch **141** (see below).
- 3.3.58 Measuring between 0.6m to 0.7m wide and between 0.12m and 0.2m deep, it had gently sloping sides and a concave base. The fills ranged from mid to dark grey-brown sandy clays (31, 169, 203, 216) with frequent gravel and flint, and rare charcoal inclusions. The small finds assemblage from this ditch comprised one sherd (17g) of late 1st to fourth century AD pottery from fill 169 and two fragments (10g) of fired clay from fill 216. An environmental sample (12) was taken from fill 169 which contained occasional wheat, barley and spelt grain.
- 3.3.59 Ditch **141 (213)** truncated both extraction pit **84** (Period 4) and ditch **30** as it extended on a north-northeast to south-southwest alignment from the northern limit of the excavation area for approximately 6.8m before terminating. Ranging in width from 0.55m to 0.86m and in depth from 0.47m to 0.3m, ditch **141** had steep sides and a concave base. It was filled by a mid to dark grey-brown sandy clay with flint and gravel inclusions (142, 214). Fill 124 contained one sherd (17g) of late 1st to 4th century AD pottery and one sherd (5g) of late 2nd to 4th century AD pottery. Fill 214, from the terminus of the ditch, contained pottery ranging in date from the mid-1st to the 4th century AD (6 sherds, 46g). Along with this was also three fragments (12g) of fired clay and one fragment (28g) of oyster shell.
- 3.3.60 In the central third of the excavation area, ditch **184** truncated the ditches of Period 3 Enclosure 2 and Period 4 ditches **180** and **182** as it extended from the southern limit on a south-southeast to north-northwest alignment, before terminating after 5.8m. With gently sloping sides and a concave base, this heavily truncated ditch measured

0.31m wide and 0.12m deep. The sole fill was a dark grey-brown clay sand with rare flint inclusions (185), which contained no finds.

3.3.61 Two ephemeral linear features were revealed near to the western end of Trench 2 during the trial trench phase of work which were not present when the area was re-stripped during the excavation phase. It is possible that these shallow features were the result of cultivation in the form of furrows/plough scars which were truncated during the machine stripping of the excavation area.

3.3.62 Linear feature **13** was on a west-northwest to east-southeast alignment, extending for 4.03m across the end of Trench 2, where it cut Period 4 ditch **124**. It measured 0.35m wide and 0.2m deep with steep sides and a concave base. The sole fill was a mid brownish-grey silty sand with occasional flint inclusions (14) which contained one probably residual sherd (2g) of late 1st to 4th century AD pottery.

3.3.63 Linear feature **15** extended from the southern limit of Trench 2 for 0.89m before being truncated by linear feature **13**, and was not visible again. It was also 0.35m wide and 0.2m deep, with gently sloping sides and a concave base. Its sole fill was also a mid brownish-grey silty sand with occasional flint inclusions (16) which contained no finds.

#### *Undated Features (Fig. 5e)*

3.3.64 Two linear features were revealed which contained no finds and had no stratigraphic relationships with other features.

3.3.65 In the western third of the excavation area heavily truncated ditch **253** was located immediately to the west of possible oven/corn dryer **62**. Its close proximity to this feature (0.07m) means it was unlikely to have been associated with it, but no stratigraphic relationship was visible. On a broadly north to south alignment, ditch **253** extended for 3.57m from the northern limit of the excavation area before terminating. It measured 0.29m wide and 0.06m deep and was filled by a mid grey-brown silty clay with rare flint and gravel inclusions, and no finds (254).

3.3.66 Ditch terminus **28** was revealed only in the western end of Trench 1. This section of the trench was not re-stripped during the excavation phase because the requirement to store the subsoil within the easement meant that, as the archaeological horizon was slightly deeper at this point, the southern limit of the excavation area had to be adjusted accordingly. This feature extended for 1.27m from the southern limit of Trench 2 on a south-east to north-west alignment before terminating. With steep sides and a concave base, it measured 0.54m wide and 0.21m deep and was filled by a mid greyish-brown silty clay with frequent flint inclusions, and no finds (29).

#### *Natural Features (Fig. 5e)*

3.3.67 Four features were revealed in the excavation area which upon investigation were determined to be natural in origin.

3.3.68 In the western third of the excavation area was a natural layer/spread (**150**), which appeared to fill a natural hollow/undulation. Measuring 2.5m long, 0.73m wide and 0.04m thick, it was composed of a dark-reddish brown clay sand with rare gravel

inclusions. Two sherds (15g) of late 1st to 4th century AD pottery were recovered from this deposit.

- 3.3.69 Also in the western third of the excavation area, immediately to the north-east of Ring Gully 1, feature **190** was uncovered. This sub-circular feature extended from the northern edge of excavation and was truncated on its south-eastern edge by Period 4 pit **178**. Measuring 3.2m east to west and 1.5m north to south, it had irregular sides and an undulating base which strongly suggested it was of natural origin, and whilst it did not have the morphology of a 'classic' tree throw feature (cf. Moore and Jennings 1992, fig. 6; Langohr 1993, fig. 1), it may have marked the location of an uprooted or rotted-out tree stump, or some other kind of natural disturbance. Its sole fill was a dark reddish-brown clay sand with frequent gravel and rare charcoal inclusions, which contained no finds (191).
- 3.3.70 Approximately 5.8m to the east, linear feature **206** was revealed. This feature was just to the west of, and aligned broadly parallel with, north to south aligned ditch **253**. Despite having a similar appearance in plan to several of the north to south ditches in the excavation area, the irregularly sloping sides and undulating base, along with the apparent redeposited nature of the fill, led to this feature being interpreted as a probable variation in the natural geology, possibly relating to of periglacial processes. Measuring 0.58m wide and 0.11m deep, it was filled by a light yellowish-brown clay sand with rare gravel inclusions (207).
- 3.3.71 A final natural feature was revealed in the eastern third of the excavation area. Animal burrow **122 (134)** was an amorphous feature which was truncated on its north-western edge by Mid to Later-Roman ditch **127**. A smaller 'feature' with a similar fill was located 0.83m to the south-south-east, and upon excavation both were found to belong to an animal burrow which connected the two features visible in plan.

### 3.4 Trial Trench 3 (Fig. 6)

#### *Period 6: Post-medieval to modern*

- 3.4.1 Located 108m to the east of Trench 2 during the trial trench phase, the eastern end of east to west aligned Trench 3 was located approximately 10m from the field edge in Area A. Extending from the north-eastern corner of the trench, ditch **6** (Plate 15) was revealed on an east-northeast to west-southwest alignment, continuing beyond the southern limit of the trench. This feature has subsequently been identified as a post-medieval to modern field boundary ditch present on the first edition Ordnance Survey map from 1887 (Fig. 11). The <2m discrepancy between the location of ditch **6** and the line of the boundary ditch on the 1887 map is probably the result of a small error in the first edition mapping.
- 3.4.2 This ditch measured 1m wide and 0.36m deep, with steeply sloping sides and a concave base. The sole fill was a dark greyish-brown clay silt with moderate flint and chalk inclusions (7). A copper alloy strap end (SF 2), of medieval or later date, was recovered from the fill (Appendix B.1). Also recovered were one fragment (91g) of post-medieval brick, nine fragments (19g) of vole bone and one mussel shell (2g).

### 3.5 Watching Brief 1 – Peddars Way (Fig. 6)

- 3.5.1 A watching brief took place at the projected location of the Roman road, between Trial Trenches 3 and 4 (Plate 16). This monitoring was intended to identify if the placement of the pipe trench truncated the Roman road. To this end an approximately 20m long section of pipe trench was monitored to the west of Trench 3, up to the modern field boundary. The 0.5m wide pipe trench was excavated to a maximum depth of 1.3m and four layers of made ground and a layer of topsoil were recorded overlaying the natural geology (Fig. 9; Section 59). The deposits of made ground represented the material used to construct the railway embankment spur which projected to the north of the main railway embankment in this location, and details of all these layers are presented in Table 12 below.
- 3.5.2 No evidence of features or deposits relating to the road were visible. It is possible that any such remains lay beneath the made-ground encountered in the eastern part of the pipe trench or that they had been destroyed during the construction of the embankment in this area.

Layer Number	Thickness (m)	Colour	Composition	Function
259	0.29	Mid brown	Silty sand	Lowest bank layer, redeposited natural.
260	0.34	Light yellow	Sand with very frequent chalk inclusions	Made ground.
261	0.08m	White	Entirely chalk	Made ground.
262	0.26	Dark brown	Sandy silt with occasional chalk inclusions	Made ground.
263	0.1	Dark brown	Sandy silt with occasional flint inclusions.	Topsoil.

Table 12: Railway embankment spur layers

### 3.6 Trial Trench 8 (Fig. 7)

- 3.6.1 Trench 8 was located in mitigation Area C, approximately 2.05km to the east of Trench 3. This north to south aligned trench contained one pit near to its southern limit. Circular pit **8** was 0.72m in diameter and 0.14m deep, with gently sloping sides and a concave base. Its sole fill was a mid brownish-grey silty sand with occasional flint and rare charcoal inclusions (9). No finds were recovered from this feature and its date and function remain unknown.

### 3.7 Watching Brief 2 (Fig. 8)

- 3.7.1 The second watching brief phase was originally intended to monitor the open cut construction of the pipeline around the landscape feature known as ‘The Mount’ (Fig. 2, Plate 17) in Area E. However, changes to the construction design meant that the pipeline route was drilled at this point, making monitoring unnecessary. Consequently, the last area of topsoil stripping was monitored, in an area approximately 100m to the north of ‘The Mount’. This comprised an L-shaped section of the easement which was

approximately 130m long, extending southwards from Docking Road towards 'The Mount'.

- 3.7.2 Although this phase of work was not intended to go below the top of the subsoil horizon, due to the relatively thin coverage of the subsoil, one archaeological feature was exposed. The corner of a ditch **264** (Plate 18) was revealed, broadly aligned south to north and then turning to the west. In total a c. 9.5m length of this ditch was revealed, while the rest of the feature was still overlain by subsoil within the easement.
- 3.7.3 An intervention was excavated into the ditch, but was necessarily limited in nature due to the constraints of the ongoing construction works. At this point ditch **264** measured 1.24m wide with gently sloping sides. The base of the ditch was not reached and it was excavated to a depth of 0.2m before archaeological work had to be stopped. The sole fill excavated was a dark grey silty clay with rare flint inclusions (265). Three sherds (97g) of 2nd to 4th century AD pottery and 18 sherds (228g) of 3rd to 4th century AD pottery were recovered from this fill, along with two fragments (28g) of fired clay and 11 fragments (93g) of unidentified animal bone.
- 3.7.4 The pottery finds strongly indicate that this was a Roman feature (probably equating to Period 3 or 4). It provides good evidence for the continuation, or another focus, of Roman activity in this area. Also of note was that six sherds (185g) of Late Saxon to medieval pottery were recovered from the subsoil in the Watching Brief 2 easement, although the assemblage does no more than to indicate a presence during those periods in this area.

## 3.8 Finds and Environmental Summary

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

- 3.8.1 The metalwork assemblage comprised four incomplete iron nails recovered from features within the excavation area, a decorated bone-handled iron knife (SF 5) recovered from the base of the Period 3 ditch **39** and a rectangular copper alloy strap end (SF 2) recovered from post-medieval to modern field boundary ditch **6** in trial Trench 3. The knife handle was decorated at both ends with two sets of three chevrons, arranged with the points towards each other. Otherwise, it was of a fairly common type with a broad date range.

### *Flintwork*

- 3.8.2 Two small broken flint flakes were recovered from environmental sample 17 (fill 173 of Prehistoric pit **172**). Neither are chronologically diagnostic, but are likely to be contemporary with the Early Bronze Age Beaker pottery recovered from this context (Lawrence Billington, pers. comm.).

### *Prehistoric Pottery (Appendix B.2)*

- 3.8.3 The site yielded 21 sherds (225g) of prehistoric pottery with a high mean sherd weight of 10.7g. Three sherds (80g) of Early Bronze Age Beaker pottery came from pit **172** in the eastern third of the excavation area. A somewhat anomalous mixture of Middle Neolithic (three sherds, 22g), Early Bronze Age (10 sherds, 83g) and generic prehistoric

(one sherd, 4g) pottery came from Period 3 ditch **32**. Four sherds (36g) of Middle to Late Iron Age pottery were also recovered from this subsoil (2) in the excavation area.

### ***Roman Pottery (Appendix B.3)***

- 3.8.4 A total of 203 sherds (3.912kg) of Romano-British pottery, with an average sherd weight of 19g, was recovered during the trial trench, excavation and Watching Brief 2 phases of work. The majority of the assemblage comprises utilitarian coarse ware jars, dishes and storage jars typical of production in West Norfolk during the 3rd to early 4th centuries AD with smaller quantities of earlier Roman material.
- 3.8.5 Of particular note is the fragment of mortarium (SF 4) bearing the maker's stamp 'Regalis', the production of which can be firmly dated to the late 2nd century AD. This gives it an earlier production date to the majority of the Roman pottery assemblage, implying it may have been a curated or heirloom object.
- 3.8.6 Also of interest was the presence of several 'waster' sherds of pottery, indicating pottery production nearby, though no kiln-like features were revealed on the site.

### ***Post-Roman Pottery (Appendix B.4)***

- 3.8.7 This assemblage comprised six sherds (185g) of Late Saxon to early medieval and medieval pottery from the subsoil (2) in the watching Brief 2 area. The fragmentary nature of the assemblage means its significance is difficult to establish beyond indicating low levels of rubbish deposition and/or manuring in the post-Roman period from the 10th to 14th centuries AD.

### ***Stone (Appendix B.5)***

- 3.8.8 Two large worked flint nodules were recovered from the base of corn dryer **212** in the excavation area. It is possible they may have formed part of structure of the feature, though this cannot be firmly established.

### ***Ceramic Building Material (Appendix B.6)***

- 3.8.9 The archaeological work recovered 20 fragments (2.412kg) of ceramic building material (CBM), mostly from the excavation area. With the exception of one fragment of post-medieval brick recovered from ditch **6** in trial Trench 3, the assemblage comprised Roman material. Where dates based on form could be applied they complemented the phasing interpretation. The presence of *Tegula* and *Imbrex* roof tiles (10 fragments, 1.229kg) suggests at least one structure nearby, with the single flue tile (186g) recovered possibly being part of its internal wall or a box flue relating to a hypocaust system.

### ***Fired/Baked Clay (Appendix B.7)***

- 3.8.10 The excavation and Watching Brief 2 areas produced a total of 71 fragments (1.195kg) of fired clay from a variety of features. The assemblage comprised both amorphous pieces with no discernible features (46 fragments, 121g) and more 'structural' pieces with flattened surfaces and signs of hand forming (25 fragments, 1.074kg). The majority of the 'structural' fragments (18) came from Mid to Late-Roman pit **163**, and

were identified as being part of a clay lining possibly for an oven or hearth like feature – it is of note that this pit was located approximately 11.5m to the west of possible oven/corn dryer **62**.

3.8.11 Overall, however, the material was heavily abraded and fragmentary, and there is very little that can be drawn from the assemblage.

### *Animal Bone (Appendix C.1)*

3.8.12 A total of 113 (8.89kg) recordable fragments of animal bone were recovered from various features across the site. Cattle were the main species represented (23%) followed closely by horse (22.1%) and sheep/goat (20.4%). The predominance of cattle and sheep/goat indicates that domestic mammals represented the mainstay of the food economy. Although, it must be noted that shellfish also played a large part as shown by the amount of oyster and mussel shell recovered (see below).

3.8.13 The presence of horse and dog (15.9%) is relatively common for Romano-British sites, although the majority of horse remains from the assemblage were obtained from the Period 1 contexts (ditch **42**).

3.8.14 On the whole, the Romano-British assemblage is consistent with moderate-scale pastoral activities associated with a small farmstead.

### *Mollusca (Appendix C.2)*

3.8.15 A total of 433 shells or fragments (8.957kg) of marine molluscs were recovered, mainly from ditches, in trial Trenches 1 & 2 and the excavation area. The bulk of the shells recovered represent general discarded food waste, mainly oyster. The small amount of mussel shells suggests they may have been collected along with the oysters. However, several noticeably thicker shells with small holes apparently intentionally drilled into them, may have served as weights in some way.

### *The Environmental Samples (C.3)*

3.8.16 Nineteen bulk samples were taken from features within the excavation area, with several taken from Roman deposits containing good preservation of carbonised plant remains. By far the most significant was sample 18 taken from Period 4 corn dryer **212** which produced 600 germinated barley grains per litre of soil. This would have represented a catastrophic loss of a large amount of grain that had been heavily invested in through the processes of harvesting, threshing, sieving/cleaning and malting. Large amounts of barley are relatively rare for this region, where Mid to Late Roman farmsteads tend to focus on the production of glume wheats. The presence of such a feature is a probable indication of a Romano-British farmstead very nearby.

## 4 DISCUSSION

### 4.1 Reliability of field investigation

- 4.1.1 The results of the fieldwork are considered reliable, with no significant issues affecting its efficacy being encountered. This said, and as noted below, interpretation of the archaeological remains encountered in the excavation area was rendered difficult by the very partial exposure afforded by the pipeline easement.

### 4.2 Interpretation

#### *Period 1: Later Prehistoric (c.4000 BC – c.1st century AD)*

- 4.2.1 There was little substantial evidence for prehistoric activity across the various areas investigated during the archaeological works, and features and finds of this general date were restricted to the excavation area in Area A. Here, Neolithic and Early Bronze Age activity was represented by a single pit (**172**) associated with a small assemblage of Beaker pottery in the excavation area and a small assemblage of residual prehistoric pottery (Middle Neolithic Peterborough Ware and Beaker) from a period 3 ditch (**67**).
- 4.2.2 The finds assemblage from pit **172** is modest, consisting of three sherds (80g) of pottery, two flint flakes and a small quantity of charred barley grain from an environmental sample. Nonetheless, this feature is typical of Beaker pits elsewhere in the region which appear to have deliberately backfilled with material incorporating what appears to represent domestic waste, and presumably attests to an episode of (probably short-lived) settlement-type activity at the site at some point in the Early Bronze Age. The chronologically mixed, residual, material from ditch **67** is more difficult to interpret but presumably represent material originally deposited in surface scatters or ephemeral features which were subsequently cut by this later ditch. The Early Bronze Age activity in Area A may be at least broadly contemporary with the large round barrow cemetery located little more than 1km to the east (NHER 45008, Fig. 2), although trial trenching in this area (Area B) did not reveal archaeological remains of any kind.
- 4.2.3 The heavily truncated remnants of three ditches in the western third of the excavation area (ditches **42**, **65** and **144**) have also been attributed a broad prehistoric date, but this is tentative and none produced dateable finds. If they are indeed prehistoric they are likely to be either of Middle Bronze Age or Later Iron Age date, but they cannot be taken as evidence for a direct prehistoric precursor to the Roman settlement which subsequently developed in the area.

#### *Periods 2-4: Roman (c.AD 43 – 410)*

##### *Peddars Way and the wider Roman landscape*

- 4.2.4 The major research aim of the excavation was to investigate the relationship between the area of Roman settlement identified in Area A with the major Roman road – Peddars Way – located immediately to the east. The field to the north of the Area B excavations contains one of the best-documented crop/soil marks of Peddars Way (see Fig. 2) – clearly showing a road/trackway some 13m wide flanked by ditches. In this

context it is unfortunate that monitoring at the point the road was projected to cross the pipeline route was unable to locate any features or deposits associated with it due to the presence of deposits making up a modern railway embankment.

- 4.2.5 In Norfolk, the Peddars Way (NHER 1289) can be traced for some 68km, running from Shadwell, on the River Little Ouse, to Holme/Hunstanton on the coast (Albone 2016, 84-6). The precise date of its original construction remains uncertain. As a military road, however, it was presumably laid out (or formalised from earlier routeway) some time between the Claudian invasion of AD 43 and the aftermath of the Boudican revolt in the later 1st century AD – and the road has a clear relationship with the first century Roman fort at Saham Toney (NHER 4697), some 40km south-southwest of Sedgeford. Aside from the fort and associated settlement at Saham Toney, and the Roman small town at Brettenham, close to the Norfolk/Suffolk border, there is very little evidence for substantial settlement associated with Peddars Way in the county, especially along its northern part. Here, in west Norfolk, most discussion of Roman settlement has focused on sites further to the west, with a series of major Fen edge settlements (such as those at Hockwold; NHER 5160; 5316) and a string of confirmed and probable villa sites running along or close to the Greensand belt and Icknield Way. These villas and potential villas include sites at Gayton Thorpe, Grimston and Snettisham, and are generally seen to lie at the heart of large agricultural estates which dominated this part of the county (Gregory 1982).
- 4.2.6 In this context, the recognition of an area of Roman settlement adjacent to, and presumably associated with, Peddars Way is of some significance and, when coupled with finds recovered during various programmes of fieldwalking and metal detecting in the immediately vicinity (NHER 59938), attest to an extensive area of Roman activity.

#### *Sequence and character of Roman activity*

- 4.2.7 As noted above, the narrow exposure which the pipeline has provided through the relatively dense area of Roman remains in Area A makes interpretation of the broader layout of the site difficult, and hinders detailed understanding of the character and phasing of the site (see Fig. 12 for overall phased plan). Based on the stratigraphic evidence and the pottery, the sequence of Roman activity appears to cover much of the Roman period, from the later 1st/2nd century AD through to the later 4th century AD. Analysis of the pottery (App. B.3) makes it clear that the majority of the assemblage relates to activity in the 3rd and 4th centuries AD, but it is important to note that most of this material derived from features late within the stratigraphic sequence.

#### *Period 2: Early to Mid-Roman (late 1st to 2nd century)*

- 4.2.8 The stratigraphic and artefactual evidence points to the earliest phase of Roman activity beginning in the late 1st to 2nd century AD. The character of the features in this phase suggest relatively small-scale settlement and/or agricultural activity. Ring Gully 1, in the western third of the excavation area, could have been associated with a roundhouse or possibly some other type of structure intended for the storage of materials used in farming. To the east, eight ditches on either north to south or east to west alignments, and the southern part of a small enclosure (Enclosure 1) also

belonged to this phase and presumably represent boundaries for small enclosures or paddocks/plots – although their function remains uncertain, and finds were very scarce, with a small amount of pottery and an animal bone assemblage dominated by cattle

*Period 3: Mid to Later-Roman (late 2nd to 3rd century AD)*

- 4.2.9 Activity appear to have intensified from the late 2nd century AD onwards, with the setting out of a series of ditches which appear to define parts of a series of north-south/east-west aligned sub-rectangular enclosures. The relatively large assemblage of pottery from Enclosure 2 dates largely to the 3rd to 4th century AD, and may indicate that it was towards the end of this phase that the most intensive period of occupation and activity began. The rare find of a stamped mortarium (SF 4), from ditch **39**, bearing the 'Regalis' maker's stamp, dates to this period (late 2nd century AD, Appendix B.3), and the pottery, animal bone, and shell recovered from features belonging to this phase strongly suggest the various enclosures were associated with settlement-type activity.

*Period 4: Late-Roman (3rd to 4th century AD)*

- 4.2.10 A further shift in the emphasis of occupation can be traced across the final phase of Roman activity at the site. Some of the features and finds in the western third of the excavation area provide strong evidence for domestic activity, particularly Pit and Post Hole Group 1, which yielded refuse in the form of oyster shell, animal bone, CBM, pottery and fired clay.
- 4.2.11 The construction of possible oven/corn dryer **62** and corn dryer **212**, also in the western third of the excavation area, further underline in increased focus of activity in the zone. A feature of similar size and form to **212** was also uncovered during excavations at Brancaster Saxon shore fort c.5km to the north-west. This feature consisted of a stone-lined flue with a base composed of *tegulae* laid end-to-end (Hinchliffe & Sparey Green 1985). Whilst corn dryer **212** contained no structural elements *in situ*, the presence of a worked flint nodule at the base of the feature (Appendix B.5), along with the numerous fragments of *tegulae* recovered from nearby features (Appendix B.6), suggests this feature may have been of a similar composition before being demolished. Sampling of both of the corn dryer/oven features produced charred cereal grains; feature **62** produced a moderately sized assemblage of hulled wheat grains alongside barley grains – some of which were germinated – whilst **212** produced a very substantial assemblage of germinated barley grains alongside a much smaller number of grains of emmer wheat. As emphasised in Fosberry's discussion of the charred plant remains (App. C. 3), whilst these features are likely to have been multifunctional, used at various stages of the processing (i.e. drying, parching and malting) of different cereal crops, the dominance of germinated barley grain from feature **212**, and their presence in feature **62**, provides good evidence for the malting of barley, presumably for beer production.
- 4.2.12 This phase also saw the excavation of the large pits just to the east of the focus of settlement activity. These are likely to have been quarry/gravel extraction pits. The gravels may have been used to create yard surfaces or floors in the adjacent settlement

area (now ploughed out), or, given their size, could have been used to resurface/maintain parts of Peddars Way.

- 4.2.13 The fact that the bulk of the pottery assemblage derived from features in this late phase suggests that activity peaked in the 3rd and earlier 4th century AD, at least in this part of the wider settlement. The majority of the assemblage comprises utilitarian ware characteristic of domestic repertoires. These include coarse ware jars, dishes and storage jars typical of production in West Norfolk during the 3rd and 4th centuries AD, and similar to those in use at the contemporary Saxon shore fort at Brancaster (Appendix B.3). The discovery of several 'wasters' among the pottery assemblage also suggests pottery production activity nearby.
- 4.2.14 It is of note that the Roman pottery finds from ditch **264** in the Watching Brief 2 area were similar in date and type as to those found at the opposite end of the scheme, hinting at widespread activity across the area during this period.

### *Discussion*

- 4.2.15 Caveats about the partial nature of the excavation exposure in Area A aside, the evidence suggests that Roman settlement began at this location in the late 1st or 2nd century AD, with no indication of a Late Iron Age precursor. It is therefore tempting to see the establishment of occupation as being closely associated with the construction of Peddars Way. Be this as it may, it is clear that the most intensive period of activity belongs to the later Roman period, dating to the 3rd and 4th centuries AD. In general, the character of the remains from this period are fairly typical of Roman rural farmsteads in the region, with a range of utilitarian pottery, animal bone deriving from domestic stock, evidence for crop processing, and even some hints of pottery production (i.e. pottery wasters) indicated. This range of detritus from domestic and agrarian-based activities contained within a set of small ditched enclosures/plots is characteristic of much of Roman rural settlement in East Anglia, and typically defines farmstead-type occupations of the period.
- 4.2.16 A greater sense of the local context of the remains is revealed when the results of the excavation are considered in relation to those of intensive metal-detecting and fieldwalking programmes which has taken place in the fields surrounding Area A (see Fig. 2). In particular, the area directly to the north of the excavation has yielded a large number of Roman coins, alongside pottery, ceramic building material and other durable finds (NHER 59938). To some extent the character and date of this material (as recorded in the NHER) appears to complement the findings of the excavation. Over 150 Roman coins have come from this general area, and a cursory examination of the HER records indicates that most of these date to the 3rd and 4th centuries AD. This suggests that the remains encountered in the excavation relate to potentially extensive Roman settlement and activity in this area, adjacent to Peddars Way.

### *Period 5: Post-Roman (5th century AD onwards)*

- 4.2.17 Very few features were revealed in the excavation area, or elsewhere on the site, to enable any detailed characterisation of post-Roman activity. The three ditches in the excavation area (**30**, **141** and **184**) may not have been related to each other at all, but

as they only contained small amounts of residual Roman pottery little can be said concerning their precise date or function.

- 4.2.18 The only other indication of immediately post-Roman activity was the recovery of a small amount of Late Saxon to medieval pottery from the subsoil in the Watching Brief 2 area (see App. B.4). This probably entered the ground as a result of manuring practices, and therefore attests to little more than post-Roman arable activity in this area.

### ***Period 6: Post-medieval to modern (c.1500 – 1900 AD)***

- 4.2.19 Field boundary ditch **6** revealed in Trench 3, to the east of the excavation area, was probably established at some point in the post-medieval or early modern period and is present on the first edition OS mapping of 1887 (Fig. 11).

## **4.3 Conclusion**

- 4.3.1 The most significant outcome of the archaeological works carried out along the pipeline route was the excavations of features relating to an area of Roman settlement to the east of the village of Sedgeford, which appears to be associated with the Roman Road, Peddars Way. The settlement and associated agricultural activity here appears to have had its origins in the 1st or early 2nd century AD, but clearly reached a peak in the 3rd to 4th centuries AD.
- 4.3.2 Although the small scale of the excavation makes it difficult to fully characterise the nature and significance of this Roman settlement, its location within a wider area of activity represented by finds made during metal detecting and fieldwalking raises the possibility that there was a fairly extensive area of roadside settlement adjacent to Peddars Way in this location. This is some significance given the relative lack of evidence for settlement associated with the Road in this part of north-west Norfolk (see above) and highlights the potential value for further work in the area to examine the character, scale and status of this activity in more detail.

## APPENDIX A CONTEXT INVENTORY

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
1	0	0	layer	natural	Site		0	0	0		0.3	dark greyish brown	silt			
2	0	0	layer	natural	Site		0	0	0		0.25	dark orangey brown	silty clay			
3	0	0	layer	natural	Site		0	0	0							
4	4	4	cut	ditch	2	5	Mid - Later Roman	Enclosure 2	0	0.8	0.32			linear	e-w	wide u
5	4	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.32	mid greyish brown	silty sand			
6	6	0	cut	ditch	3	7	Post-Med	0	0	1	0.36			linear	ne-sw	u
7	6	0	fill	ditch	3		Post-Med	0	0		0.36	dark greyish brown	clayey silt			
8	8	0	cut	pit	8	9	Unphased	0	0	0.72	0.14			circular		u
9	8	0	fill	pit	8		Unphased	0	0		0.14	mid brownish grey	silty sand			
10	10	4	cut	ditch	2	,11 12	Mid - Later Roman	Enclosure 2	0	0.7	0.48			linear	e-w	wide u
11	10	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.24	mid greyish brown	silty sand			
12	10	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.24	dark brownish grey	silty sand			
13	13	0	cut	gully	2	14	Post Roman		0	0.35	0.2			linear	wnw-ese	flat bottomed u
14	13	0	fill	gully	2		Post Roman		0		0.35	mid brownish grey	silty sand			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
15	15	0	cut	ditch	2	16	Post Roman		0	0.35	0.2			linear	n-s	wide u
16	15	0	fill	ditch	2		Post roman		0		0.2	mid brownish grey	silty sand			
17	17	4	cut	ditch	2	18, 19	Mid - Later Roman	Enclosure 2	0	1.58	0.52			curvilinear		wide u
18	17	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.05	mid reddish brown	silty sand			
19	17	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.48	light greyish brown	silty sand			
20	20	0	cut	pit	2	21	Late Roman	0	0	1.17	0.21			circular		wide, flat based u
21	20	0	fill	pit	2		Late Roman	0	0		0.21	dark reddish brown	silty sand			
22	22	4	cut	ditch	2	23	Mid - Later Roman	Enclosure 2	0	0.8	0.24			linear	nnw-sse	wide u
23	22	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.24	mid brownish grey	silty sand			
24	24	4	cut	ditch	2	25	Mid - Later Roman	Enclosure 2	0		0.25			linear	e-w	n/a
25	24	4	fill	ditch	2		Mid - Later Roman	Enclosure 2	0		0.25	mid greyish brown	silty sand			
26	26	0	cut	pit	1	27	Late Roman	Extraction Activity	0	1.16	0.16			sub-circular		wide, flat based u
27	26	0	fill	pit	1		Late Roman	Extraction Activity	0		0.16	dark greyish brown	silty clay			
28	28	0	cut	ditch	1	29	Unphased	0	0	0.54	0.21			linear	nw-se	
29	28	0	fill	ditch	1		Unphased	0	0		0.21	mid greyish brown	silty clay			
30	30	30	cut	ditch	1	31	Post Roman	0	0	0.64	0.16			linear	n-s	wide u
31	30	30	fill	ditch	1		Post Roman	0	0		0.16	mid grey brown	sandy clay			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
32	32	32	cut	ditch	1	33	Mid - Later Roman		0	0.32	0.32			linear	n-s	trunc
33	32	32	fill	ditch	1		Mid - Later Roman		0		0.32	mid orange brown	silty clay			
34	34	34	cut	ditch	1	35	Late Roman		0	0.82	0.11			n/a	n-s	n/a
35	34	34	fill	ditch	1		Late Roman		0		0.11	mid orange brown	silty clay			
36	36	34	cut	ditch	1	,37 38	Late Roman		0	1.8	0.52			linear	n-s	u
37	36	34	fill	ditch	1		Late Roman		0		0.36	mid greyish brown	silty clay			
38	36	34	fill	ditch	1		Late Roman		0		0.24	dark greyish brown	silty clay			
39	39	39	cut	ditch	1	,40 41	Mid - Later Roman		0					linear	n-s	
40	39	39	fill	ditch	1		Mid - Later Roman		0			mid greyish brown	silty clay			
41	39	39	fill	ditch	1		Mid - Later Roman		0		0.45	mid greysih brown	clay silt			
42	42	42	cut	ditch	1	43	Prehistoric		0					linear	e-w	n/a
43	42	42	fill	ditch	1		Prehistoric		0			mid greyish brown	clayey silt			
44	0		VOID	VOID	1				0							
45	0		VOID	VOID	1				0							
46	46	44	cut	ditch	1	47	Early - Mid Roman		0	1.22	0.56			linear	n-s	u
47	46	44	fill	ditch	1		Early - Mid Roman		0		0.56	dark yellowish brown	silty clay			
48	48	42	cut	ditch	1	49	Prehistoric	Prehistoric Ditches	0	0.56	0.48			linear	e-w	u
49	48	42	fill	ditch	1		Prehistoric	Prehistoric Ditches	0		0.48	dark greyish brown	silty clay			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
50	50	0	cut	pit	Excavation	51	Late Roman	Pit & Post Hole Group 1	0.63	0.58	0.1			sub-circular		wide u
51	50	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.1	dark red brown	sandy clay			
52	54	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.14	mid greyish brown	silty sand			
53	54	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.12	dark brown	silty sand			
54	54	0	cut	pit	Excavation	,52 53	Late Roman	Pit & Post Hole Group 1	1.4	0.95	0.32			circular		u
55	56	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1			0.22	mid greyish brown	silty sand			
56	56	0	cut	pit	Excavation	55	Late Roman	Pit & Post Hole Group 1	1.1	0.6	0.22			circular		wide u
57	57	0	cut	pit	Excavation	58	Late Roman	Pit & Post Hole Group 1	0	0.52	0.1			sub-circular		wide u
58	57	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.14	mid grey brown	sandy silt			
59	59	39	cut	ditch	Excavation	,60 61	Mid - Later Roman		0	1.7	0.62			linear	e-w	wide u
60	59	39	fill	ditch	Excavation		Mid - Later Roman		0		0.5	mid greyish brown	silty sand			
61	59	39	fill	ditch	Excavation		Mid - Later Roman		0		0.12	dark greyish brown	silty sand			
62	62	0	cut	hearth/oven	Excavation	,241 255	Late Roman	Possible Oven/Corn Dryer	1.14	0.43	0.14			sub-circular	e-w	irregular

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
63	65	0	fill	ditch	Excavation		Prehistoric	Prehistoric Ditches	0		0.28	mid grey brown	silty sand			
64	65	0	fill	ditch	Excavation		Prehistoric	Prehistoric Ditches	0		0.1	dark greyish brown	silty sand			
65	65	0	cut	ditch	Excavation	,64 63	Prehistoric	Prehistoric Ditches	0	0.8	0.5			linear	nnw-sse	n/a
66	67	32	fill	ditch	Excavation		Mid Neo - EBA		0		0.44	mid yellowish brown	silty sand			
67	67	32	cut	ditch	Excavation	66	Mid - Later Roman		0	0.74	0.44			curvilinear	nnw-sse	
68	69	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.12	dark greyish brown	silty sand			
69	69	0	cut	pit	Excavation	68	Late Roman	Pit & Post Hole Group 1	0	0.44	0.12			sub-circular		wide u
70	71	32	fill	ditch	Excavation		Mid - Later Roman		0		0.08	light greyish brown	silty sand			
71	71	32	cut	ditch	Excavation	70	Mid - Later Roman		0	0.26	0.26			curvilinear	curving east to north	n/a
72	73	32	fill	ditch	Excavation		Mid - Later Roman		0		0.32	dark greyish brown	silty sand			
73	73	32	cut	ditch	Excavation	,72 74	Mid - Later Roman		0	1.02	0.44			curvilinear	curving east to north	wide u where visible
74	73	32	fill	ditch	Excavation		Mid - Later Roman		0		0.12	dark grey	silty sand			
75	76	0	fill	ditch	Excavation		Early - Mid Roman		0		0.26	dark greyish brown	silty sand			
76	76	0	cut	ditch	Excavation	75	Early - Mid Roman		0	0.65	0.26			linear	n-s	rounded v

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
77	78	32	fill	ditch	Excavation		Mid - Later Roman		0			dark greyish brown	silty sand			
78	78	32	cut	ditch	Excavation	77	Mid - Later Roman		0					linear	e-w	n/a
79	79	0	cut	pit	Excavation	,80 81	Late Roman	Extraction Activity	0	0.97	0.2			sub-circular		flat based u
80	79	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.08	mid reddish brown	sandy clay			
81	79	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.12	mid reddish brown	clay silt			
82	82	0	cut	natural	Excavation	83	Late Roman	Extraction Activity	0	0.4	0.46			sub-circular		u
83	82	0	fill	natural	Excavation		Late Roman	Extraction Activity	0		0.46	mid reddish brown	silty clay			
84	84	0	cut	pit	Excavation	,85 ,86 87	Late Roman	Extraction Activity	5.6	9.47	1			sub-circular		large u
85	84	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.4	dark greyish brown	clay silt			
86	84	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.3	light reddish brown	clay silt			
87	84	0	layer		Excavation			Extraction Activity	0		0.3	dark grey brown	clay silt			
88	88	39	cut	ditch	Excavation	,89 ,112 113	Mid - Later Roman		0	1.61	0.7			linear	e-w	wide u
89	88	39	fill	ditch	Excavation		Mid - Later Roman		0		0.23	mid reddish brown	clay sand			
90	90	0	cut	ditch	Excavation	91	Mid - Later Roman	0	0	1	0.14			linear	n-s	wide u
91	90	0	fill	ditch	Excavation		Mid - Later Roman	0	0		0.14	mid reddish brown	clay sand			
92	92	92	cut	ring gully	Excavation	93	Early - Mid Roman	Ring Gully 1	0	0.62	0.05			curvilinear	w-e, curving south	wide u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
93	92	92	fill	ring gully	Excavation		Early - Mid Roman	Ring Gully 1	0		0.05	mid reddish brown	sandy clay			
94	94	0	cut	pit	Excavation	95	Late Roman	Pit & Post Hole Group 1	0	1.02	0.2			sub-circular		wide v
95	94	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.2	mid reddish brown	clay sand			
96	96	0	cut	post hole	Excavation	97	Late Roman	Pit & Post Hole Group 1	0	0.27	0.08			circular		wide u
97	96	0	fill	post hole	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.08	mid reddish brown	clay sand			
98	98	4	cut	ditch	Excavation	99	Mid - Later Roman	Enclosure 2	0	0.72	0.28			linear	n-s	flat bottomed v
99	98	4	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.28	mid greyish brown	silty sand			
100	100	0	cut	post hole	Excavation	101	Late Roman	Pit & Post Hole Group 2	0	0.26	0.21			circular		flat bottomed u
101	100	0	fill	post hole	Excavation		Late Roman	Pit & Post Hole Group 2	0		0.21	mid greyish brown	silty sand			
102	102	0	cut	ditch	Excavation	103	Early - Mid Roman		0	0.6	0.17			linear	n-s	wide u
103	102	0	fill	ditch	Excavation		Early - Mid Roman		0		0.17	mid greyish brown	silty sand			
104	104	104	cut	ditch	Excavation	105	Mid - Later Roman	Enclosure 2	0	1.34	0.59			curvilinear	curving from west to north	flat bottomed u
105	104	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.59	mid greyish brown	silty sand			
106	106	0	cut	pit	Excavation	107	Late Roman	Pit & Post Hole Group 2	0	0.78	0.09			circular		wide, flat bottomed u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
107	106	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 2	0		0.09	mid greyish brown	silty sand			
108	108	0	cut	pit	Excavation	109	Late Roman	Pit & Post Hole Group 2	0	0.88	0.23			circular		wide v
109	108	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 2	0		0.23	mid grey brown	silty sand			
110	110	0	cut	post hole	Excavation	111	Late Roman	Pit & Post Hole Group 2	0	0.32	0.22			circular		flat bottomed u
111	110	0	fill	post hole	Excavation		Late Roman	Pit & Post Hole Group 2	0		0.22	mid greyish brown	silty sand			
112	88	39	fill	ditch	Excavation		Mid - Later Roman		0		0.3	dark reddish brown	clay sand			
113	88	39	fill	ditch	Excavation		Mid - Later Roman		0		0.3	mid reddish brown	clay sand			
114	119	39	fill	ditch	Excavation		Mid - Later Roman		0		0.2	mid grey brown	silty sand			
115	119	39	fill	ditch	Excavation		Mid - Later Roman		0		0.1	mid greyish brown	silty clay			
116	0	0	VOID	VOID	Excavation				0							
117	119	39	fill	ditch	Excavation		Mid - Later Roman		0		0.26	mid greyish brown	silty sand			
118	119	39	fill	ditch	Excavation		Mid - Later Roman		0		0.18	mid reddish brown	silty clay			
119	119	39	cut	ditch	Excavation	,114 ,115 ,117 ,118	Mid - Later Roman		0	1.94	0.56			linear	e-w	wide, irregular v
120	120	92	cut	ring gully	Excavation	121	Early - Mid Roman	Ring Gully 1	0	0.25	0.06			curvilinear	curving east to south	wide u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
121	120	92	fill	ring gully	Excavation		Early - Mid Roman	Ring Gully 1	0		0.06	mid reddish brown	clay sand			
122	122	0	cut	natural	Excavation	123	Unphased	Natural	0							
123	122	0	fill	natural	Excavation		Unphased	Natural	0							
124	124	124	cut	ditch	Excavation	125	Late Roman		0	0.74	0.4			linear	nne-ssw	flat bottomed u
125	124	124	fill	ditch	Excavation		Late Roman		0		0.4	mid grey brown	silty sand			
126	127	127	fill	ditch	Excavation		Mid - Later Roman	0	0		0.24	dark greyish brown	silty sand			
127	127	127	cut	ditch	Excavation	126	Mid - Later Roman	0	0	0.9	0.24			linear	e-w	flat bottomed, irregular
128	128	127	cut	ditch	Excavation	129	Mid - Later Roman	0	0	0.92	0.33			linear	e-w	wide u
129	128	127	fill	ditch	Excavation		Mid - Later Roman	0	0		0.33	dark reddish brown	silty sand			
130	130	0	cut	gully	Excavation	131	Early - Mid Roman	0	0	0.28	0.06			curvilinear	e-w	wide u
131	130	0	fill	gully	Excavation		Early - Mid Roman	0	0		0.06	dark reddish brown	clay sand			
132	132	0	cut	gully	Excavation	133	Early - Mid Roman	0	0	0.28	0.08			curvilinear	e-w	rounded v
133	132	0	fill	gully	Excavation		Early - Mid Roman	0	0		0.08	dark red brown	clay sand			
134	134	0	cut	natural	Excavation		Unphased	Natural	0							
135	134	0	fill	natural	Excavation		Unphased	Natural	0							
136	136	127	cut	ditch	Excavation	137	Mid - Later Roman	0	0					curvilinear	curving from west to north	n/a

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
137	136	127	fill	ditch	Excavation		Mid - Later Roman	0	0			dark reddish grey	silty sand			
138	138	0	cut	pit	Excavation	139 140	Late Roman	Extraction Activity	3.8	4.37	1			sub-circular		wide, flat bottomed u
139	138	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.57	dark greyish brown	sandy clay			
140	138	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.22	light grey brown	sandy clay			
141	141	141	cut	ditch	Excavation	142	Post Roman	0	0	0.86	0.3			linear	nne-ssw	flat bottomed u
142	141	141	fill	ditch	Excavation		Post Roman	0	0		0.3	dark grey brown	sandy clay			
143	0	0	VOID	VOID	Excavation			0	0							
144	144	0	cut	ditch	Excavation	145	Prehistoric	Prehistoric Ditches	0	1	0.14			linear	se-nw	wide, flat bottomed u
145	144	0	fill	ditch	Excavation		Prehistoric	Prehistoric Ditches	0		0.14	light greyish brown	silty sand			
146	146	0	cut	pit/post hole	Excavation	147	Late Roman	Pit & Post Hole Group 1	0	0.33	0.3			circular		u
147	146	0	fill	pit/post hole	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.3	mid greyish brown	silty sand			
148	148	92	cut	ring gully	Excavation	149	Early - Mid Roman	Ring Gully 1	0	0.4	0.03			curvilinear	curving west to south	heavily truncated, appears flat based u
149	148	92	fill	ring gully	Excavation		Early - Mid Roman	Ring Gully 1	0		0.03	dark red brown	clay sand			
150	0	0	layer	natural hollow ?	Excavation			Natural	2.5	0.73	0.04	dark reddish brown	clay sand			
151	151	0	cut	post hole	Excavation	152	Late Roman	Pit & Post Hole Group 1	0.5	0.4	0.15			sub-circular		irregular

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
152	151	0	fill	post hole	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.15	dark reddish brown	clay sand			
153	153	153	cut	ditch	Excavation	154	Early - Mid Roman	Enclosure 1	0	1.08	0.28			curvilinear	e-w	irregular v
154	153	153	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.28	mid greyish brown	silty sand			
155	155	104	cut	ditch	Excavation	,156 ,157 160	Mid - Later Roman	Enclosure 2	0	1.14	0.6			linear	e-w	wide u
156	155	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.38	light brownish grey	silty sand			
157	155	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.06	dark brownish black	silty sand			
158	158	4	cut	ditch	Excavation	159	Mid - Later Roman	Enclosure 2	0	1.02	0.32			linear	e-w	wide v
159	158	4	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.32	mid greyish brown	silty sand			
160	155	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.1	dark grey brown	silty sand			
161	161	0	cut	pit	Excavation	162	Late Roman	Extraction Activity	2.6	1.06	0.42			sub-circular		n/a
162	161	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.42	mid greyish brown	sandy clay			
163	163	0	cut	pit/post hole	Excavation	164	Late Roman	Pit & Post Hole Group 1	0	0.98	0.31			sub-circular		wide u
164	163	0	fill	pit/post hole	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.31	dark reddish brown	clay sand			
165	165	0	cut	pit	Excavation	,166 167	Late Roman	Extraction Activity	2.7	2.5	0.56			sub-circular		stepped, flat bottomed u
166	165	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.28	mid yellowish brown	sandy clay			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
167	165	0	fill	pit	Excavation		Late Roman	Extraction Activity	0		0.23	mid grey brown	sandy clay			
168	168	30	cut	ditch	Excavation	169	Post Roman	0	0	0.6	0.2			linear	e-w	wide u
169	168	30	fill	ditch	Excavation		Post Roman	0	0		0.2	dark grey brown	sandy clay			
170	170	0	cut	ditch	Excavation	171	Early - Mid Roman	Enclosure 1	0	0.6	0.31			curvilinear	curving north to east	flat botomed u
171	170	0	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.31	mid greyish brown	silty sand			
172	172	0	cut	pit	Excavation	173	Prehistoric	0	1.39	0.73	0.15			sub-circular	wsw-ene	irregular
173	172	0	fill	pit	Excavation		Prehistoric	0	0		0.15	dark reddish brown	silty sand			
174	174	153	cut	ditch	Excavation	175	Early - Mid Roman	Enclosure 1	0	1.4	0.15			curvilinear	north curving west	flat bottomed u
175	174	153	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.15	mid greyish brown	silty sand			
176	176	4	cut	ditch	Excavation	177	Mid - Later Roman	Enclosure 2	0	1.45	0.32			linear	e-w	wide v
177	176	4	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.32	mid greyish brown	silty sand			
178	178	0	cut	pit	Excavation	179	Late Roman	Pit & Post Hole Group 1	0.53	0.52	0.24			circular		wide u
179	178	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.24	dark reddish brown	clay sand			
180	180	0	cut	ditch	Excavation	181	Late Roman		0	0.55	0.2			linear	n-s	flat bottomed v
181	180	0	fill	ditch	Excavation		Late Roman		0		0.2	mid greyish brown	sandy clay			
182	182	0	cut	ditch	Excavation	183	Late Roman		0	0.8	0.35			linear	n-s	wide u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
183	18 2	0	fill	ditch	Excavation		Late Roman		0		0.35	mid greyish brown	sandy clay			
184	18 4	0	cut	ditch	Excavation	185	Post Roman	0	0	0.31	0.12			linear	nnw-sse	wide u
185	18 4	0	fill	ditch	Excavation		Post Roman	0	0		0.12	dark grey brown	clay sand			
186	18 6	153	cut	ditch	Excavation	187	Early - Mid Roman	Enclosure 1	0	0.41	0.1			curvilinear	curving from nnw to e	wide u
187	18 6	153	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.1	mid greyish brown	silty sand			
188	18 8	0	cut	ring gully	Excavation	189	Late Roman	Ring Gully 2	0	0.67	0.16			curvilinear		wide u
189	18 8	0	fill	ring gully	Excavation		Late Roman	Ring Gully 2	0		0.16	mid grey brown	silty sand			
190	19 0	0	cut	natural	Excavation	191	Unphased	Natural	2.79	1.8	0.2			amorphous	n/a	n/a
191	19 0	0	fill	natural	Excavation		Unphased	Natural	0		0.2	dark reddish brown	clay sand			
192	19 2	0	cut	ditch	Excavation	193	Early - Mid Roman	Enclosure 1	0	0.32	0.1			linear	e-w	irregular
193	19 2	0	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.1	mid greyish brown	silty sand			
194	19 4	153	cut	ditch	Excavation	195	Early - Mid Roman	Enclosure 1	0	0.51	0.14			linear	e-w	n/a
195	19 4	153	fill	ditch	Excavation		Early - Mid Roman	Enclosure 1	0		0.14	mid grey brown	silty sand			
196	19 6	104	cut	ditch	Excavation	197	Mid - Later Roman	Enclosure 2	0					linear	e-w	n/a
197	19 6	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0			mid grey brown	silty sand			
198	19 8	124	cut	ditch	Excavation	199	Late Roman		0					linear	nne-ssw	n/a
199	19 8	124	fill	ditch	Excavation		Late Roman		0			mid brown grey	silty sand			
200	20 0	4	cut	ditch	Excavation	201	Mid - Later Roman	Enclosure 2	0	1.2	0.34			curvilinear	nnw-sse	wide u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
201	200	4	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.34	mid grey brown	silty sand			
202	202	30	cut	ditch	Excavation	203	Post Roman	0	0	0.7	0.18			L-shaped	e-w, turning south in this slot	irregular
203	202	30	fill	ditch	Excavation		Post Roman	0	0		0.18	dark grey brown	sandy clay			
204	204	34	cut	ditch	Excavation	205	Late Roman		0					linear	n-s	n/a
205	204	34	fill	ditch	Excavation		Late Roman		0			dark grey brown	sandy clay			
206	206	0	cut	natural	Excavation	207		Natural	0	0.58	0.11			linear	n-s	irregular
207	206	0	fill	natural	Excavation			Natural	0		0.11	light yellowish brown	clay sand			
208	208	39	cut	ditch	Excavation	209	Mid - Later Roman		0					linear	e-w	n/a
209	208	39	fill	ditch	Excavation		Mid - Later Roman		0			dark red brown	clay sand			
210	210	0	cut	pit	Excavation	211	Late Roman	Pit & Post Hole Group 1	0.65	0.52	0.19			sub-circular		u
211	210	0	fill	pit	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.19	dark reddish brown	clay sand			
212	212	0	cut	corn dryer	Excavation	225 226	Late Roman		1.4	1.2	0.6			sub-circular	e-w	wide u
213	213	141	cut	ditch	Excavation	214	Post Roman	0	0	0.55	0.47			linear	ssw-nne	irregular
214	213	141	fill	ditch	Excavation		Post Roman	0	0		0.47	mid grey brown	sandy clay			
215	215	30	cut	ditch	Excavation	216	Post Roman	0	0	0.6	0.12			linear	e-w	wide, flat bottomed u
216	215	30	fill	ditch	Excavation		Post Roman	0	0		0.12	dark grey brown	sandy clay			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
217	0	0	VOID	VOID	Excavation		0	0	0							
218	0	0	VOID	VOID	Excavation		0	0	0							
219	0	0	VOID	VOID	Excavation		0	0	0							
220	0	0	VOID	VOID	Excavation		0	0	0							
221	221	0	cut	pit/post hole	Excavation	222	Late Roman	Pit & Post Hole Group 1	0.42	0.39	0.17			sub-circular		wide u
222	221	0	fill	pit/post hole	Excavation		Late Roman	Pit & Post Hole Group 1	0		0.17	dark reddish brown	clay sand			
223	0	0	VOID	VOID	Excavation		0	0	0							
224	0	0	VOID	VOID	Excavation		0	0	0							
225	212	0	fill	corn dryer	Excavation		Late Roman	Corn Dryer	0		0.34	dark brown	silty sand			
226	212	0	fill	corn dryer	Excavation		Late Roman	Corn Dryer	0		0.14	v dark brown	silty sand			
227	227	44	cut	ditch	Excavation	228	Early - Mid Roman		0	1.08	0.5			linear	n-s	n/a - too heavily truncated by oven 212
228	227	44	fill	ditch	Excavation		Early - Mid Roman		0		0.5	mid reddish brown	silty sand			
229	229	104	cut	ditch	Excavation		Mid - Later Roman	Enclosure 2	0	1.09	0.63			linear	e-w	wide v
230	229	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.2	mid grey brown	sandy clay			
231	231	4	cut	ditch	Excavation	232	Mid - Later Roman	Enclosure 2	0	1.1	0.4			linear	e-w	wide u
232	231	4	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.4	mid grey brown	sandy clay			
233	233	0	cut	ditch	Excavation	,234 ,235 236	Early - Mid Roman		0	1.38	0.6			linear	nne-ssw	stepped

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
234	233	0	fill	ditch	Excavation		Early - Mid Roman		0		0.1	dark greyish brown	sandy clay			
235	233	0	fill	ditch	Excavation		Early - Mid Roman		0		0.09	mid yellowish brown	sandy clay			
236	233	0	fill	ditch	Excavation		Early - Mid Roman		0		0.3	mid grey brown	sandy clay			
237	237	42	cut	ditch	Excavation	238	Prehistoric	Prehistoric Ditches	0	1.07	0.36			linear	e-w	flat bottomed v
238	237	42	fill	ditch	Excavation		Prehistoric	Prehistoric Ditches	0		0.36	mid grey brown	sandy clay			
239	239	39	cut	ditch	Excavation	240	Mid - Later Roman		0		0.63			curvilinear	curving west to south	n/a
240	239	39	fill	ditch	Excavation		Mid - Later Roman		0		0.63	dark grey brown	sandy clay			
241	62	0	fill	hearth/oven	Excavation		Late Roman	Possible Oven/Corn Dryer	0		0.14	dark brown	clay sand			
242	242	0	cut	post hole	Excavation	243	Late Roman	Extraction Activity	0.68	0.57	0.17			sub-circular		wide u
243	242	0	fill	post hole	Excavation		Late Roman	Extraction Activity	0		0.17	light reddish brown	clay sand			
244	244	0	cut	ditch	Excavation	245 246	Early - Mid Roman		0	1.1	0.5			linear	n-s	wide v
245	244	0	fill	ditch	Excavation		Early - Mid Roman		0		0.17	dark grey brown	sandy clay			
246	244	0	fill	ditch	Excavation		Early - Mid Roman		0		0.5	dark reddish grey	sandy clay			
247	247	0	cut	ditch	Excavation	248	Late Roman		0	0.5	0.23			linear	n-s	wide u
248	247	0	fill	ditch	Excavation		Late Roman		0		0.23	dark grey brown	sandy clay			
249	249	0	cut	ditch	Excavation	250	Late Roman		0	0.8	0.2			linear	n-s	wide u

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
250	249	0	fill	ditch	Excavation		Late Roman		0		0.2	dark reddish grey	sandy clay			
251	251	0	cut	ditch	Excavation	252	Early - Mid Roman		0	0.45	0.21			linear	n-s	flat bottomed u
252	251	0	fill	ditch	Excavation		Early - Mid Roman		0		0.21	mid brown grey	sandy clay			
253	253	0	cut	ditch	Excavation	254	Unphased	0	0	0.29	0.06			linear	n-s	wide u
254	253	0	fill	ditch	Excavation		Unphased	0	0		0.06	mid grey brown	silty clay			
255	62	0	fill	hearth/oven	Excavation		Late Roman		0		0.11	mid red	clay			
256	256	104	cut	ditch	Excavation	257	Mid - Later Roman	Enclosure 2	0	0.2	0.1			linear	e-w	n/a
257	256	104	fill	ditch	Excavation		Mid - Later Roman	Enclosure 2	0		0.1	light brown	silty sand			
258	258	0	cut		WB 1	,259 ,260 ,261 ,262 263	Modern	Railway Embankment	0	0.5	1.3					
259	258	0	layer	bank	WB 1		Modern	Railway Embankment	0		0.29	mid brown	silty sand			
260	258	0	layer	bank	WB 1		Modern	Railway Embankment	0		0.34	light yellow	sand			
261	258	0	layer	bank	WB 1		Modern	Railway Embankment	0		0.08	white				
262	258	0	layer	bank	WB 1		Modern	Railway Embankment	0		0.26	mid brown	sandy silt			
263	258	0	layer	bank	WB 1		Modern	Railway Embankment	0		0.1	dark brown	silt			

Context	Cut	Master Number	Category	Feature Type	Trench	Filled By	Period	Group	Length	Breadth	Depth	Colour	Fine component	Shape in Plan	Orientation	Profile
264	264	0	cut	ditch	WB 2	265	Late Roman	0	0	1.24	0.2			linear	N-S	N/A
265	264	0	fill	ditch	WB 2		Late Roman	0	0		0.2	dark grey	silty clay			

Table 13: Context Inventory

## APPENDIX B FINDS REPORTS

### B.1 Metalwork

*By Chris Howard-Davis*

#### *Introduction and Methodology*

B.1.1 A small group of items of ironwork and one of copper alloy were submitted for comment. All were in poor condition and had been submitted to x-ray to aid identification, and one, bone-handled knife SF 5, had been conserved prior to receipt.

#### *Results*

B.1.2 There were five ironwork objects, of which four were fragmentary nails. None were complete, and only SF. 1, from Trench 1, context 27, retained its head. Although it was not clear from either the objects themselves, or the x-ray images, it is likely that the nails were hand-forged, and thus can date, effectively from any time between the Roman period and the present day. They are, however, an indication of nailed wooden structures within the vicinity of the site, and one (SF. 6) from context 197, was clenched at around 35mm, suggesting that it had been used in a relatively thin item, perhaps a door or shutter.

B.1.3 The fifth item is a relatively well-preserved iron knife blade with its accompanying bone handle. The effectively triangular slightly convex, whittle-tang blade, has narrow sloping shoulders, and the centrally-set tang runs the length of the handle, and possibly originally extended slightly further, allowing it to be turned over the end of the handle in order to hold it in place. The handle, now in several pieces, is cut from a quadruped metapodial. It is decorated, at both ends, with paired groups of three incised chevrons. The central part of the handle grip is plain, and has some evidence of damage, probably in use, with several irregular cuts and dents suggesting intensive use, although the blade does not appear to have been misshapen by repeated sharpening. There is no indication of a maker's mark or other inlaid decoration.

B.1.4 This form is common over a very long period (Goodall 1981), from the Romano-British period (Manning 1985, fig 28, type 16) to as late as the early fifteenth century. However, given that the context within which it was found contained 3rd to 4th century AD Roman pottery, and the ditch as a whole is firmly Roman in date, this blade can be confidently dated to the Romano-British period.

B.1.5 There is, in addition, a single copper alloy object (SF. 2 from context 7). It is identifiable as a plain strap end, with two rivets at one end indicating how it was joined to the strap. Its simplicity means that it is not easily dateable, but it would not be out of place in a medieval or later context.

## Catalogue

Small find number	Object	Context	Feature	Length (mm)	Width/diameter (mm)	Thickness (mm)	Description
1	Iron nail	27	Pit <b>26</b>	38	13 (head)		Nail, incomplete, head and part of shaft
2	Copper alloy strap end	7	Ditch <b>6</b>	61	22	3.5	Rectangular strap end, complete. One-piece strap end. An elongated, slightly tapering rectangle, cut to a point at one end and with two small rivets at the opposing end. The rivets are now headless. Entire piece now bent to approximately 90 deg at the mid-point.
3	Iron nail	137	Ditch <b>136 (127)</b>	38			Nail, incomplete, shaft only.
5	Iron knife with bone handle	240	Ditch <b>139 (39)</b>	200	24 (blade) 21 (handle)	2.5 (blade)	Whittle-tanged blade, straight-backed. Long tang set in crudely decorated bone handle (90mm long) cut from a longbone. The handle is now incomplete, but is decorated at both ends with two sets of three chevrons, arranged with the points towards each other. There is some damage in the form of small cuts and digs, concentrated towards the centre of the handle.
6	Iron nail	197	Ditch <b>196 (104)</b>	50			Nail, incomplete, shaft only, clenched at c 35mm.
7	Iron nail	248	Ditch <b>247</b>	35			Nail, incomplete, shaft only, probably broken at clench.

Table 14: Metalwork catalogue

## B.2 Prehistoric Pottery

By Nick Gilmour

### Introduction

- B.2.1 The project yielded 21 sherds of prehistoric pottery (225g) with a high mean sherd weight (MSW) of 10.7g. The pottery was recovered from three contexts relating to a ditch, a pit and the subsoil (Table 15).
- B.2.2 The pottery dates from the Middle Neolithic, Early Bronze Age and Late Iron Age. It includes a small number of feature sherds characteristic of Peterborough Ware and Beaker ceramics, together with fabrics typically associated with these ceramic traditions in the region.
- B.2.3 The pottery is in moderate to poor condition. Most of the sherds are small and abraded, with a few larger sherds, which brought up the MSW. The sherds from subsoil (2) are in particularly bad condition.

Context	Cut	Feature Type	Spot Date	No sherds	Weight (g)
2	n/a	Subsoil	LIA	1	22
2	n/a	Subsoil	LIA	2	5
2	n/a	Subsoil	MIA?	1	9
66	67	Ditch	EBA	10	83
66	67	Ditch	MNEO	3	22
66	67	Ditch	prehistoric	1	4
173	172	Pit	EBA	3	80
<b>Total</b>				<b>21</b>	<b>225</b>

Table 15: Quantification of prehistoric pottery

### Methodology

- B.2.4 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. Sherds from all contexts were counted, weighed (to the nearest whole gram) and assigned to a fabric group. Sherd type was recorded, along with evidence for 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. Where possible, rim and base diameters were measured, and surviving percentages noted. In cases where a sherd or groups of refitting sherds retained portions of the rim, shoulder and/or other diagnostic features, the vessel was categorised by ceramic tradition (Peterborough Ware, Beaker etc.)
- B.2.5 All pottery was subject to sherd size analysis. Sherds less than 4cm in diameter were classified as 'small' (14 sherds); sherds measuring 4-8cm were classified as 'medium' (five sherds), and sherds over 8cm in diameter were classified as 'large' (two sherds). The quantified data is presented on an Excel data sheet held with the site archive.

### Prehistoric pottery fabrics

B.2.6 Seven different fabrics were identified within this small pottery assemblage. These are listed below and a quantification of the material by fabric is given in Table 16.

G1: Frequent medium and course grog (2-4mm)

SG1: Frequent quartz sand and sparse fine grog, hard

SG2: Frequent quartz sand and sparse fine grog, soft

F1: Moderate medium flint (c.2mm) and sparse sand

F2: Sparse fine flint.

F3: Frequent fine flint and moderate quartz sand

S1: Moderate medium and course shell, most leached leaving plate like voids, sparse quartz sand

SA: frequent quartz sand.

Fabric type	No sherds	Weight (g)	% fabric (by wt.)	MNV
F1	3	22	9.78	1
F2	1	4	1.78	-
G1	11	130	57.78	2
S1	1	22	9.78	1
SA	3	14	6.22	-
SG1	1	26	11.56	-
SG2	1	7	3.11	-
Total	21	225	100	4

Table 16: Quantification of prehistoric pottery by fabric. MNV calculated as the total number of different rims and bases (three rims, one base)

### **Middle Neolithic pottery**

B.2.7 A total of just three sherds (22g) of pottery has been assigned a Middle Neolithic date. This material was all retrieved from ditch **67** and is from the Peterborough ware ceramic tradition. These three sherds are all in fabric F1. Fabrics with flint inclusions are not unusual in Peterborough ware assemblages.

B.2.8 All three sherds are likely to be from the same vessel, as the fabric and wall thickness of each is so similar, although none re-fit. One sherd (13g) is from the rim of the vessel. This rim is flat and expanded externally. The rim top is decorated with closely spaced incised slashes across it. Internally there is a series of short cord impressed diagonal lines, just below the rim. Externally there are further diagonal impressed lines, although it is not clear if these were made with a cord. A second sherd (6g) is also decorated, with vertical incised lines, below which are rows of impressed dots (possibly made with a reed). The final sherd (3g) is a plan body sherd.

B.2.9 With only three sherds recovered, attributing this material to one of the sub-styles of the Peterborough ware ceramic tradition is difficult. However, given the externally expanded form of the rim and the presence of 'whipped cord' decoration, this material most likely belongs to the Mortlake ceramic tradition.

### ***Early Bronze Age pottery***

B.2.10 A total of 13 sherds (163g) from the excavation area are from the Beaker ceramic tradition and were assigned an Early Bronze Age date. The pottery derived from two contexts relating to ditch **67** and pit **172**.

B.2.11 The assemblage is characterised by sherds in grog tempered fabrics G1, SG1 and SG2, which are typical of the earlier Bronze Age in this region. Diagnostic sherds comprise several sherds with comb impressed decoration.

#### *Ditch 67*

B.2.12 The largest group of Early Bronze Age pottery derived from context 66, ditch **67**. This comprises 10 sherds weighing 83g. The pottery is in fabrics G1, SG1 and SG2. These include a base sherd (12g), a fragment of a plain rounded rim (13g) and three decorated body sherds (total 49g). A single small plain body sherd (9g) in fabric G1 was also recovered from context 66. This has been assigned to the early Bronze Age on the basis of fabric.

#### *Pit 172*

B.2.13 Pit **172**, context 173 yielded three sherds (80g) of pottery in fabric G1. A single large rim sherd (49g) is present in this material. This rim is rounded and slightly everted and comes from quite a thick-walled vessel (12mm). The exterior of this sherd is decorated with horizontal comb-impressed lines. A body sherd (11g) is decorated with very similar horizontal lines and may be from the same vessel. A further body sherd (20g) is decorated with horizontal rows of impressed triangular jabs.

### ***Pottery from Subsoil***

B.2.14 A small assemblage (four sherds, 36g) was recovered from subsoil during the archaeological investigations. This material is generally not closely dateable. However, given the fabrics these sherds are in (one sherd, 22g in S1 and three sherds, 14g, in SA) they are likely to date to the Later Iron Age.

### ***Discussion***

B.2.15 The prehistoric pottery assemblage largely dates to the Early Bronze Age, with a small amount of Middle Neolithic pottery and some probably Iron Age pottery also found. The Early Bronze Age pottery is entirely from the Beaker ceramic tradition. The presence of a small assemblage of Peterborough ware in the same context as Beaker ceramics is unusual. Peterborough ware is usually dated c.3,400-2800 BC (Ard and Darvil 2015, 1), while Beaker is later dating to c.2,500-1,500 BC (e.g. Needham 2005, 171).

## B.3 Roman Pottery

By Alice Lyons

### Introduction

B.3.1 A total of 203 sherds, weighing 3912g (4.89 Estimated Vessel Equivalent (EVE)), of Roman-British pottery was recovered during the Watching Brief 2 phase, trial trenching and excavation on the Ringstead Sustainability Reduction Scheme, Ringstead, North Norfolk. The pottery was primarily found within ditches, but also a range of other features (Table 17).

Stage of Works		Sherd Count	Weight (g)	EVE	Weight (%)
<b>Watching Brief 2</b>	ditch	<b>21</b>	<b>325</b>	<b>0.41</b>	<b>8.31</b>
<b>Trench 1</b>		<b>10</b>	<b>72</b>	<b>0.00</b>	<b>1.84</b>
	ditch	4	40	0.00	
	pit	6	32	0.00	
<b>Trench 2</b>		<b>22</b>	<b>237</b>	<b>0.10</b>	<b>6.06</b>
	ditch	7	31	0.00	
	ditch/pit	11	164	0.10	
	gully	1	2	0.00	
	pit	3	40	0.00	
<b>Excavation</b>		<b>150</b>	<b>3278</b>	<b>4.38</b>	<b>83.79</b>
	ditch	79	1645	2.91	
	gully	13	298	0.46	
	hearth/oven	8	94	0.00	
	pit	43	1194	1.01	
	pit/post hole	3	23	0.00	
	post hole	2	10	0.00	
	layer	2	15	0.00	
<b>Total</b>		<b>203</b>	<b>3912</b>	<b>4.89</b>	<b>100.00</b>

Table 17: The pottery quantified by stage of works and feature type (BOLD = stage of works total)

B.3.2 A minimum of 106 vessels were found and none of the pottery was recovered in a complete condition. Moderate post-depositional disturbance means the pottery, although fragmentary, had survived quite well with an average sherd weight of 19g. Light abrasion has allowed soot residues to survive on the external surfaces of the pottery.

### Methodology

B.3.3 The pottery was evaluated following the national guidelines (Barclay et al 2016). The total assemblage was studied, and a catalogue was prepared (Appendix 1). The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups defined based on inclusion types present. Vessel forms (jar, bowl) were also

recorded. The sherds were counted and weighed to the nearest whole gram and recorded by context. Decoration, residues and abrasion were also noted. OA East curates the pottery and archive.

### *The fabric and forms*

B.3.4 Eight fabric groups were identified (Table 18).

Fabric (Abbreviation)	Vessel Form	Sherd Count	Weight (g)	EVE	Weight (%)
West Norfolk reduced ware: WNRW (Peachey 2018, 40, NAR RE1)	Flagon, dish, jar, storage jar	140	2783	3.55	71.15
Sandy grey ware: SGW (Peachey 2018, 40, GRS1)	Beaker, bowl, jar, storage jar	45	601	0.76	15.36
Sandy white: SOW (Andrews 1995, 94, OW3)	Flagon, mortaria	9	374	0.30	9.56
Lower Nene Valley white ware: LNV WH (Tomber and Dore 1998, 119)	Mortaria	2	99	0.00	2.53
South Midland Shelly ware: SMSTW (Tyers 1996, 192-193)	Jar	3	18	0.00	0.46
Hadham red slipped ware: HAD OX (Tomber and Dore 1998, 151)	Jar/beak, jar/bowl	2	15	0.13	0.38
Central Gaulish samian: SAM CG (Tomber and Dore 1998, 30-33)	Bowl (?Dr38)	1	14	0.00	0.36
Fine grey ware: GW(FINE)	Jar	1	8	0.15	0.20
<b>Total</b>		<b>203</b>	<b>3912</b>	<b>4.89</b>	<b>100.00</b>

Table 18: The Roman pottery, listed in descending order of weight (%)

### *Coarse wares*

B.3.5 The majority of pottery found (71% by weight) comprise the dark gritty reduced wares (WNRW) typical of West Norfolk production, centred around Pentney in the Nar Valley during the mid-to-late Roman period (de Bootman and Lyons in prep; Peachey 2018). These wares have a utilitarian character and are produced in a limited range of globular jar, large storage jars and straight-sided dish forms. Where decoration is present on the jars it most frequently comprises a distinctive rusticated motif (Lyons 2004, fig 28, no 53; Andrews 1995, 107, fig 56) and occasionally coarse rouletting (Andrew 1995, fig 56, no 100.8), while the dishes have grooves under the rim but are otherwise plain (ibid, 113, fig 61, nos 133.1-136.4). Some of the jar fragments retain soot residues where they have been exposed to an open flame, presumably when being used to heat food. It is worthy of note that several of these sherds are wasters, which suggests production may have been taking place locally.

B.3.6 The material is supplemented by a pale Sandy grey ware fabric with a dark grey slip on both sides that is reminiscent of Lower Nene Valley grey wares (Andrews 1995, 91;

Perrin 1999 78-87). This fabric was used to produce a limited range of beaker, jar and storage jar forms. Some of these vessel fragments also show signs of local manufacture.

- B.3.7 A small number of South Midland Shelly ware jar fragments were also found. This material is not local to Norfolk and is thought to have been traded into the region during in the late Roman era (Andrews 1995, 89, 'Shell-gritted ware'). Also found in small quantities are Sandy whites wares, although primarily as mortaria which are discussed separately below.

### *Fine ware*

- B.3.8 Fine wares were very sparsely represented within the group. A fragment of a fine local grey ware jar was identified, also a single sherd of imported Central Gaulish samian possibly from a flanged bowl (Dr38). Two late Roman red ware jar/bowl fragments where found thought to originate from the Hadham kilns in Hertfordshire.

### **Specialist wares**

#### *Mortaria*

- B.3.9 Mortaria were designed as specialised mixing bowls and in Britain are primarily diagnostic of the Roman era (Tyers 1996, 117-135), although their origins and uses are known to be complex (Cramp et al 2011; Symonds 2012). Within this assemblage two Lower Nene Valley mortaria body and base fragments were found, lined with slag grits.

Fabric	Form	Sherd Count	Weight (g)	EVE
Sandy white ware: SOW (Great Ellingham) (Lyons 2003, 14, fabric A)	Bead and Flange, with partial spout	4	306	0.30
Lower Nene Valley white ware: LNV WH (Tomber and Dore 1998, 119; Hartley and Perrin 1999)	Body and base sherds	2	99	0.00
<b>Total</b>		<b>6</b>	<b>405</b>	<b>0.30</b>

Table 19: The mortaria

- B.3.10 Particularly worthy of note, however, are the four Sandy white ware rim and spout fragments from a 'bead and flanged' mortaria stamped by the potter 'Regalis', known to have been active in the late 2nd century AD between AD170-180 with workshops identified both in Colchester in Essex and Great Ellingham in Norfolk (Hartley and Gurney 1997; Bates and Lyons 2003).
- B.3.11 By 1997, out-side of the known production centres "nine mortaria stamped with the same or a closely related die have been recorded from the following sites: Brundall, Norfolk (Site 10227); Caistor St Edmund (three; one is Site 9791/c168): Colchester (unpublished); Fordham, Cambs; Scole, Norfolk (two: Site 1007; Rogerson 1977, fig 83, nos 230-1); Campen Collection, ?Stebbing, Essex" (Hartley 1997, 24). Since that time other stamps have been found notably also at Caistor St Edmunds in Norfolk (Lyons in prep). As several of these stamps have only survived in a fragmentary state the discovery of the Ringstead example in a complete and very good condition is

remarkable. Its discovery is, at least, of regional importance to the study of Roman pottery.



Plate 19: The Ringstead mortarium stamp of Regalis, found in (115), ditch [119]



Plate 20: The Great Ellingham Regalis stamp (Bates and Lyons 2003, 8, fig 7, no 1)

B.3.12 It is interesting that an initial comparison of the Ringstead Regalis stamp (Plate 19) and one of the Great Ellingham examples (Plate 20) does show clear similarities (such as the dot to the top right of the conflated 'LI'), but also significant differences (where the 'G' and 'A' join, also to the border). It is clear further analysis will be necessary to establish if this is due to a different die being used, or to other explanations such as wear to the stamp or uneven pressure during application.

### **Discussion**

B.3.13 The majority of this assemblage comprises utilitarian coarse ware jars, dishes and storage jars typical of production in West Norfolk during the 3rd to early 4th centuries AD and similar to those in use at the contemporary Saxon shore fort at Brancaster only c.5km to the north-west (Hinchliffe with Sparey Green 1985). These vessels would

have been used for the small-scale storage and heating of food and their presence suggest a contemporary settlement was active in the vicinity.

- B.3.14 It is interesting that several of these sherds are ‘waster’ or seconds from a kiln and therefore near-by production should be considered as a possibility. Kilns related to the Nar Valley tradition of production, but not located within the Nar Valley, have previously been recorded at Snettisham located only c. 7km to the south of Ringstead (Lyons 2004, 10, fig 7). The paler finer Sandy grey wares which closely resemble Lower Nene Valley grey wares, although found in lesser amounts, also show signs of on-site production. The close relationship between the Nene and Nar Valley potting traditions has long been recognised and recently been discussed especially in relation to mortaria (de Bootman and Lyons fth).
- B.3.15 The stamped mortarium is of particular interest as not only does it have potential to increase our understanding of the manufacture and distribution of this distinctive product within Norfolk it is also notably earlier in date than the majority of the assemblage. At the very least it was old when the majority of this assemblage was in use and it may have been a curated or heirloom object.

Table 20: The Roman Pottery Catalogue

KEY: B = base, BEAK = beaker, C=century, D = decorated body sherd, Dsc = description, E=early, ERB = Early Roman, FLAG = flagon, L=late, LIA = Late Iron Age, M=mid, R = rim, MORT = mortarium, RB = Romano-British, SJAR = storage jar, U=undecorated body sherd.

\*For full fabric names see Table 18.

Context	Cut	Trench	Feature	*Fabric	Dsc	Form	Quantity	Weight (g)	Spot date
5	4	2	ditch	WNRW	D	JAR	5	21	C3-C4
12	10	2	ditch	WNRW	UD	JAR	2	10	C3-C4
14	13	2	linear	SGW	U	JAR/BEAK	1	2	LC1-C4
19	17	2	ditch/pit	WNRW	UB	JAR/BOWL	1	68	C3-C4
19	17	2	ditch/pit	WNRW	RU	JAR	5	46	LC2-C4
21	20	2	pit	WNRW	U	JAR	2	15	C3-C4
21	20	2	pit	WNRW	U	SJAR	1	25	C3-C4
23	22	2	ditch/pit	WNRW	UB	JAR	5	50	C3-C4
27	26	1	pit	SGW	U	JAR	4	18	MC1-C4
27	26	1	pit	WNRW	U	JAR/BOWL	1	12	C3-C4
27	26	1	pit	SGW	U	BEAK	1	2	LC1-C4
40	39	1	ditch	SOW	B	FLAG	1	32	MC1-C3
40	39	1	ditch	SGW	U	FRAG	1	1	MC1-C4
45	44	1	ditch	SGW	U	JAR/BOWL	1	2	MC1-C2
47	46	1	ditch	SGW	U	JAR/BOWL	1	5	MC1-C2
53	54	Excavation	pit	WNRW	P	DISH	1	138	C3-C4

Context	Cut	Trench	Feature	*Fabric	Dsc	Form	Quantity	Weight (g)	Spot date
53	54	Excavation	pit	WNRW	U	JAR	4	96	C2-C4
53	54	Excavation	pit	SGW	U	JAR	2	52	MC1-C4
60	59	Excavation	ditch	WNRW	RUB	JAR	10	109	LC2-C4
60	59	Excavation	ditch	SGW	U	JAR	1	6	LC1-C4
60	59	Excavation	ditch	SGW	UB	JAR	1	15	LC2-EC4
72	73	Excavation	ditch	WNRW	R	FLAT	1	31	C3-C4
72	73	Excavation	ditch	WNRW	R	DISH	1	25	C3-C4
72	73	Excavation	ditch	WNRW	U	JAR	1	23	C3-C4
72	73	Excavation	ditch	SGW	D	JAR	1	23	C3-C4
72	73	Excavation	ditch	HAD OX	R	JAR/BEAK	1	12	C4
86	84	Excavation	pit	WNRW	R	SJAR	2	151	C3-C4
86	84	Excavation	pit	WNRW	B	JAR	1	198	C3-C4
91	90	Excavation	gully	WNRW	RUB	JAR	3	29	LC2-C4
91	90	Excavation	gully	SGW	R	WJAR	1	97	LC1-C4
91	90	Excavation	gully	WNRW	RUD	WJAR	4	147	C3-C4
95	94	Excavation	pit	WNRW	U	JAR	1	6	C3-C4
105	104	Excavation	ditch	WNRW	U	JAR/BOWL	1	6	MC2-C4
105	104	Excavation	ditch	WNRW	U	BOWL	1	3	IA
107	106	Excavation	pit	WNRW	D	JAR	1	3	C3-C4
112	88	Excavation	ditch	SMSTW	D	JAR	1	7	C3-C4
112	88	Excavation	ditch	WNRW	U	JAR	1	3	C3-C4
112	88	Excavation	ditch	LNV OW	B	MORT	1	97	C3-C4
112	88	Excavation	ditch	SGW	U	JAR	1	17	LC2-EC4
112	88	Excavation	ditch	WNRW	RUB	JAR	2	18	C3-C4
115	119	Excavation	ditch	SOW	RU	MORT	4	306	LC2
115	119	Excavation	ditch	SGW	R	JAR/BEAK	1	20	LC1-C4
125	124	Excavation	ditch	WNRW	UD	JAR	2	12	C3-C4
125	124	Excavation	ditch	SGW	R	JAR	1	12	C2-C4
129	128	Excavation	ditch	WNRW	R	DISH	1	36	MC2-C4
129	128	Excavation	ditch	WNRW	U	JAR/BOWL	1	8	C3-C4
139	138	Excavation	pit	WNRW	R	JAR	1	14	C3-C4
139	138	Excavation	pit	SGW	UB	JAR	2	6	LC2-EC4
139	138	Excavation	pit	SGW	U	JAR/BOWL	1	10	LC1-C4
139	138	Excavation	pit	SOW	U	JAR	1	5	LC1-C4
142	141	Excavation	ditch	SGW	D	BEAK	1	17	LC1-C4
142	141	Excavation	ditch	SGW	B	JAR/BEAK	1	5	LC2-EC4
149	148	Excavation	ring gully	SGW	U	JAR/BOWL	1	2	LC1-C4
150		Excavation	layer	SGW	U	JAR/BOWL	1	9	LC1-C4
150		Excavation	layer	WNRW	U	JAR	1	6	C3-C4
152	151	Excavation	post hole	SMSTW	U	JAR/BOWL	1	7	C3-C4
152	151	Excavation	post hole	HAD OX	U	JAR/BOWL	1	3	C3-C4

Context	Cut	Trench	Feature	*Fabric	Dsc	Form	Quantity	Weight (g)	Spot date
160	155	Excavation	ditch	WNRW	RDU B	JAR	4	228	C3-C4
160	155	Excavation	ditch	WNRW	D	SJAR	1	56	C3-C4
162	161	Excavation	pit	SGW	U	JAR	1	5	LC1-C4
162	161	Excavation	pit	WNRW	U	JAR	1	17	C3-C4
164	163	Excavation	pit/post hole	LNV OW	U	MORT	1	2	C3-C4
164	163	Excavation	pit/post hole	SOW	D	JAR/BOWL	1	12	C2-C3
167	165	Excavation	pit	WNRW	RUB	JAR	10	89	C3-C4
169	168	Excavation	ditch	SGW	U	JAR	1	17	LC1-C4
171	170	Excavation	ditch	WNRW	R	JAR	1	14	C3-C4(WITH MS)
181	181	Excavation	ditch	WNRW	RU	JAR	8	164	LC2-C4
181	181	Excavation	ditch	SOW	D	JAR	1	11	LC2-C4
181	181	Excavation	ditch	SGW	U	JAR	1	4	C2-C4
187	186	Excavation	ditch	SGW	R	JAR/BEAK	1	4	LC1-C4
187	186	Excavation	ditch	SGW	R	BOWL	1	14	LC1-C4
189	188	Excavation	ring gully	SGW	UB	JAR	1	5	LC2-EC4
189	188	Excavation	ring gully	WNRW	U	JAR	3	18	C3-C4
197	196	Excavation	ditch	WNRW	RUB	JAR	2	62	C3-C4
197	196	Excavation	ditch	WNRW	D	JAR	5	39	C3-C4
197	196	Excavation	ditch	WNRW	D	SJAR	1	75	C3-C4
199	198	Excavation	ditch	WNRW	R	DISH	1	8	C3-C4
199	198	Excavation	ditch	WNRW	B	BOWL/MORT	1	70	C3-C4
199	198	Excavation	ditch	WNRW	RU	JAR	2	61	C3-C4
205	204	Excavation	ditch	WNRW	R	JAR	1	25	C3-C4
211	210	Excavation	pit	WNRW	RUD	JAR	7	69	C3-C4
211	210	Excavation	pit	SOW	U	JAR/FLAG	1	8	C3-C4
211	210	Excavation	pit	SGW	U	JAR/BEAK	1	1	LC1-C2
214	213	Excavation	ditch	SGW	UB	JAR	3	25	LC1-C4
214	213	Excavation	ditch	SGW	U	JAR	1	7	MC1-C4
214	213	Excavation	ditch	GW(FINE)	R	JAR	1	8	LC1-C2
214	213	Excavation	ditch	SGW	R	JAR	1	6	LC2-EC4
222	221	Excavation	pit/post hole	SGW	U	JAR/BOWL	1	9	LC1-C4
225	212	Excavation	corn dryer	WNRW	U	JAR	2	60	C2-C4
225	212	Excavation	corn dryer	SAM	U	BOWL	1	14	MC2-MC3
232	231	Excavation	ditch	WNRW	R	JAR	2	51	C3-C4
232	231	Excavation	ditch	WNRW	D	JAR	1	16	C3-C4
240	239	Excavation	ditch	WNRW	R	JAR	1	35	C3-C4
241	62	Excavation	oven/corn dryer	WNRW	D	JAR	1	3	C3-C4

Context	Cut	Trench	Feature	*Fabric	Dsc	Form	Quantity	Weight (g)	Spot date
241	62	Excavation	oven/corn dryer	SMSTW	B	JAR	1	4	C3-C4
241	62	Excavation	oven/corn dryer	SGW	U	FRAG	2	4	C1-C4
241	62	Excavation	oven/corn dryer	SGW	U	JAR/BOWL	1	9	MC1-C4
248	247	Excavation	ditch	WNRW	U	JAR	2	14	C3-C4
248	247	Excavation	ditch	SGW	UB	SJAR	1	131	LC1-C4
248	247	Excavation	ditch	SGW	RU	BEAK	2	14	LC1-C4
265	264	WB 2	ditch	WNRW	UB	JAR	14	174	C3-C4
265	264	WB 2	ditch	WNRW	U	JAR	2	27	C3-C4
265	264	WB 2	ditch	WNRW	R	JAR	1	11	C3-C4
265	264	WB 2	ditch	WNRW	R	DISH	2	72	C2-C4
265	264	WB 2	ditch	SGW	R	JAR	1	25	C2-C4
265	264	WB 2	ditch	WNRW	R	JAR	1	16	C3-C4

Table 20: The Roman Pottery Catalogue

## B.4 Post-Roman pottery

By Carole Fletcher

### Introduction

B.4.1 The archaeological works produced six sherds (185g) of Late Saxon, early medieval and medieval pottery, from subsoil context 2, within the Watching Brief 2 area.

### Methodology

B.4.2 The Prehistoric Ceramics Research Group (PCRG), Study Group for Roman Pottery (SGRP), The Medieval Pottery Research Group (MPRG), 2016 *A Standard for Pottery Studies in Archaeology* and the MPRG *A guide to the classification of medieval ceramic forms* (MPRG 1998) act as standards. Recording was carried out using OA East's in-house system, based on that previously used at the Museum of London. Fabric classification has been carried out for all sherds, using where possible, for all fabric types, Norfolk fabric codes (unpublished). Due to the small size of the assemblage, simplified recording has been undertaken, with fabric, basic description, weight and count recorded in the text. The pottery and archive are curated by Oxford Archaeology East until formal deposition or dispersal.

### Sampling bias

B.4.3 The excavation was carried out by hand, and selection made through standard sampling strategies, on a feature by feature basis. There are not expected to be any inherent biases.

## ***Assemblage***

B.4.4 Subsoil (2) from the Watching Brief 2 area produced an abraded, thickened rim sherd (88g) from a moderately large Thetford-type ware jar (10th-11th century). The rim is externally thickened with an applied thumbed strip, the diameter is approximately 300mm (estimated vessel equivalent (EVE) 10%). Also present were two abraded base sherds (28g and (16g) from medieval coarse ware vessels (late 12th-14th century). The remainder of the assemblage consisted of three Grimston-type ware sherds (late 12th-14th century), two are unabraded to moderately abraded, externally green-glazed body sherds (35g), with slight internal sooting, from a relatively large vessel, probably a jug and a moderately abraded base angle sherd (19g), with partial basal kiln scar, possibly from a second Grimston-type ware vessel.

## ***Discussion***

B.4.5 The fragmentary nature of the assemblage means significance is difficult to establish, beyond indicating low levels of rubbish deposition or manuring in the post-Roman period from the 10th century to the 14th century.

## **B.5 Stone**

*By Simon Timberlake*

### ***Introduction***

B.5.1 A small assemblage consisting of just 205g (x2 pieces) of ironstone and two lumps of partly-worked large flint nodule (total weight c.9 kg) were examined from this excavation. Both ironstone pieces consisted of waterworn iron concretions (not slag) recovered from a sandy-chalky soil, whilst the large flint nodules consisted of very roughly-shaped pieces perhaps used as foundation stone within a wall or structure.

### ***Methodology***

B.5.2 The stone was identified visually using an illuminated x10 magnifying lens, and was also tested using a magnet for its free iron content. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of calcite in the rock.

### ***Description of stone***

B.5.3 Analysis of the ironstone pieces showed these to be natural pebbles rather than slag. The weight and colour of these was due to their high iron content.

B.5.4 One of these ironstone pebbles (from fill 189 of ring gully **188**) weighed 118g (70x50x17mm) and the other one (from fill 214 of ditch **213**) weighed 86g (70x50x18mm). Both pebbles were thus quite similar, although the former may have had a higher iron content (i.e. more dense). The nodules were formed of lenticular masses of amorphous goethite with a polished surface and blistered appearance. There was no evidence for these being pseudomorphs after crystalline radiating pyrites (marcasite) nodules.

B.5.5 The two large patinated flint nodules (both from fill 226 of corn dryer **212**) appear to be paramudras derived from the Upper Chalk, which have then been exposed and water-rolled for some considerable period of time. Both of these flints may have been collected from the coast (beach deposit) and brought to site. The smaller piece has been roughly shaped into a block (150 x 110 x 90mm; weight 3.58kg) whilst the larger piece has been severely battered at one end (240x140x120mm; weight 5.42kg).

### *Discussion*

#### Ironstone

B.5.6 The ironstone nodules appear to be waterworn and polished clasts, and as such may have been found geologically re-deposited within what were loosely-consolidated (Pleistocene?) channel fill deposits. Examples of such deposits and features can be seen upon the Ringstead Downs (nr Ringstead Common) where glacial meltwater channels have eroded through the chalk (Holt Wilson 2011). The nodules found here could have been derived from the carstone beds (Lower Greensand) of the Hunstanton area, yet in their appearance they show a stronger resemblance to the sorts of nodules found within the coastal outcrop of the Wroxham Crag at West Runton, Cromer. The Wroxham Crag iron nodules were previously collected as a source of iron ore during Iron Age-Medieval times and locally smelted, as attested by the remains of primitive bloomery furnaces at Weybourne and Felbrigg Hall (Hamblin 2015, 253).

B.5.7 It is possible that these were collected nodules rather than simply a natural distribution of clasts present within the soil at the Ringstead site, although proof for this will depend upon other local evidence for smelting, as well as the overall abundance of the iron nodule finds from this site. Goethite nodules containing c.50% iron would be suitable for historic/ prehistoric bloomery smelting.

#### Flint nodules

B.5.8 Some thought should be given to considering the association of these pieces, whether or not they were unique, how they arrived on site, and how they may have been used. Whilst the larger nodule could have been used as some sort of crude hammer or pounding stone, the more likely explanation is that both were used in some way as foundation material, possibly for the corn dryer within which they were found (212).

### *Further work*

B.5.9 No further work is required on this assemblage.

### *Disposal*

B.5.10 All of the current material may be deselected from the project archive.

## B.6 Ceramic Building Material (CBM)

By Ted Levermore

### Introduction

Form	Count	Weight (g)
<b>Brick</b>	<b>1</b>	<b>91</b>
<b>Tile</b>	<b>17</b>	<b>2256</b>
Flue	1	186
Imbrex	1	50
Tegula	9	1179
?Tegula	3	471
Undiag	3	370
<b>Undiag</b>	<b>2</b>	<b>65</b>
<b>Grand Total</b>	<b>20</b>	<b>2412</b>

Table 21: CBM by Form

B.6.1 The archaeological work recovered 20 fragments, 2412g, of ceramic building material (CBM). This assemblage comprised Roman material and a post-Medieval brick. The assemblage was generally moderately to severely abraded and was collected from the excavation area and trial Trenches 1, 2 and 3 (See Table 24, CBM Catalogue below). Where dates based on form could be applied they complemented the phasing. This report combines all material from the trial trenching, excavation and watching brief phases.

### Methodology

B.6.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gram. 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 *tegula* forms and dates. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive.

### Results of Analysis

#### Fabrics

B.6.3 Ten fabrics were recorded from this small assemblage (A-H, including A1 and C1). The fabrics recorded were all typical CBM recipes, with preferences for refined clays containing large inclusions in the earlier forms and more refined fabrics for the later material (Table 22).

Code	Colour	Matrix	Fine inclusions	Coarse inclusions	Moulding sand	Comments
A	Mid Brown-Orange	Compact Silty	Very fine pores and sandy grit	occ clay pellets, and large vughs	Fine	Roman
A1				<i>similar with rare angular dark flint</i>	Fine	Roman
B	Mid Orange	Compact Sandy	common white quartz, rare darker grit	common white quartz, occ elongate and rounded voids	fine	Roman
C	Mid Brown-Red	Coarse Sandy	common quartz,	frequent quartz, occ elongate shell? Or flint and elongate voids	coarse	Roman
C1		<i>friable</i>		<i>less shell</i>		
D	Light Orange	Compact Silty	common quartz and mica, occ clay pellet and gritty material	oc coarse quartz, very coarse clay pellets or poor mixed clay	Fine	Roman
E	Mid Brown-Orange	Compact Sandy	common mica, few quartz and grit	rare sub-rounded flint, and common patches of poor mixing	Fine	Poorly mixed clay; Med-Pmed
F	Red Orange Core, Dark Grey Margins	Compact Sandy	common voids and occasional quartz and grit	Occ quartz and grit, occ reduced ?grog/clay pellets or red sandstone	Coarse	Roman
G	Mid Pinkish-Orange	Compact Silty	occ gritty material and voids	No visible coarse fraction.	No visible	?Roman
H	Mid Pinkish-Orange	Compact Silty	common voids, grit and clay flecks	Occ poorly mixed streaks of yellow clay, rare reduced ?grog/clay pellets or red sandstone	Mid	Roman

Table 22: CBM Fabric Descriptions

B.6.4 All the fabrics appear to conform to the broad geological patterns of the East of England, as such closer provenance cannot be determined at this time. The assemblage is too small to accurately determine any temporal or spatial patterns in fabric distribution. The Roman phases contain all the fabrics, bar the post-medieval brick fabric, with some isolates seen; but as there are often only one or two examples of each fabric there is little more that can be concluded (Table 23).

Phase	Fabric	Count	Weight (g)
Earliest Roman	C	1	47
Early-Mid Roman	A	1	182
	C1	2	287
	D	2	298
	E?	1	53
	F	3	289
	H	1	100
Mid-Late Roman	A	2	344
	A1	1	202
	B	2	251
	D	2	256
	G	1	12

Post-Med	E	1	91
<b>Grand Total</b>		<b>20</b>	<b>2412</b>

Table 23: CBM Fabrics by Phase

## Assemblage

- B.6.5 The majority of the material was Roman in form and originated from all Roman phases. A single brick came from the post-medieval phase. The material will be discussed by form within broad phasing, similarities within the Roman assemblage did not justify breaking it down any further.

### Roman

#### *Tegulae*

- B.6.6 Nine *tegulae* fragments (1179g) were recovered from all Roman phases; another 6 fragments (841g) may also have derived from *tegula* forms but they lacked enough diagnostic features. Variation in measurements, fabric and production style suggest that each fragment represents a different tile. The *tegulae* assemblage comprised fragments with flanges and/or cutaways. Five contexts produced identifiable flange forms. Four shared the same flange type, where the upper and lower inner edges were rounded while the rest of the form remained exacted and square. Three of these present evidence for cutaways; they each had a portion of the flange removed leaving the thickness of the tile body. They all presented exacted and smoothed upper faces and more irregular and finely sanded outer faces. Pit **84** produced a squared flange with an inward slanted upper face, rather than a rounded edge. No associated cutaway was present. All the faces of this tile were smoothed, the outers were lightly sanded, the flange top also had a small amount of a pink mortar accretion. Broadly the *tegulae* were 21 to 25mm thick and the surviving flanges were between 35 and 40mm tall. They were made in all fabrics, excluding E, and appear to represent a random discard pattern.
- B.6.7 It is difficult to closely date *tegulae* because their production was not centralised and many types of tile can be present on a single site. The tiles here show uniformity in shape and style but vary in the fabrics used. This latter fact may do more to show the difficulty of grouping sandy detrital clays, and less to suggest a multitude of origins. It appears that there were perhaps two or three tile types present in the assemblage probably suggesting a singular origin and use of the material. The division of this assemblage into the Roman sub-phases confuses the picture, this material is likely to have come from a similar point within the Roman period.

#### *Imbreces*

- B.6.8 Pit **84** produced a single fragment of an *imbrex* tile (50g). The fragment had a remnant basal edge and showed a smooth curve in the body. Its outer face was wiped smooth, while the inner and edge faces were irregular and coarsely sanded. It was made in Fabric B and was around 15mm thick. The fragment was severely abraded and small.

This kind of tile is less common than *tegulae*, owing to the fact they are more fragile and they are used in fewer numbers on a *tegula* roof. The similarities between this tiles fabric and some of the *tegulae* indicates their close relationship.

### *Flue Tiles*

B.6.9 Ditch **180** produced a single fragment of keyed tile (186g). The fragment is probably the terminal edge of a flue tile, although no scars of the return wall remained. The keying/combing present consisted of several parallel grooves, 2mm wide and 2mm deep and spaced between 3 to 6mm apart. It is unclear if the combing grooves were in a repeating pattern. The obverse face was smoothed and finely sanded and there were mortar accretions along the terminal edge.

B.6.10 Specialised CBM indicates a heightened degree of investment into the parent building. The tile may have been part of a box flue, which suggests a hypocaust system nearby, or was part of an internal wall. Conclusions are limited due to the size of the assemblage, however the presence of this tile in the assemblage is significant.

### Post-Medieval

B.6.11 Ditch **6**, in Trench 3, produced a severely abraded fragment of 1 3/4-inch-thick brick. The remaining faces were neat and finely sanded, however there were few remaining features useful for proper identification. This fragment may relate to construction nearby or to the use of CBM in agricultural layers.

### *Discussion*

B.6.12 The material recovered was abraded and fragmentary, however the concentration of Roman material is indicative of construction from this period. Roofing material and the suggestion of more specialised CBM suggests a degree of investment in the parent structure(s). The material is a discard assemblage, and is therefore part of the disuse of the buildings in the area. The later material, the post-medieval brick, 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.

Trench	Context	Cut	Feature	Phase	Form	Descr	Date	Fabric	Count	Weight (g)	Abrasion	Th (mm)	Edge Thickness (mm)	Flange Height (mm)	Flange Type	Cutaway Type	Comment
Exc	187	186	Ditch	Early to Mid-Roman	Tile	Tegula	Roman	C	1	47	Severe	25	20	~35	D		Fragment of tegula flange. Abraded and small fragment. Upper faces are smoothed, outer are coarsely sanded.
Exc	160	155	Ditch	Mid to Later-Roman	Tile	Tegula	Roman	A	1	182	Mod	25	25	38	D	A2	Upper right hand cutaway of a tegula. Abraded. Upper faces smoothed, flange shows signs of knife marks, probably from the cutaway process. Outer faces are finely sanded. D Type Flange - Squared with rounded upper inner corner, A2 type cutaway, removal of flange but not body.
2	5	4	Ditch	Mid to Later-Roman	Tile	Tegula	Roman	F	3	289	Severe	22	25	37	D	A2	Upper left hand cutaway and terminal edge of a tegula. Reduced colouration and high fired. Abraded. Smoothed uppers, very coarse and irregular lowers. Terminal end is poorly finished.
Exc	91	90	Gully	Mid to Later-Roman	Tile	Tegula	Roman	H	1	100	mod						Fragment of Roman tile. Lamina fabric. Upper face is smoothed, remnant finger groove signature swipe. Base is irregular, lighter in colour and coarsely sanded.
Exc	181	180	Ditch	Late-Roman	Tile	Tegula	Roman	A	1	158	Mod	24	22	40	D	A2	Left hand upper cutaway of a tegula. Made in Fabric A but fired slightly lighter brown than 160 example. Smoothed upper faces and irregular and finely sanded outers.
Exc	72	73	Ditch	Mid to Later-Roman	Tile	Undiag	Roman	C1	2	287	mod						Fragment of Roman tile. Made in a friable sandy fabric. Smoothed upper face. Coarse sanding and irregular finish on outers.
Exc	114	119	Ditch	Mid to Later-Roman	Tile	Undiag	?Roman	D	1	83	Severe	~14					Abraded frag of thin tile, similar fabric to 112 - same period? Smooth face and remnant coarsely sanded base.
Exc	112	88	Ditch	Mid to Later-Roman	Tile	?Tegula	Roman	D	1	215	Mod	24					Body fragment of a Roman tile, probably from a tegula. Smooth upper and irregular sanded base, darker colouration.
Exc	86	84	Pit	Late-Roman	Tile	?Tegula	Roman	D	1	244	mod	24	25				Fragment of Roman tile. Probably a terminal edge of a tegula. Upper face is wire cut and has a faint finger signature swipe, at least three shallow grooves. Lower face is sanded, contains coarse quartz. Edge face is finely sanded.
Exc	225	212	Corn dryer	Late-Roman	Tile	?Tegula	?Roman	D	1	12	Severe						Probably a fragment of tegula flange. Abraded and small.

Exc	86	84	Pit	Late-Roman	Tile	Imbrex	Roman	B	1	50	Severe	14	15				Fragment of imbrex, with remnant base edge. Outer face wiped smooth, inner and base edge are irregular and coarsely sanded.
Exc	197	196	Ditch	Mid to Later-Roman	Undiag	Undiag	?Roman	E?	1	53	Mod						Fragment of CBM face. Poss. Roman, judging by the silty refined fabric. Unclear form. Patches of mortar?
Exc	181	180	Ditch	Late-Roman	Tile	Flue	Roman	A	1	186	slight	12	10				Fragment of combed tile, probably flue related. Fragment is terminal edge, no return scars remaining. Combing is parallel, 2mm wide and 2mm deep grooves. Unclear if repeating pattern but vary between 3 and 6mm apart. Obverse is smooth and finely sanded. Mortar accretions along the terminal edge face.
Exc	86	84	Pit	Late-Roman	Tile	Tegula	Roman	A1	1	202	mod	21	22	37	A1/A3		Fragment of tegula flange. Slightly abraded. Squared and exacted character. Sharp arrises, smoothed faces, rounded internal turn of the flange. Outer/Lower faces are smoothed with fine sanding. Patch of pink mortar on the flange top.
Exc	181	180	Ditch	Late-Roman	Undiag	Undiag	?Roman	G	1	12	Mod						Small face fragment from unknown CBM. Exacted face and made in refined silty clay.
1	38	36	Ditch	Late-Roman	Tile	Tegula	Roman	B	1	201	Mod	25	25	>35			Fragment of tegula body with flange. Abraded, flange incomplete. Upper faces are exacted, probably wired cut. Outers are irregular and finely sanded.
3	7	6	Ditch	Post-Med	Brick	Brick	Med-Pmed	E	1	91	Severe						Severely abraded fragment of 1 3/4-inch-thick brick. Fine sanded faces. Few remaining features. Poss. mortar accretions.

Table 24: CBM Catalogue arranged by Phase

## B.7 Fired/Baked Clay

By Ted Levermore

### Introduction

Fragment Type	Object Form	Count	Weight (g)
<b>Amorphous</b>		<b>46</b>	<b>121</b>
<b>Structural</b>		<b>25</b>	<b>1074</b>
Domestic	?weight	2	172
Oven Related	?malting brick	1	40
?Oven Related	?lining	18	812
Undiagnostic	Undiagnostic	4	50
<b>Grand Total</b>		<b>60</b>	<b>1126</b>

Table 25: Fired Clay by fragment type

B.7.1 The archaeological work recovered 71 fragments, 1195g, of fired clay (Table 25). It was recovered in Prehistoric to late Roman features from across the site, concentrated in Mid-Late Roman features (60 fragments, 1126g). This assemblage comprised both amorphous pieces with no discernible features (46 fragments, 1074g) and more 'structural' pieces with flattened surfaces and signs of hand-forming (25 fragments, 1074g). A small number of possible diagnostic objects were amongst this latter portion; this included a part of a malting plate/tile and pieces of weight. Generally, this material was moderately to severely abraded, offering limited archaeological information. This report combines all material from the trial trenching, excavation and watching brief phases.

### Methodology

B.7.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gram. Width, length and thickness were recorded where possible. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. A summary of the catalogue can be found in Table 28.

### Results of Analysis

#### Fabrics

B.7.3 Five fabrics were recorded from this small assemblage (Table 26). All fabrics could be considered as deriving from local silt clays with varying amounts of sand, grit and flint with variation relating to natural changes in the geology or different paste preparation. No clear patterns emerge when assessing the distribution of fabric by phase or form.

Code	Matrix	Fine inclusions	Coarse inclusions	Mixing	Comments
F1	Compact Silty Clay	occ pores, mica and white quartz	No vis	mod	Light orange-brown
F2	Silty Clay	common pores, quartz and grit	occ rounded pores	mod	Examples have organic impressions
F3	Compact Silty Clay	occ pores, mica and white quartz	occ rounded quartz and rare grit	well	Light orange-brown
F4	Friable Silty Clay	common pores, occ gritty material, rare rounded calc pellets	occ calc pellets and rare sub-rounded stone	mod	yellow-brown and mid orange
F5	Compact Silty Clay	no vis	No vis	mod	

Table 26: Fired Clay Fabric Descriptions

## Assemblage

B.7.4 The assemblage was collected from across the site, in prehistoric to post-Roman phases (Table 27). The concentration in mid to late Roman contexts indicates the likely origin of the material. As much of the assemblage was amorphous it is not possible to draw any further conclusions about the distribution of this material, temporally or spatially.

Phase	Count	Weight (g)
Prehistoric	1	4
Mid to Later-Roman	3	14
Late-Roman	60	1126
Post Roman	5	23
Unphased	2	28
<b>Grand Total</b>	<b>71</b>	<b>1195</b>

Table 27: Fired Clay by Phase

### *Amorphous Fragments*

B.7.5 Six contexts produced amorphous fragments of fired clay, spanning the early to late Roman phases. The fragments did not have any discernible characteristics beyond their weight and fabric. All five fabrics were represented and several fragments originated from contexts with structural pieces. This material will have derived from the same objects and/or structures as the latter group.

### *Structural Fragments*

B.7.6 Five contexts contained fragments that were classed as 'structural'. These fragments exhibited flattened surfaces and signs of hand-forming (i.e. digital impressions, curved or squeezed faces). A smaller fraction possessed remnant rod or wattle impressions. Two contexts produced the most notable fired clay. These fragments were tentatively identified as domestic and light industrial objects. Pit **163** produced 18 fragments (812g) of blocky friable material (F4) with smoothed or undulating faces and occasional rod impressions. It is suggested they were part of the lining for an oven or hearth type feature. Pit **210** produced the majority of the fired clay, its assemblage included two possible fragments of blocky weights. One (107g) was made in a compact silty fabric (F1) with a remnant face and a thickness greater than 30mm, the other (65g) was made in a more porous fabric (F2) with grassy impressions on its remnant surface. It too was blocky and had a thickness greater than 30mm. The identification

of them as weights is tentative. The final, and most diagnostic, fragment was a tile-like fragment with two perforations (D15mm) pierced through the remnant face through the body (>45mm). The perforations were probably part of a sequence of regularly spaced perforations. It is probable that this fragment derived from a Roman period malting brick/tile. The lack of further examples limits the conclusions that can be made here.

### *Discussion*

B.7.7 The material recovered was heavily abraded and fragmentary. There is very little that can be drawn from the assemblage in sum. The structural fragments present only a tentative glimpse at their original forms and suggests domestic and/or light industrial activity. None of the suggestions regarding form are concrete, and should not be overstated.

Trench/Area	Context	Cut	Feature Type	Phase	Sample	Fabric type	Fragment type	Structural type	Object Class	Object Form	Date/Period	Abrasion	Notes	Thickness (mm)	Perforation Diameter (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Wt (g)
2	12	10	Ditch	Mid to Later-Roman		F4	a					severe				3			3	14
Exc	145	144	Ditch	Prehistoric		F2	s	fs				mod	organic/irregular surface			1			1	4
Exc	164	163	Pit/Posthole	Late-Roman		F4	s	fs/w	?Oven Related	?lining		Severe	Assemblage of friable material, most are blocky with a wiped or undulating smoothed surface. No clear original form, could be lining or from a blocky object			7	6	5	18	812
Exc	164	163	Pit/Posthole	Late-Roman	13	F2	a					Severe				15			15	32
Exc	166	165	Pit/Posthole	Late-Roman		F5	a					Severe				3			3	5
Exc	181	180	Ditch	Late-Roman		F2	s	fs				severe				1			1	18
Exc	211	210	Pit/Posthole	Late-Roman		F1	s	fs	Domestic	?weight	?LIA/ERB	Mod	Fragment of a possible weight. Fragment has a face and suggests it has come from a larger object. Made of a compact fabric.	>30			1		1	107
Exc	211	210	Pit/Posthole	Late-Roman		F2	s	fs	Domestic	?weight	?LIA/ERB	Mod	Fragment of a possible weight. Fragment has a face and suggests it has come from a larger object. Made of a porous fabric with organic grassy impressions on surface	>30			1		1	65

Trench/Area	Context	Cut	Feature Type	Phase	Sample	Fabric type	Fragment type	Structural type	Object Class	Object Form	Date/Period	Abrasion	Notes	Thickness (mm)	Perforation Diameter (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Wt (g)
Exc	211	210	Pit/Posthole	Late-Roman		F3	s	object	Oven Related	?malting brick	?LIA/ERB	Severe	A fragment of possible malting brick. Object has a remnant face, perpendicular to it (pierced through the body) are two perforations. Full thickness not present.	>45	15		1		1	40
Exc	214	213	Ditch	Post-Roman		F3	a					severe				3			3	13
Exc	216	215	Ditch	Post-Roman		F4	a					Severe	reduced			1			1	7
Exc	216	215	Ditch	Post-Roman		F1	a					Severe				1			1	3
Exc	241	62	Oven/Corn Dryer	Late-Roman	46	F2	a					Severe				20			20	47
WB2	265	264	Ditch	Late-Roman		F2	s	fs				mod	organic impressions on a smoothed face			1	1		2	28

Table 28: Summary fired clay catalogue (a=amorphous, s=structural, fs=flattened surface and hf=hand-forming)

## APPENDIX C ENVIRONMENTAL REPORTS

### C.1 Animal Bone

*By Hayley Foster*

#### *Introduction and methodology*

- C.1.1 This report details the analysis of the animal bone recovered from the Ringstead pipeline, Norfolk. The assemblage was of a small size (8.89kg) and the number of recordable fragments totalled 95 from hand collection and 18 from environmental samples. Animal bone was recovered mainly from ditches, postholes, gullies and pits. The species represented includes cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), horse (*Equus caballus*), pig (*Sus scrofa*), dog (*Canis familiaris*), field vole (*Microtus agrestis*), frog (*Rana temporaria*) and mallard (*Anas platyrhynchos*). Remains dated to five phases: prehistoric, earliest Roman, early-mid Roman, mid-late Roman and post-medieval. The majority of the remains were retrieved from features in the Mid to later-Roman and the Late-Roman phases.
- C.1.2 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). Identification of the faunal remains was carried out at Oxford Archaeology East. References to Hillson (1992), Schmid (1972), von den Driesch (1976) and Cohen & Serjeantson (1996) were used where needed for identification purposes.
- C.1.3 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 and 1987) 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 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.1.4 Measurements were taken according to the specifications of von den Driesch (1976), Payne and Bull (1988) and Davis (1992).

#### *Results of analysis*

- C.1.5 The faunal assemblage from Ringstead is in a good state of preservation with moderate to high levels of fragmentation. Cattle were the main species represented followed by horse. Prehistoric (Period 1) contexts produced only 15 fragments, all belonging to horse, likely from one individual animal. The Early to Mid-Roman phase consisted of only 2 fragments and the post-medieval phase consisted of a single

fragment. Taking this into account, only the Mid to Later-Roman and the Late-Roman phases will be highlighted more in depth.

Species	NISP	NISP%
Cattle	26	23.0
Horse	25	22.1
Sheep/Goat	23	20.4
Dog	18	15.9
Mallard	9	8.0
Frog	4	3.5
Vole	4	3.5
Pig	2	1.8
Rabbit	1	0.9
Small Rodent	1	0.9
<b>Total</b>	<b>113</b>	<b>100</b>

Table 29: Number of Identifiable specimens (NISP) per species

### Early to Mid Roman phase (Period 3)

C.1.6 The early-mid Roman period comprised of 33 identifiable fragments from 3 different species. Cattle made up 60.6% of the NISP and ageing suggested an absence of young cattle, as unfused elements were solely those that were late fusing. Horse and sheep/goat elements contained fused epiphyses except a distal sheep/goat metatarsal with an unfused metaphysis. One estimated shoulder height could be calculated for a cattle radius (ditch 90) of 107cm.

Species	NISP	NISP%
Cattle	20	60.6
Horse	5	15.2
Sheep/Goat	8	24.2
Total	33	100

Table 30: Number of Identifiable specimens (NISP) per species for Mid to Later-Roman phase

### Late Roman phase (Period 4)

C.1.7 The mid-late Roman phase contained the largest amount of faunal material in the assemblage, with the widest variety of species. Dog remains made up the highest NISP, however remains were from a single context (posthole 110) and belonged to one animal. Sheep/goat were slaughtered at 18-42 months according to epiphyseal fusion, indicating animals were slaughtered for meat opposed to secondary products. Cattle remains did consist of unfused late fusing fragments, again suggesting slaughter for meat as they aged to 42-48 months. Pigs were only found in this phase, with an unfused distal femur, indicating an animal less than 42 months of age. This is typical of the age of slaughter for pigs as they produce no significant secondary products and would be exploited for meat at an optimum weight. The small presence of remains belonging to rabbit, vole and rodent in the environmental samples may or may not be

intrusive to the contexts they were recovered from, as these small mammals are known to burrow.

Species	NISP	NISP%
Dog	18	29.0
Sheep/Goat	15	24.2
Bird	9	14.5
Cattle	6	9.7
Frog	4	6.5
Horse	3	4.8
Vole	3	4.8
Pig	2	3.2
Rabbit	1	1.6
Rodent	1	1.6
Total	62	100.0

Table 31: Number of Identifiable specimens (NISP) per species for Late-Roman phase

C.1.8 Taphonomic processes including burning, gnawing and pathology were noted in the assemblage. Burning was noted on several fragments of sheep from pit 54 and ditch 119. Gnawing by carnivores was solely from the Late-Roman phase in pit 84 and ditch 180. A single case of pathological change from ditch 119 was a horse pelvis with osteophytosis on the pelvic border edge.

## Discussion

C.1.9 At Ringstead, domestic mammals were the mainstay of the food economy, with cattle remains being the most well represented species. The minimal ageing data suggests that cattle were likely slaughtered for meat around 3.5 years of age in both Roman phases of occupation. This is a common age for cattle to be slaughtered for meat in the Roman period (Maltby 2016). Sheep/goat were also likely slaughtered for meat as the small amount of ageing data does imply that animals were mainly killed before reaching adulthood.

C.1.10 Dogs and horses are species that were relatively common at Romano-British sites. No shoulder heights could be calculated for the dog leg recovered from posthole 110, however the dog was of a medium size likely used as a guard animal. The majority of the horse remains from the assemblage were obtained from the prehistoric phase, representing a single horse crania, vertebrae and long bones.

C.1.11 There was evidence of wild animals and micro-mammals represented in the assemblage. While it is possible, they are intrusive, it is not uncommon to find such species in small numbers at Roman sites in East Anglia.

C.1.12 The limited data does not allow for solid interpretations about husbandry practices and dietary preferences at this site. The moderate to high levels of fragmentation have also impaired obtaining comprehensive metrical data. The types of species present at Ringstead are consistent with those found at other regional sites.

## *Retention, dispersal and display*

C.1.13 The assemblage will be retained as part of the archive as it contains a moderate amount of animal remains for a faunal collection from Norfolk and could add to the overall picture of the animal economy in the region.

Phase	Context	Retrieval	Species	Element	Fusion proximal	Fusion distal
Post-med	7	Hand	Vole	Tibia	UM	UM
Mid to Later-Roman	12	Hand	Sheep/Goat	Phalanx 1	J	F
Mid to Later-Roman	19	Hand	Cattle	Loose mandibular tooth	0	0
Late-Roman	21	Hand	Cattle	Humerus	UE	X
Mid to Later-Roman	23	Hand	Sheep/Goat	Metatarsal 1	X	UM
Late-Roman	35	Hand	Cattle	Scapula	X	F
Mid to Later-Roman	41	Hand	Horse	Loose Maxillary Tooth	0	0
Mid to Later-Roman	41	Hand	Cattle	Pelvis	0	X
Prehistoric	43	Hand	Horse	Loose Maxillary Tooth	0	0
Prehistoric	49	Hand	Horse	Atlas	0	0
Prehistoric	49	Hand	Horse	Axis	0	0
Prehistoric	49	Hand	Horse	Humerus	UE	X
Prehistoric	49	Hand	Horse	Metacarpal 1	F	X
Prehistoric	49	Hand	Horse	Radius	F	UX
Prehistoric	49	Hand	Horse	Humerus	X	F
Prehistoric	49	Hand	Horse	Atlas	0	0
Prehistoric	49	Hand	Horse	Mandible	0	0
Prehistoric	49	Hand	Horse	Loose Maxillary Tooth	0	0
Prehistoric	49	Hand	Horse	Loose Maxillary Tooth	0	0
Prehistoric	49	Hand	Horse	Metacarpal 1	X	F
Prehistoric	49	Hand	Horse	Mandible	X	0
Prehistoric	49	Hand	Horse	Mandible	X	0
Prehistoric	49	Hand	Horse	Cranium	0	0
Late-Roman	53	Hand	Sheep/Goat	Radius	X	UM
Late-Roman	53	Hand	Sheep/Goat	Phalanx 1	X	F
Late-Roman	53	Hand	Frog	Tibia	F	F
Late-Roman	53	Hand	Sheep/Goat	Pelvis	X	0
Late-Roman	53	Hand	Sheep/Goat	Tibia	UM	X
Late-Roman	53	Hand	Sheep/Goat	Tibia	UE	X
Late-Roman	53	Enviro	Frog	Atlas	0	0
Late-Roman	53	Enviro	Frog	Tibia	0	0
Late-Roman	53	Enviro	Frog	Urostyle	0	0
Late-Roman	53	Enviro	Vole	Femur	F	X
Late-Roman	53	Enviro	Bird (unknown sp.)	Metacarpal 1	F	X
Late-Roman	53	Enviro	Mallard	Gullet Ring	0	0
Late-Roman	53	Enviro	Sheep/Goat	Phalanx 1	F	F
Late-Roman	53	Enviro	Sheep/Goat	Phalanx 1	F	F
Late-Roman	53	Enviro	Sheep/Goat	Metapodial 1	X	UE
Late-Roman	53	Enviro	Sheep/Goat	Tibia	UM	X
Late-Roman	53	Enviro	Sheep/Goat	Phalanx 1	X	F
Late-Roman	53	Enviro	Sheep/Goat	Phalanx 2	X	F
Late-Roman	53	Enviro	Sheep/Goat	Calcaneus	0	0
Mid to Later-Roman	72	Enviro	Cattle	Mandible	X	F
Late-Roman	86	Hand	Cattle	Metacarpal 1	F	F
Late-Roman	86	Hand	Cattle	Astragalus	F	F
Mid to Later-Roman	91	Hand	Cattle	Radius	F	F
Late-Roman	107	Hand	Mallard	Humerus	F	X
Late-Roman	107	Hand	Mallard	Ulna	F	X

Phase	Context	Retrieval	Species	Element	Fusion proximal	Fusion distal
Late-Roman	107	Hand	Mallard	Femur	X	F
Late-Roman	107	Hand	Mallard	Radius	F	X
Late-Roman	107	Hand	Mallard	Scapula	0	0
Late-Roman	107	Hand	Mallard	Tibia	F	X
Late-Roman	107	Hand	Mallard	Furcula	0	0
Late-Roman	111	Hand	Dog	Metatarsal 2	F	X
Late-Roman	111	Hand	Dog	Metatarsal 3	F	F
Late-Roman	111	Hand	Dog	Metatarsal 1	F	F
Late-Roman	111	Hand	Dog	Metatarsal 5	F	F
Late-Roman	111	Hand	Dog	Metatarsal 2	F	F
Late-Roman	111	Hand	Dog	Metatarsal 3	F	F
Late-Roman	111	Hand	Dog	Metatarsal 4	F	F
Late-Roman	111	Hand	Dog	Metatarsal 5	F	X
Late-Roman	111	Hand	Dog	Tibia	X	F
Late-Roman	111	Hand	Dog	Calcaneus	F	F
Late-Roman	111	Hand	Dog	Calcaneus	F	F
Late-Roman	111	Hand	Dog	Astragalus	F	F
Late-Roman	111	Hand	Dog	Pelvis	F	F
Late-Roman	111	Hand	Dog	Femur	F	X
Late-Roman	111	Hand	Dog	Phalanx 1	F	F
Late-Roman	111	Hand	Dog	Phalanx 1	F	F
Late-Roman	111	Hand	Sheep/Goat	Phalanx 1	F	F
Late-Roman	111	Hand	Dog	Phalanx 2	F	F
Late-Roman	111	Hand	Dog	Phalanx 2	F	F
Mid to Later-Roman	112	Hand	Cattle	Pelvis	F	F
Mid to Later-Roman	112	Hand	Cattle	Metacarpal 1	F	X
Mid to Later-Roman	114	Hand	Horse	Pelvis	F	F
Mid to Later-Roman	114	Hand	Sheep/Goat	Mandible	X	0
Mid to Later-Roman	114	Hand	Cattle	Calcaneus	X	X
Mid to Later-Roman	117	Hand	Horse	Loose mandibular tooth	F	X
Mid to Later-Roman	117	Hand	Cattle	Femur	UM	UM
Mid to Later-Roman	156	Hand	Sheep	Cranium	0	0
Mid to Later-Roman	156	Hand	Horse	Radius	F	F
Mid to Later-Roman	156	Hand	Cattle	Axis	0	0
Mid to Later-Roman	156	Hand	Cattle	Radius	F	X
Mid to Later-Roman	156	Hand	Cattle	Tibia	UE	X
Mid to Later-Roman	156	Hand	Sheep/Goat	Mandible	X	0
Mid to Later-Roman	160	Hand	Cattle	Radius	F	X
Mid to Later-Roman	160	Hand	Cattle	Femur	F	X
Mid to Later-Roman	160	Hand	Sheep/Goat	Mandible	X	0
Late-Roman	164	Enviro	Small Rodent (?)	Phalanx 3	0	0
Late-Roman	164	Enviro	Rabbit	Phalanx 1	F	F
Late-Roman	167	Hand	Sheep/Goat	Loose mandibular tooth	0	0
Late-Roman	181	Hand	Horse	Metacarpal 1	F	X
Late-Roman	181	Hand	Pig	Femur	X	UM
Late-Roman	181	Hand	Horse	Pelvis	X	0
Late-Roman	181	Hand	Cattle	Femur	UM	X
Late-Roman	181	Hand	Sheep/Goat	Mandible	X	0
Late-Roman	181	Hand	Pig	Loose mandibular tooth	0	0
Early to Mid-Roman	187	Hand	Horse	Radius	F	X
Early to Mid-Roman	187	Hand	Horse	Ulna	0	F
Mid to Later-Roman	197	Hand	Cattle	Metacarpal 1	F	F
Mid to Later-Roman	197	Hand	Cattle	Mandible	X	0
Mid to Later-Roman	197	Hand	Cattle	Cranium	0	0
Mid to Later-Roman	197	Hand	Sheep/Goat	Metacarpal 1	F	X
Mid to Later-Roman	197	Hand	Sheep/Goat	Mandible	0	X
Mid to Later-Roman	240	Hand	Cattle	Horncore	0	0

Phase	Context	Retrieval	Species	Element	Fusion proximal	Fusion distal
Mid to Later-Roman	240	Hand	Cattle	Femur	X	F
Mid to Later-Roman	240	Hand	Cattle	Femur	X	F
Mid to Later-Roman	240	Hand	Horse	Loose mandibular tooth	0	0
Mid to Later-Roman	240	Hand	Cattle	Humerus	UM	F
Late-Roman	241	Enviro	Vole	Femur	F	X
Late-Roman	241	Enviro	Vole	Metapodial	F	F
Late-Roman	248	Hand	Cattle	Scapula	X	F
Late-Roman	248	Hand	Horse	Metatarsal 1	F	F

Table 32 Number of Identifiable fragments by context

Phase	Context	Species	Element	GL	Bp	SD	Bd	GLI	GLm	SLC
Mid to Later-Roman	12	Sheep/Goat	Phalanx 1	38.3	12.1	0	11.1	0	0	0
Mid-Late Roman	86	Cattle	Metacarpal 1	0	52.4	0	53.3	0	0	0
Mid-Late Roman	86	Cattle	Astragalus	0	0	0	38.9	60.6	54.5	0
Mid to Later-Roman	91	Cattle	Radius	249.4	72.5	36.3	62.3	0	0	0
Mid to Later-Roman	160	Cattle	Radius	0	74.01	0	0	0	0	0
Late-Roman	248	Cattle	Scapula	0	0	0	0	0	0	57.5
Late-Roman	111	Dog	Metatarsal 5	78.7	0	0	0	0	0	0
Late-Roman	111	Dog	Metatarsal 2	78	0	0	0	0	0	0
Late-Roman	111	Dog	Metatarsal 3	87.5	0	0	0	0	0	0
Late-Roman	111	Dog	Calcaneus	55.2	0	0	0	0	0	0
Late-Roman	111	Dog	Calcaneus	55.2	0	0	0	0	0	0
Late-Roman	111	Dog	Astragalus	32.6	0	0	0	0	0	0
Late-Roman	111	Dog	Tibia	0	0	0	26.9	0	0	0
Late-Roman	248	Horse	Metatarsal 1	0	0	28.6	44.9	0	0	0

Table 33: Table of measurable elements (mm)

Key: **G**= Greatest length; **GLI**= Greatest lateral length; **SLC**= Smallest length of collum (in scapula); **Bd**= Greatest breadth of distal end; **Bp**= Greatest breadth of proximal end; **GLm**= Greatest length of medial half (in astragalus).

## C.2 Mollusca

By Carole Fletcher

### Introduction

C.2.1 A total of 433 shells or fragments, weighing 8.957kg, of marine molluscs were collected, mostly by hand, during the excavation, from 40 contexts, representing 35 features, mainly ditches. The shells recovered are mostly oyster (*Ostrea edulis*), from estuarine and shallow coastal waters, with a few examples of mussel (*Mytilus edulis*) from intertidal zones. The shell is moderately well to poorly preserved and does not appear to have been deliberately broken or crushed, however, it has suffered some post-depositional damage.

### Methodology

C.2.2 The bulk of the shell was excavated by hand, with a small number of shells recovered through wet sieving of bulk samples. 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.2.3 Winder uses the criterion of a minimum number of at least 30 measurable individuals of either left or right valves, in her report on the Heybridge assemblage (Winder 2015), only one feature fills this criterion, pit **178**. Therefore, the decision was made not to measure the individual shells, however, the shells were roughly sized, small, medium and large, to allow for a level of comparison. Infestation damage to the shell or encrustation was noted, although exact identification of the infesting organism has not been made.

C.2.4 Numerous shells show evidence of damage, in the form of a 'V', 'U' or 'W'-shaped hole on the outer edge/margin 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 and any other damage have been recorded in the catalogue.

### *Assemblage*

C.2.5 The shells were recovered from a number of features across the site, mainly ditches, but also pits and post holes, and are mostly oyster. A small quantity of mussels were recovered from several features, including Mid to Later-Roman ditch **10**, Late-Roman pit **57** (a minimum of nine valves) and ditch **124**, and possible oven/corn dryer **62**. A single left valve was recovered from post-medieval ditch **6**.

### *Prehistoric*

C.2.6 A single feature of this period contained shell, ditch **48**, part of the prehistoric field system. A single oyster right valve was recovered from fill 49. This shell may be intrusive.

### *Early to Mid-Roman*

C.2.7 A single feature of this period contained shell, ditch **233**, part of the Earlier Roman field system. Three oyster shells were recovered from fill 236, two right valves and a left valve.

### *Mid to Later-Roman*

C.2.8 In this period, ditches, a pit and a gully produced 185 shells between them, weighing 5.423kg in total. Several ditches produced moderate quantities of shell and the total assemblage from the ditch **39** (**39=59, 88, 119** and **240**), totalled 76 shells weighing 1.925kg. The bulk of the shells are left valves, although few are shucked. Most have suffered some post-depositional damage and although the numbers present represent a number of meals, the shell very probably represents a number of different depositional episodes and is generalised food waste, rather than deposition of individual meals.

Context	Cut	Species	Common Name	Habitat	Total no. of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Total Weight (kg)
40	<b>39</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	0.031

Context	Cut	Species	Common Name	Habitat	Total no. of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Total Weight (kg)
60	<b>59</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	15	2	8	1	7	1	0.228
89	<b>88</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	2	0	1	0	0.098
112	<b>88</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	12	1	8	1	4	0	0.357
113	<b>88</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	15	6	9	2	6	4	0.419
117	<b>119</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	29	2	21	2	8	0	0.737
240	<b>239</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	0.055
<b>TOTAL:</b>					<b>76</b>	<b>11</b>	<b>50</b>	<b>6</b>	<b>26</b>	<b>5</b>	<b>1.925</b>

 Table 34: Mid to Later-Roman ditch **39** shell assemblage

C.2.9 Ditch **32 (73)** produced a far smaller assemblage of 14 shells weighing 0.732kg, equally divided between left and right valves (Table 34). However, the interesting shells from this feature include a near-complete medium to large right valve with two sub-square holes pierced through the shell either side of the midline, one on the posterior old dorsal side and one on the anterior dorsal side. The dorsal side hole is roughly rectangular 4.5 x 4.1mm and the posterior hole 5.8 x 3.6mm. In addition, there are two partial thick, heavy and old left valves, with a single hole pierced through the body approximately on the central line. One is sub-rounded, slightly tapered (10 x 9mm), with possible wear to the hole, as if the shell had been hung with the heel/umbo pointing downwards. The other shell has a sub-rectangular hole slightly off-centre, approximately 9 x 12mm, with rounded corners, which may be due to wear. As with the previous shell, the weight distribution, if the shell is suspended, makes the shell hang heel/umbo downwards.

C.2.10 The purpose of these holes is unclear, however, shells with holes appear in Roman and some medieval shell assemblages. They could be for the removal of pearl blisters, although the pearls that may be recovered from edible oysters are of poor quality, they are just rather brittle and dull, <https://www.quora.com/Is-it-common-to-find-pearl-while-eating-oysters>. An online article about the pierced oyster shells from Lincoln <https://romanlincolnshire.wordpress.com/2017/11/04/mystery-pierced-oyster-shells/> suggests that larger, squarer or diamond holes may have been made with a nail and it is also been suggested that the holes may have been part of oyster cultivation creating a stack have you shells for upon which young oysters could grow. The heavy shells could easily have been used as suspended weights, yet this explanation does not hold for the smaller double pierced shell also recovered from this context, the holes in which could easily have been made by a nail being driven through it. The shells' usage remains a mystery.

C.2.11 The ditches **4 (4=10, 17 and 200)** and **104 (104=155 and 196)**, that form Enclosure 2 also produced moderate quantities of shell (see Table 35). As with the shell from the ditches **39** and **32**, this shell very probably represents a number of different

depositional episodes and is generalised food waste, rather than deposition of individual meals.

Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Total Weight (kg)
12	10	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	0	0	2	0	0.031
		<i>Mytilus edulis</i>	Mussel	intertidal zone	6	0	2	0	2	0	0.009
25	24	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	0	0	1	0	0.016
105	104	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	2	0	1	0	0.088
156	155	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	20	2	9	2	11	0	0.534
160	155	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	7	0	5	0	2	0	0.256
197	196	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	17	0	1	0	6	0	0.622
201	200	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	9	3	5	2	4	1	0.330
<b>TOTAL:</b>					<b>65</b>	<b>5</b>	<b>24</b>	<b>4</b>	<b>29</b>	<b>1</b>	<b>1.886</b>

Table 35: Mid to Later-Roman Enclosure 2 shell assemblage

### Late-Roman

C.2.12 In this period, oyster shells were recovered from ditches, pits and a gully, 206 shells or fragments weighing 3.462kg. Also produced from a ditch, a pit and a hearth/oven were 32 mussel shells or fragments, between them weighing 0.024kg in total.

C.2.13 The largest group of shells was recovered from pit **178**, part of Pit & Post Hole Group 1 (Table 36). In total, 151 shells or shell fragments (1.927kg) were recovered from this deposit. The shell size varies from small, including young examples, to large, with medium as the most common size, with 127 valves identified, 58 right and 69 left. Some of the oyster shells show evidence of shucking, 41 valves, divided almost equally between right and left (20 right, 21 left) showing definitive shucking damage, although it is possible that some of the post-depositional damage destroyed less significant marks. If the pit assemblage represented only the processing waste of oysters eaten raw, the number of discarded right valves might be expected to be higher, a raw oyster being commonly eaten from the left valve and often the left valve may be discarded elsewhere. The low number of shucked shells relative to the total shell numbers suggests that the bulk of the oysters may have been cooked rather than eaten raw. Shells, when cooked in boiling liquid, will mostly open without the use of force; discussion regarding disposing of shellfish that do not open after cooking is not required here.

C.2.14 The assemblage appears to represent a number of meals of oysters served raw or cooked, and involving oysters of all sizes. Unfortunately, although the shells form a relatively large group, little inference can be made about size selection or the cooking methods used by the depositors of the shells within the pit, as the assemblage is

relatively mixed. No other single non-linear feature of any period produced similar numbers or weight of shells.

Context	Cut	Species	Common Name	Habitat	Total no. of shells or fragments	Total no. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Total Weight (kg)
52	<b>54</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	1	1	0	1	1	0.077
58 <4>	<b>57</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	2	0	0	0	0.044
		<i>Mytilus edulis</i>	Mussel	Intertidal zone	29	0	6	0	3	0	0.022
164	<b>163</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	0.016
179	<b>178</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	151	40	69	21	58	19	1.927
<b>TOTAL:</b>					<b>185</b>	<b>41</b>	<b>79</b>	<b>21</b>	<b>62</b>	<b>20</b>	<b>2.086</b>

Table 36: Late-Roman Pit & Post Hole Group 1 shell assemblage

### Post-Roman

C.2.15 Only one feature of this period contained shell, ditch **213**, where a single oyster left valve weighing 0.028kg was recovered from fill 214.

### Post-Medieval

C.2.16 One feature of this period contained shell, ditch **6**, where a single fragment of oyster left valve weighing 0.002g was recovered from fill 7.

### Discussion

C.2.17 The shells vary from young specimens to relatively small and larger oysters, while very few thick, or what might be considered older, specimens are present in the assemblage, the exceptions are most obviously the 'holed' shells from ditch **32** and perhaps the sheer weight of these older shells is why they were chosen, as there appears to be wear on the holes themselves and, if used as any form of weight, a younger thinner shell would be less effective (see above (C.2.10) for fuller discussion of these perforated shells.

C.2.18 The bulk of the shells recovered represent general discarded food waste mostly oyster, the low number of mussel shells suggests these may have been collected with the oysters rather than having been a specific additional food source. Although not closely datable in themselves, may be dated by their association with pottery or other material also recovered from the features. The shell recovered from pit **178** provides a more informative assemblage than is often recovered, suggesting that many of the oysters consumed were cooked, rather than eaten raw. The presence of marine shells indicates transportation of a marine food source to the site, indicating the ability of the occupants of the settlement(s) to access foods sources outside their immediate area and surrounding hinterland.

## Mollusca Catalogue

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
Post-med	7	6	<i>Mytilus edulis</i>	Mussel	Intertidal zone	1	0	1	0	0	0	Complete small-medium left valve	0.002
Mid to Later-Roman	12	10	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	0	0	2	0	Near-complete medium right valve with light damage on the ventral edge and an incomplete small-medium right valve, both with surviving horny scales	0.031
			<i>Mytilus edulis</i>	Mussel	Intertidal zone	6	0	2	0	2	0	Fragments of at least four different valves	0.009
Mid to Later-Roman	19	17	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	1	0	2	0	An incomplete small-medium right valve and a partial medium right valve. A partial thick old large left valve, heavily damaged on the anterior and ventral margins, with extensive worm burrows	0.095
Late-Roman	21	20	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	2	0	0	0	One near-complete medium left valve, damaged on the ventral margin with light marine worm burrow damage. A second left valve is incomplete, missing much of the ventral margin and with moderate marine worm burrow damage	0.058
Mid to Later-Roman	25	24	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	0	0	1	0	One incomplete small-medium right valve, somewhat powdery	0.016
Late-Roman	35	34	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	4	0	1	0	3	0	A medium-large near-complete thick old right valve with slight damage on the ventral margin, which may be the remains of a shucking mark and two incomplete medium right valves. Both are missing their ventral margins. One near-complete medium left valve with ?embedded barnacles	0.119
Late-Roman	37	36	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	0	0	2	0	A large near-complete right valve with sponge borings and damage to the ventral margin and a fragment of medium right valve	0.066
Late-Roman	38	36	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	4	1	0	0	4	1	A medium-large incomplete right valve, missing the anterior ventral edge. An incomplete small-medium right valve, damaged on the ventral margin and with possible shucking mark and two fragments of right valve	0.055
Mid to Later-Roman	40	39	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	An incomplete medium left valve, most of the ventral margin is missing, with a few sponge borings and a young oyster shell attachment	0.031
Prehistoric	49	48	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	0	0	1	0	A near-complete elongated medium right valve, now powdery and fragmenting	0.018
Late-Roman	52	54	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	1	1	0	1	1	One near-complete medium right valve, with damage to the ventral edge and a hole in the shell, this appears to be excavational damaged. A large, fairly thick left valve damaged during its life, probably by dredging, and with a wide shucking mark on the anterior ventral margin	0.077
Late-Roman	58 <4>	57	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	2	0	0	0	An incomplete medium left valve with a few marine worm burrows and a few barnacles, damaged to the ventral margin on the anterior side and with a relatively centrally placed 'W' shuck mark. A partial medium left valve having lost all of the anterior and posterior ventral areas and having light levels of marine worm burrow damage	0.044
			<i>Mytilus edulis</i>	Mussel	Intertidal zone	29	0	6	0	3	0	Fragments from at least nine valves, both left and right	0.022

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
Late-Roman	60	59	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	15	2	8	1	7	1	Single complete thick, old, right valve, with several sponge bore holes close to the dorsal margin	0.228
												One incomplete small right valve with shuck mark, three partial small right valves and two fragments of right valve	
												Single incomplete medium-large left valve with damage to the anterior ventral area and a possible shuck mark, although this area has also been damaged more recently. There is light marine worm boring damage	
												Near-complete medium-large left valve with possible shuck mark centrally on the ventral edge with an occasional sponge boring hole	
												Incomplete medium left valve, badly damaged on the ventral edge on the posterior side, which may be a shuck mark. The shell has moderate boring damage from sponges	
												One incomplete medium left valve, missing the dorsal margin and four fragments from medium to small left valves	
Late-Roman	72	73	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	14	1	7	1	7	0	Near-complete medium to large right valve, with very light damage to the ventral edge, however, there are two sub-square holes pierced through the shell either side of the midline, one on the posterior dorsal side and one on the anterior dorsal side. The dorsal side hole is roughly rectangular 4.5 x 4.1mm and the posterior hole 5.8 x 3.6mm. The purpose of these holes is unclear, possibly they could have been used to suspend the shell	0.732
												Near-complete medium to large right valve with some damage to the ventral edge	
												Four medium, incomplete right valves, all damaged relatively heavily on the ventral edge, all look slightly battered. Slightly powdery	
												Near-complete large left valve, some damage on the ventral margin and on the anterior margin, with a possible shucking mark on the ventral edge	
												Fragment of what was likely to have been a medium to large right valve with extensive damage caused by boring sponges	
												Two partial thick, heavy and old left valves. Each shell has lost its entire ventral margin and are generally battered. One shell has extensive damage due to sponge boring and some marine worm burrowing; the second shell has some marine worm borrowing. Each shell has a single hole pierced through the body approximately on the central line, one is sub-rounded, slightly tapered (10 x 9mm) with possible wear to the hole, as if the shell had been hung with the heel/umbo pointing downwards. On the upper surface there is a broader area of surface loss around the hole itself, possibly due to the thickness of the shell again sub-rounded (25 x 23mm).	
												The sub-rectangular hole through the shell with the sponge boring damage, is not so neatly executed, with damage to both upper and internal surfaces, although this may be due to the shell breaking up, due to the sponge boring damage making the shell structure more friable. The hole is slightly off-centre approximately 9 x 12mm, with rounded corners which may be due to wear. As with the previous shell, the weight distribution, if the shell is suspended makes the shell hang heel/umbo downwards. Both holes appear to have been pierced from the inside of the shell outwards, or possibly worked from both sides due to the thickness of the shell. The purpose of these holes is unknown, however, they appear in shell assemblages of various dates although possibly more commonly in Roman shell assemblages ( <a href="https://romanlincolnshire.wordpress.com/2017/11/04/mystery-pierced-oyster-shells/">https://romanlincolnshire.wordpress.com/2017/11/04/mystery-pierced-oyster-shells/</a> )	
												Near-complete medium to large left valve, some damage to the ventral margin	

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												Three incomplete abraded, relatively thick left valves, all have suffered damage on their ventral margin, one has heavy worm marine worm and sponge boring damage	
												Near-complete medium left valve, somewhat distorted, large flat heel	
Late-Roman	86 <9>	84	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	A near-complete thick old medium left valve, damaged on ventral margin and with some light marine worm burrow damage	0.062
Mid to Later-Roman	89	88	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	2	0	1	0	A complete medium right valve, and two near-complete left valves, both damaged on the ventral margin	0.098
Mid to Later-Roman	91	90	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	14	0	5	0	9	0	Single near-complete medium right valve, with slight damage to the dorsal margin and a small number of sponge borings	0.320
												Six near-complete small to medium right valves, all with minor damage, mostly to the ventral edge and all slightly powdery several moderately thick shells	
												Two near-complete partial small to medium right valves, one with relatively extensive damage to the ventral edge and a single sponge borehole, the second with slight damage to the ventral edge, including what appears to be excavation damage. The shell has moderate sponge boring damage	
												One near-complete medium to large left valve with moderate damage. The ventral edge and slight marine worm burrow damage	
												One near-complete medium left valve with a centrally-placed small shuck mark, with moderate damage to the ventral edge and light damage from marine worm burrows	
												One near-complete medium thick, old, left valve with damage to the ventral margin, especially the posterior ventral margin	
												Two incomplete left valves, with slight damage to most edges, the shells are in poor condition and powdery both have small amounts of damage by marine worms and all sponges	
Mid to Later-Roman	105	104	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	2	0	1	0	Near-complete medium right valve, damaged slightly on the ventral margin, with moderate sponge boring holes across the whole of the shell. Medium-large near-complete left valve, damaged on posterior ventral margin. Small partial left valve, damaged on posterior and ventral margins and slightly powdery.	0.088
Mid to Later-Roman	112	88	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	12	1	8	1	4	0	Medium complete right valve, and two near-complete right valves with minor damage to the ventral margin.	0.357
												Large near-complete, relatively thick and old left valve, with some damage to the ventral margin and anterior ventral margin	
												Three medium-large near-complete left valves, all with damage to the ventral margin	
												Incomplete left valve with shuck mark on the ventral margin and damage to the ventral and anterior ventral margin	
												Two medium, incomplete, relatively thick, old, left valves both heavily damaged around the ventral margin some of which is post-depositional	
												Single fragment of right valve and a single fragment of left valve	
Mid to Later-Roman	113	88	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	15	6	9	2	6	4	One moderate to large incomplete right valve missing entirely the posterior dorsal and anterior dorsal areas of the shell	0.419
												Single near-complete medium right valve, with some damage to the dorsal margin	

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												<p>Four medium, near-complete right valves, all appear to be shucked and have other slight damage to the ventral margin</p> <p>Two small-medium near-complete left valves, both have slight damage to the ventral edge</p> <p>Large semi-complete left valve, damaged on both the anterior and dorsal margins</p> <p>Two near-complete medium-large left valves, each with some damage to the ventral edge and each with an obvious shuck mark. Both shells have light marine worm burrow damage</p> <p>One semi-complete medium left valve with damage to the ventral margin and probable shuck mark</p> <p>Two semi-complete small to medium left valves, both with damage to the ventral edge and one with post-depositional damage, possibly sustained during excavation</p> <p>Fragment of left valve</p>	
Mid to Later-Roman	114	116	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	17	4	14	4	3	0	<p>Three near-complete medium right valves, with slight damage to ventral edge</p> <p>Young near-complete right valve</p> <p>Single medium left valve, near-complete, yet extensive damage to ventral edge</p> <p>Two medium-large near-complete left valves, both with moderate damage on the ventral edge and centrally-placed shuck marks</p> <p>Incomplete, moderately thick, old, left valve with extensive damage to the ventral edge and loss of the posterior ventral edge. Slight marine worm boring damage</p> <p>Four near-complete, medium left valves, always moderate damage to the ventral edge and two have light marine worm burrow damage</p> <p>A single, medium left valve with damage on the anterior ventral, across the posterior ventral edge and a well-defined V-shaped shucking mark towards the anterior margin</p> <p>Single small left valve with V-shaped shucking mark on ventral edge</p> <p>Two small to medium, near-complete left valves, with slight ventral edge damage and occasional marine boring worm damage</p> <p>incomplete medium left valve, damaged extensively on ventral margin and damage on posterior dorsal margin. A fragment of what appears to be mussel shell is embedded into the shell, the shell having appeared to have grown around it, and there is light damage from marine worm boring</p>	0.374
Mid to Later-Roman	117	119	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	29	2	21	2	8	0	<p>Four medium, incomplete right valves, three of which are missing almost their entire ventral margin, the fourth has lost the posterior ventral portion</p> <p>One near-complete small to medium right valve, and a partial small to medium right valve, which appears to have suffered damage during excavation</p> <p>One incomplete small right valve</p> <p>One fragment of right valve</p> <p>One near-complete left valve with damage to the posterior ventral margin and slight marine worm burrow damage</p> <p>One near-complete medium or medium to large left valve, with some damage to ventral edge and centrally placed shucking mark and ventral edge. Light sponge borehole damage on upper surface</p> <p>Three medium near-complete left valves with some post-depositional damage, mostly to the ventral margin</p>	0.737

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												<p>Single partial left valve, severe damage to anterior dorsal margin</p> <p>Near-complete medium left valve, with damage to ventral margin and young oyster attached</p> <p>One near-complete thick old left valve with a possible W-shaped shucking mark on the ventral edge</p> <p>Semi-complete medium left valve, with V-shaped shucking mark on ventral margin and moderate marine worm burrow damage shell. Also damaged on the posterior ventral edge</p> <p>Three moderately complete, relatively thick and old medium left valves, all with varying amounts of damage to the ventral edge and some light marine worm burrow damage on two of the shells</p> <p>Five incomplete small to medium left valves, all moderately badly damage, mostly along the ventral margin, several moderately thick, one is quite thin and powdery and almost all have moderate marine worm burrow damage</p> <p>Two small to medium incomplete left valves, both heavily damaged on ventral margin and one also damaged on anterior margin</p> <p>Two fragments of left valve</p>	
Late-Roman	125	124	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	3	0	0	0	Large, moderately old, near-complete left valve with slight damage to ventral margin on posterior side and with light marine worm burrow damage. Medium, thick, old, left valve, damaged on ventral margin with a possible W-shaped shuck mark and with numerous marine worm borings across the shell. Fragment of left valve ventral margin	0.102
Late-Roman	125 <10>	124	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	0	0	1	0	A near-complete medium right valve with slight damage to the ventral margin	0.015
			<i>Mytilus edulis</i>	Mussel	Intertidal zone	1	0	0	0	1	0	A fragment of right valve	0.001
Mid to Later-Roman	156	155	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	20	2	9	2	11	0	Three large-medium, near-complete, relatively thick, old, right valves, with slight damage to ventral margin. Two shells have areas where horny scales survive, and the third shows some light damage, most likely from sponge borings	0.534
												Four near-complete medium relatively thick, old, right valves, with slight damage to the ventral margin and with three shells retaining small areas of horny scales	
												Three small-medium, relatively thick, old, near-complete right valves, two of which have slight damage, the ventral margin of the fourth having a possible shucking mark. Two of the shells (including the shucked shell) have surviving areas of horny scale and the shucked shell shows slight boring damage on the dorsal margin	
												Single large-medium near-complete, moderately thick left valve, with slight damage to posterior dorsal margin and probable shucking mark on ventral margin. Moderate boring damage, most likely from sponges and light marine worm burrow damage	
												Single incomplete, moderately thick, medium-large left valve, missing almost all of the ventral and anterior margin, with light marine worm burrow damage	
												Medium near-complete left valve with damage to the posterior ventral margin and an obvious W-like shuck mark, relatively central on the ventral margin	
												Two medium, near-complete, moderately thick left valves with slight damage on the ventral edge. Both shells have light marine worm burrow damage and one has moderate sponge boring damage on the upper part of the shell and some bore holes that perforate the shell, caused by predatory marine gastropods	

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												<p>Single near-complete small to medium left valve, with slight damage to ventral margin. On the internal surface are five barnacles, suggesting that, when collected, the oyster was dead and the shell was empty. This may indicate the oysters were collected by dredging, as if gathering live oysters, it is very unlikely that this shell would have been collected.</p> <p>Single, incomplete, relatively thick, old, left valve, all of the ventral margin is missing and the posterior ventral margin is damaged</p> <p>Single, incomplete, relatively thick, old, left valve, all of the ventral margin is missing and the posterior ventral margin is damaged</p> <p>Fragment of left valve, the entire lower half of the shell having been lost and heavily worn, with extensive damage caused by sponge borings. Most of the outer surface of the shell has been lost and has worn thin, leaving a hole in the shell</p>	
Mid to Later-Roman	160	155	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	7	0	5	0	2	0	<p>A near-complete, small, right valve with minor damage around the dorsal margin and light marine worm burrow damage, and a near-complete, medium right valve with similar minor damage, this time to the ventral margin</p> <p>Two near-complete medium left valves with damage to ventral margin, one with light ?sponge boring damage, and an incomplete medium-large, thick, old left valve, with damage to the posterior ventral and anterior ventral margins</p> <p>Two large near-complete left valves with damage to ventral margin, both with light marine worm burrow damage</p>	0.256
Late-Roman	162	161	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	0	2	0	0	0	Near-complete, medium-large left valve, with slight damage on the ventral margin. Partial medium left valve, with damage to all margins and slightly powdery	0.073
Late-Roman	164	163	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	Half of a left valve from a medium-sized oyster shell, split from umbo to ventral margin, otherwise undamaged	0.016
Late-Roman	166	165	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	12	7	9	6	1	1	<p>Single moderate-large near-complete right valve, with damage to the ventral edge that may be a shuck mark. There is some survival of horny scales</p> <p>Near-complete medium right valve, with a small W-shaped shuck mark on the ventral edge towards the posterior margin. There is some survival of horny scales</p> <p>Incomplete large left valve, broken into two pieces, with damage to the anterior dorsal and anterior ventral areas that appears to have occurred during excavation. The shell is slightly distorted on the anterior edge</p> <p>Three near-complete medium-large left valves, all with shucking marks on the ventral margin and general damage to the ventral margin, one of the three shells also has a young oyster attached and a damaged heel</p> <p>Incomplete medium left valve with damage to the dorsal edge that appears to have occurred during excavation, and a shuck mark on the ventral edge</p> <p>Incomplete medium left valve, badly damaged, including a possible shuck mark, with almost all of the ventral edge having been lost</p> <p>Three fragments from left valves of medium to large size, two have light marine worm burrow damage</p>	0.243
Late-Roman	167	165	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	6	2	1	1	5	1	Two near-complete, small right valves, one with slight damage on the ventral margin, the second with more damage and slightly powdery. One complete medium right valve. One	0.087

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												near-complete medium right valve, with possible shuck mark on the ventral margin. Partial right valve, extensively damaged on the ventral margin, possibly with a shuck mark. Incomplete left valve, heavily damaged on the ventral margin and with a possible shuck mark. Light marine worm burrow damage	
Late-Roman	179	178	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water 145	151	40	69	21	58	19	Single, near-complete, medium right valve, with slight damage to the ventral margin and an oval hole (11 x 6mm) centrally placed. Purpose of the hole is unknown	1.927
												11 near-complete medium right valves, all with slight damage to the ventral margin and all with relatively central shucking marks	
												Ten near-complete small-medium right valves, all with damage to the ventral margin, some of which is post-depositional, some may be tentative shucking marks. Three of the shells have light to medium marine worm burrow damage	
												Three complete medium right valves, two of which have light marine worm burrow damage	
												Three incomplete right valves, heavily damaged on ventral margin	
												Eight small to medium right valves, all near-complete, with shucking marks relatively central on the ventral margin	
												Ten small to medium near-complete right valves, all with minor damage, mostly to the ventral margin. A single shell has slight marine worm burrow damage	
												Seven small-medium complete right valves, three of which have slight marine worm burrow damage	
												Five near-complete young right valves	
												Single complete large left valve	
												Three near-complete, large left valves, with damage to the ventral margin and clear shuck marks, two located on the anterior side of the ventral margin. The third shell has the shuck mark relatively centrally placed and the shell has a small group of barnacles attached to the anterior dorsal and posterior dorsal areas of the shell	
												Single, incomplete, large left valve, with damage to the ventral and anterior margin. Somewhat distorted shell. A single barnacle is located in the anterior dorsal area, below which is a small scar, possibly a spat attachment point	
												Single complete medium-large left valve, with slight marine worm burrow damage	
												Five near-complete, medium-large left valves, all with slight damage to the ventral margin. Four shells have slight marine worm burrow damage and the fifth has a light growth of barnacles close to the posterior margin	
												Two medium-large left valves, both with shuck marks to the anterior ventral margin, both shells also have light marine worm burrow damage	
												Three near-complete, medium left valves, each with one or more young oyster attached. Two of the shells have moderate marine worm burrow damage and a small number of barnacles	
												Four near-complete medium left valves, two of which are somewhat distorted, two have light to medium marine worm burrow damage. All are damaged on the ventral margin	
												Two complete medium left valves, with large shucking marks on the anterior ventral margin	
												Single complete left valve, with centrally placed broad shuck mark. The shell also has a young oyster shell attached	

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												Two near-complete, medium left valves with shucking marks on the posterior ventral margin, one shell has a single barnacle	
												Three near-complete, medium, slightly distorted left valves, one with slight marine worm burrow damage and all with moderate damage to the ventral margin and relatively centrally placed shucking marks	
												Single, near-complete left valve, with anterior ventral margin damage and a broad U-shaped shuck mark, relatively centrally placed. The shell also has light marine worm burrow damage	
												Incomplete medium left valve with extensive damage to the ventral margin and with a shuck mark on the anterior ventral margin. The shell also shows moderate marine worm burrow damage	
												Two complete medium left valves, slightly distorted, one with a small a young oyster shell attached	
												Small-medium, near-complete left valve, with a centrally placed possible shucking mark on the ventral margin. An oval hole is pierced through the shell (6 x 4mm) close to the possible shucking mark. The hole may have been drilled, however, its purpose is unclear	
												Seven small-medium, near-complete left valves, all damaged along the ventral margin. Four of the shells have light marine worm burrow damage and a fifth shell has light marine worm burrow damage and several weathered barnacles	
												Two incomplete left valves, heavily damaged on the ventral margin	
												Incomplete left valve, heavily damaged on ventral margin, especially the posterior ventral margin, with possible shucking mark, relatively centrally placed, and light marine worm burrow damage	
												Near-complete left valve, with very definite shucking mark, centrally placed, slight damage to the posterior ventral margin	
												Two small-medium, near-complete left valves, with damage on the ventral margin, possibly these may be shuck marks, however, this is not clear	
												Two small-medium, near-complete left valves, with relatively centrally placed shucking marks, one of which is a distinct 'W' shape	
												Two small-medium, near-complete left valves, damaged on the ventral margin, one with several young oysters attached and some marine worm burrow damage	
												Single complete small-medium left valve with a shallow shucking mark, centrally placed	
												Two small near-complete left valves, both damaged on the anterior ventral margin, one shell has light marine worm burrow damage	
												Small, partially complete left valve, relatively heavily damaged on the ventral margin and with a deep shuck mark on the posterior ventral margin	
												Complete small left valve	
												Three incomplete small left valves, all heavily damaged on the ventral margin	
												Four near-complete small left valves	
												Eight near-complete young left valves	
												25 fragments of shell, indeterminate valve, some of which may be fragments of young oyster	
Late-Roman	181	181	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	5	1	3	1	2	0	Two complete large, thick, old right valves with little obvious damage. One near-complete, medium-large, thick, old left valve, with moderate small worm burrows and slight damage to the ventral margin. An incomplete medium left valve with a	0.231

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
												wide shuck mark and an incomplete medium left valve with probable sponge borings. The latter shell has damage to the posterior dorsal and anterior ventral margins	
Late-Roman	189	<b>188</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	0	1	0	2	0	Near-complete, small right valve with post-depositional damage to the posterior margin. Ventral margin fragment from a right valve. Single large, relatively thick, old left valve with slight damage to the ventral margin, which is now rather powdery	0.069
Mid to Later-Roman	197	<b>196</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	17	0	1	0	6	0	Three medium-large, near-complete, relatively thick, old, right valves with slight damage to the ventral margin	0.622
												One medium near-complete right valve, with slight ventral margin damage. A second right valve is more severely damaged on the ventral margin	
												Three large, near-complete left valves, all with slight damage to the ventral margin. One shell has slight sponge boring damage on the dorsal surface	
												A single, near-complete, thick, relatively old, medium-large left valve, with slight ventral margin damage	
												Four medium-large left valves, all incomplete, due to relatively heavy damage, mostly to the ventral margin. Three shells have light marine worm burrow damage, the fourth has slight boring damage	
												Two incomplete, medium, thick old left valves, heavily damaged, one with some sponge boring damage	
Small, near-complete left valve, with slight damage to the ventral margin, and a fragment of right valve													
Late-Roman	199	<b>198</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	1	2	1	1	0	A near-complete, small-medium thick, old, right valve, with minor damage around the ventral margin. A near-complete, medium left valve, with modern damage to posterior ventral margin, light marine worm burrow damage, and an incomplete large thick old left valve, with post-depositional damage to the ventral margin and a possible broad shuck mark on the anterior ventral margin	0.120
Mid to Later-Roman	201	<b>200</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	9	3	5	2	4	1	Medium complete relatively thick, old, right valve	0.330
												Three medium, near-complete right valves, two of which are thick, relatively old specimens, one with a small shuck mark on the anterior ventral margin and a thin shell. Slightly powdery or have light damage to the ventral edge	
												Incomplete, small to medium left valve, extensively damaged on the ventral edge, however, there may be a W-shaped shucking mark within the damage. Relatively heavy marine worm infestation, resulting in numerous burrows on the surface of the shell	
												Medium-large, near-complete left valve with some damage to the ventral edge and a possible shuck mark on the anterior side of the ventral margin	
												Three near-complete, medium left valves, all are thicker, older shells with damage on the ventral edge. Slightly powdery, two shells have light to moderate marine worm burrow damage, the third has a moderate number of sponge borings	
Post-Roman	214	<b>213</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	Incomplete medium valve with damage to the anterior ventral margin and slight marine worm burrow damage	0.028

Phase/Period	Context	Cut	Species	Common Name	Habitat	Total No of shells or fragments	Total No. shucked shells	No. left valve	No. shucked left valve	No. right valve	No. shucked right valve	Description/Comment	Total Weight (kg)
Early to Mid-Roman	236	<b>233</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	3	3	1	1	2	2	Two near-complete medium right valves, one old and thick, with a small neat shuck mark. The thinner right valve has a large, wide shuck mark and damage to ventral margin. A near-complete medium/large thick, old, left valve, with a small neat shuck mark and damage to the upper surface of the shell in three parallel grooves, possibly evidence of dredging. Some marine worm burrow damage.	0.091
Mid to Later-Roman	240	<b>239</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	1	0	1	0	0	0	Near-complete medium left valve from a thicker, older, shell with slight marine worm burrow damage and slight damage to the ventral margin	0.055
Late-Roman	241 <5>	<b>62</b>	<i>Mytilus edulis</i>	Mussel	Intertidal zone	2	0	0	0	0	0	Small fragments of indeterminate handedness	0.001
Late-Roman	248	<b>247</b>	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	2	1	2	1	0	0	A large near-complete left valve, with damage and possible shucking mark on the ventral margin and slight marine worm burrowing. Medium incomplete left valve, missing part of the ventral margin on the posterior side and with damage to the surviving ventral margin, boring worm damage around the heel	0.098
<b>TOTAL:</b>						<b>433</b>	<b>78</b>	<b>210</b>	<b>47</b>	<b>163</b>	<b>31</b>		<b>8.957</b>

Table 37: Mollusca by context and cut

## C.3 Environmental samples

*By Rachel Fosberry*

### **Introduction**

C.3.1 Nineteen bulk samples were taken from features within trial Trench 1 and the excavation area. The features sampled are predominantly dated to the Roman period with some pits and a corn dryer containing obvious burnt deposits. The purpose of this report is to determine whether plant remains are present, their mode of preservation and whether they are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal.

### **Methodology**

C.3.2 The samples were processed by tank flotation using modified Sīraf-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 magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds.

C.3.3 The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 38. 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. Carbonized 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.3.4 For the purpose of this report, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories:

# = 1-5, ## = 6-25, ### = 26-100, #### = 101-500, ##### = 500+ specimens

C.3.5 Items that cannot be easily quantified, such as hammerscale, have been scored for abundance:

+ = occasional, ++ = moderate, +++ = frequent, ++++ = abundant

### **Results**

C.3.6 Preservation of plant remains is by carbonisation (charring) which only occurs under certain conditions when plant material is incompletely burnt and reduced to pure

carbon. It is important to note that any surviving charred remains will only represent a small proportion of the original material being burnt.

### C.3.7 The results are discussed by period:

#### Prehistoric

C.3.8 Sample 17, fill 173 of pit **172** contains occasional charred barley (*Hordeum vulgare*) grains, some of which show signs of germination (embryo still attached). This sample also contains hammer scale which may suggest that there is intrusivity.

#### Mid to Later-Roman

C.3.9 Samples from ditches **155** (sample 11) and **239** (sample 16) contain occasional charred cereal grains that most likely represent material that has blown into the features.

#### Late-Roman

C.3.10 Most of the samples from mid to late Roman deposits contain sparse charred plant remains. Oven/corn dryer **62** (Sample 6) contained hulled wheat grain as well as a few barley grains, some of which show evidence of germination. Ditch **168** (Sample 12) produced a similar assemblage of hulled wheat (*Triticum dicocum/spelta*) and barley but, in this sample, it is the spelt wheat that has germinated. The most notable assemblages are from corn dryer **212** (Sample 18) and pits **163** (Sample 13) and **210** (Sample 15) which produced significant quantities of charred six-row barley (as indicated by twisted grains). Sample 18 produced a flot volume of 600ml that is almost entirely composed of germinated barley grain. Preservation of the grain is excellent suggesting that the deposit is in-situ and represents the final use of the feature. The grains exhibit a range of morphological changes that include:

- Presence of a developed coleoptile (shoot) on the dorsal surface of the grain
- A dorsal groove (caused by the developing coleoptile)
- Shrunken sides (caused by the breakdown of the endosperm to provide nutrients for the developing coleoptile)
- A shiny appearance (caused by the burning of the germinated grain)
- Missing dorsal surface (sometimes caused when the germinated grain is burnt)

C.3.11 Not all of the grains exhibit the same morphological changes, but all of the grains appear to have germinated. The length of the coleoptiles varies, with the maximum length recorded as 6mm. Some grains are still husked (to varying degrees) and occasional fragments of rachis (nodes and internodes) allow identification of the grain to be of a lax, six-row variety. This confirmed by the observation that a greater proportion of the grains exhibit twisting which is caused by the proximity of three grains within their spikelets on each rachis segment (when viewed from above, two sets of three spikelets are seen as '6-row'). The two grains within the two lateral spikelets are usually twisted whereas the middle grain is straight resulting in a ratio of two twisted grains to one straight grain.

C.3.12 Occasional chaff items (glume bases and spikelet forks) of both spelt and emmer wheat were noted within the assemblage and may indicate a previous firing of the feature. Hulled wheat chaff frequently used as fuel in corn-dryers. Other items noted include seeds of common crop weeds such as docks (*Rumex* sp.), black-bindweed (*Fallopia convolvulus*), goosegrasses (*Chenopodium* sp.) andampions (*Silene* sp.).

C.3.13 The samples from pits **163** (Sample 13) and **210** (Sample 15) produced much smaller quantities of charred grain and, whilst barley predominates, the grains are not germinated. Both samples also contain hulled wheat grains.

Trench	Sample No.	Context No.	Feature Type	Cut No.	Phase	Volume	Flot Volume	Cereals	Chaff	Weed Seeds	Snails	Est charcoal vol (ml)	Flot comments	Pottery	Hammerscale
Ex	17	173	pit	172	Prehistoric	10	10	#	0	0	0	<1	occasional barley grains, some germinated	0	++
Ex	11	157	ditch	155	Mid to Later-Roman	2	2	###	0	0	#	<1	occasional barley and wheat grains	0	0
Ex	16	240	ditch	239	Mid to Later-Roman	16	2	#	0	0	0	0	single indet grain	0	+
1	1	27	pit	26	Late-Roman	18	25	#	#	###	0	<1	hulled wheat grains and chaff, occasional 6-row barley grains	#	+
1	2	37	ditch	36	Late-Roman	16	15	#	0	0	0	0	single barley grain		
Ex	3	53	pit	54	Late-Roman	16	30	0	0	0	#	40	frequent small bone fragments including burnt bone	#NR	+++
Ex	4	58	pit	57	Late-Roman	16	10	#	0	0	#	<1	single wheat grain	0	0
Ex	5	241	Oven/corn dryer	62	Late-Roman	6	20	#	0	#	#	2	occasional indet grain	0	0
Ex	6	241	Oven/corn dryer	62	Late-Roman	16	10	###	0	0	#	25	wheat and barley (some germinated)	#	+++
Ex	7	83	pit	82	Late-Roman	12	5	0	0	0	0	0	No preservation	0	0
Ex	8	85	pit	84	Late-Roman	16	5	#	0	0	0	0	Single oat grain	0	++
Ex	9	86	pit	84	Late-Roman	14	1	#	0	0	#	0	occ wheat grain	0	0
Ex	10	125	ditch	124	Late-Roman	8	3	#	0	0	#	<1	occ wheat grain	0	0
Ex	13	164	pit/post hole	163	Late-Roman	16	45	#####	0	#	#	20	a large assemblage of barley grain (twisting = 6-row) with occasional emmer grain. No chaff noted	#	0
Ex	14	189	ring gully	188	Late-Roman	14	5	###	0	0	0	<1	occasional barley and wheat grains	#	+++
Ex	15	211	pit	210	Late-Roman	8	15	#####	0	0	0	<1	a large assemblage of barley grain (twisting = 6-row) with occasional emmer grain. No chaff noted. Some barley are germinated	0	0
Ex	18	226	Corn dryer	212	Late-Roman	12	600	#####	0	###	0	40	a very large assemblage of barley grain (twisting = 6-row) with occasional emmer grain. No chaff noted. Some barley are germinated	0	++
Ex	19	255	hearth/oven	62	Late-Roman	4	1	0	0	0	0	<1	no preservation	0	0
Ex	12	169	ditch	168	Post-Roman	8	5	###	#	0	0	<1	occasional wheat and barley, germinated spelt grain, detached sprouts, spelt glume bases	0	++

Table 38: Environmental samples

## *Discussion*

- C.3.14 The bulk samples taken during the trial trenching and excavation of this site have produced interesting results with good preservation of carbonised plant remains from Roman deposits. The exceptional assemblage of germinated barley grains from feature **212** suggests the function of this feature was a corn dryer. Corn dryers are common Romano-British features that are frequently found associated with rural farmsteads. They are considered to have been multifunctional in that they could be used for a number of functions that include drying grain after a wet harvest, parching grain to make it brittle for subsequent milling (into flour), malting and the deliberate and controlled halting of germinated grain prior to the subsequent brewing stages for making ale (Lodwick 2017, 55 and van der Veen 1989).
- C.3.15 Feature **212** was dug into ditch **227** and measured 1.4m x 1.2m. Sample 18 was taken from the basal deposit (226) which was 0.14m thick. The homogeneity of the deposit cannot be attested, but the concentration of grain of approximately 600 germinated grains per litre of soil suggest that this was a significant deposit. This would have represented the catastrophic loss of a large amount of grain that had been heavily invested in through the processes of harvesting, threshing, sieving/cleaning, and malting.
- C.3.16 The assemblage is remarkable for its preservation and the amount of germinated grain and also because such large amounts of barley are relatively rare in the region. Mid to late Roman farmsteads tend to focus on the production of glume wheats (Lodwick *ibid*, 28) and recent findings of large assemblages of germinated spelt grain at sites such as Over, Cambridgeshire (Fosberry and Moan 2018) and elsewhere within the region (Parks 2013, 129) suggest that wheat was the preferred cereal for brewing ale in the later Roman period.
- C.3.17 The limitations of the area of excavation of pipeline sites precludes full interpretation of the assemblages from this site. The most notable assemblage in corn dryer **212** along with the other industrial oven features indicates settlement, presumably a farmstead, nearby.

## *Retention, dispersal and display*

- C.3.18 The assemblage of germinated barley grains from Sample 18 are extremely well-preserved and exhibit the full range of morphological changes that a grain undergoes when germinated. This assemblage would be useful as a teaching aid and a sub-sample has been retained in the OAE botanical reference collection.
- C.3.19 The flots from the samples have been retained in the project archive.

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## APPENDIX E OASIS REPORT FORM

### Project Details

OASIS Number	oxfordar3-353548		
Project Name	Ringstead Sustainability Reduction Scheme		
Start of Fieldwork	01/11/2018	End of Fieldwork	07/12/2018
Previous Work	No	Future Work	No

### Project Reference Codes

Site Code	XNFRSS18	Planning App. Number	
HER Number	ENF145417	Related Numbers	

Prompt	Water Act 1989 and subsequent code of practice
Development Type	Service Infrastructure

### Techniques used (tick all that apply)

- |   |  |  |
|---|--|--|
| <input checked="" 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 checked="" type="checkbox"/> Systematic Metal Detector Survey |
| <input checked="" type="checkbox"/> Full Excavation                     | <input type="checkbox"/> Recorded Observation            | <input type="checkbox"/> Test-pit Survey                             |
| <input checked="" type="checkbox"/> Full Survey                         | <input type="checkbox"/> Remote Operated Vehicle Survey  | <input checked="" type="checkbox"/> Watching Brief                   |
| <input type="checkbox"/> Geophysical Survey                             | <input type="checkbox"/> Salvage Excavation              |  |

Monument	Period	Object	Period
Boundary/enclosure ditches	Late Prehistoric ( - 4000 to 43)	Pottery	Late Prehistoric ( - 4000 to 43)
Pit	Early Bronze Age ( - 2500 to - 1500)	Bone handled iron knife	Roman (43 to 410)
Boundary/enclosure ditches	Roman (43 to 410)	Stamped mortarium	Roman (43 to 410)
Corn dryer	Roman (43 to 410)	Pottery, CBM, fired clay	Roman (43 to 410)
Extraction pits	Roman (43 to 410)	Pottery	Early Medieval (410 to 1066)
Post holes	Roman (43 to 410)	Pottery	Medieval (1066 to 1540)
Ring gully	Roman (43 to 410)	Pottery	Post Medieval (1540 to 1901)

### Project Location

County	Norfolk	Address (including Postcode) Agricultural land to the north of Docking Road (B1454), Docking, Norfolk, nearest postcode PE36 5JZ
District	King's Lynn and West Norfolk	
Parish	Ringstead, Sedgeford and Docking	
HER office	Norfolk County Council	
Size of Study Area	2180m <sup>2</sup>	
National Grid Ref	TF 7622 3666 to TF 7096 3870	

### Project Originators

Organisation	Oxford Archaeology East
Project Brief Originator	James Albone (NCCES)
Project Design Originator	Dr Matt Brudenell
Project Manager	Dr Matt Brudenell
Project Supervisor	Neal Mason

**Project Archives**

	Location	ID
Physical Archive (Finds)	Norwich Castle Museum	NWCHM:2019.60
Digital Archive	Norwich castle Museum	NWCHM:2019.60
Paper Archive	Norwich Castle Museum	NWCHM:2019.60

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ceramics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Remains	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worked Stone/Lithic	<input type="checkbox"/>	<input 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"/>

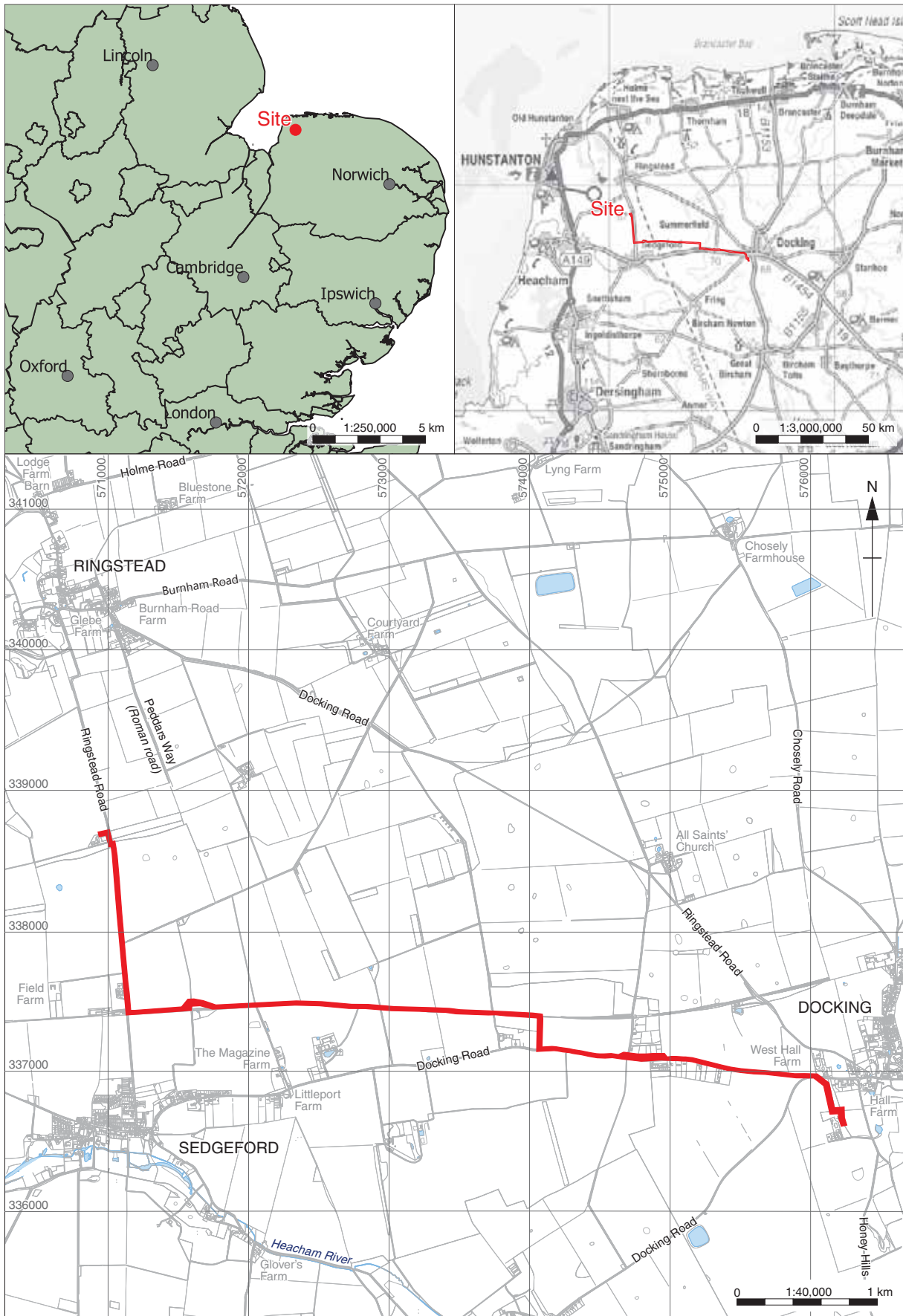
**Digital Media**

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 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 type="checkbox"/>
Diary	<input type="checkbox"/>
Drawing	<input checked="" type="checkbox"/>
Manuscript	<input type="checkbox"/>
Map	<input type="checkbox"/>
Matrices	<input type="checkbox"/>
Microfiche	<input type="checkbox"/>
Miscellaneous	<input 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**



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Figure 1: Site location map (red)



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Figure 2: Selected entries from the Norfolk County Council Historic Environment Record

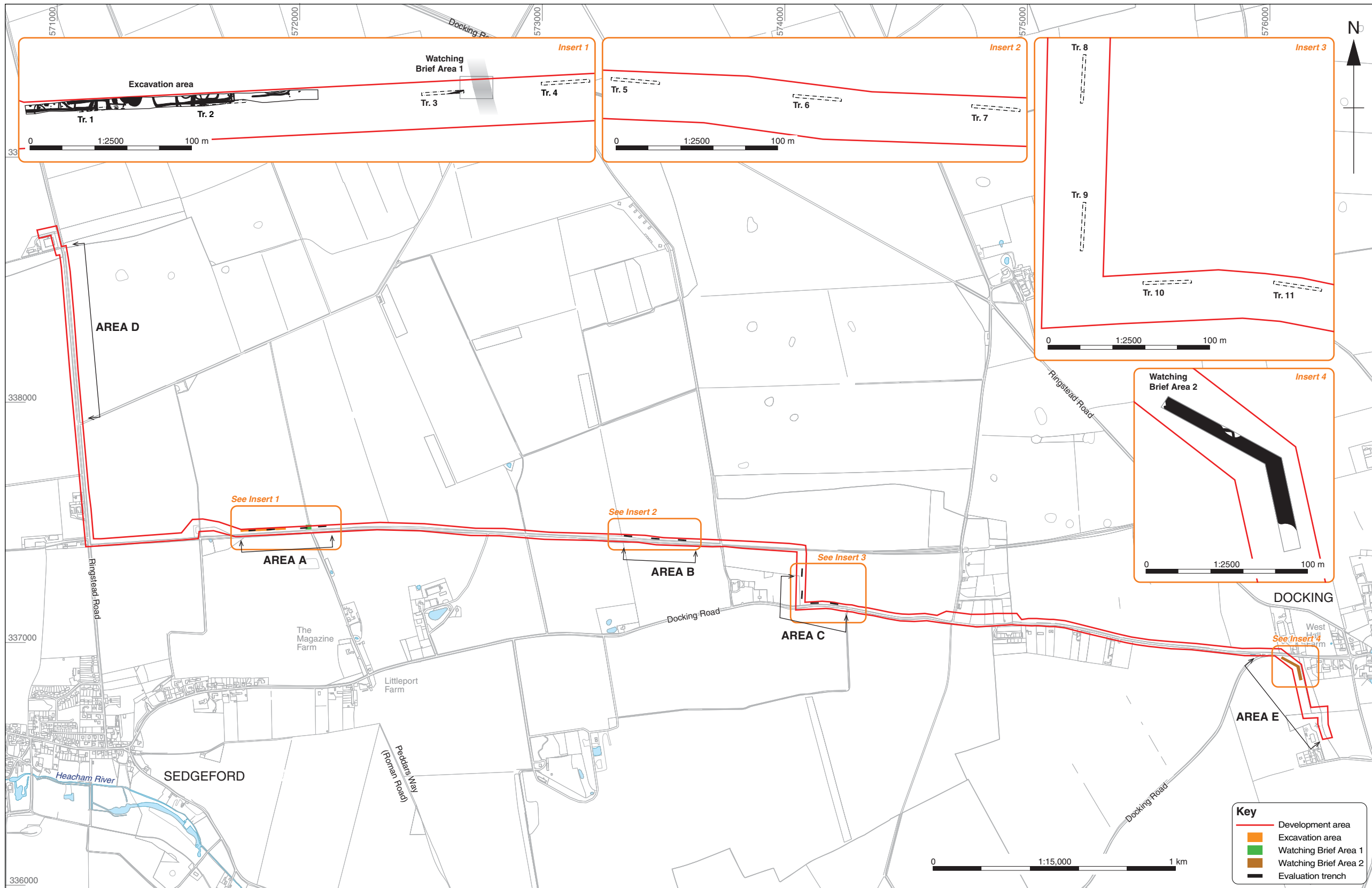


Figure 3: The archaeological works along the pipeline route

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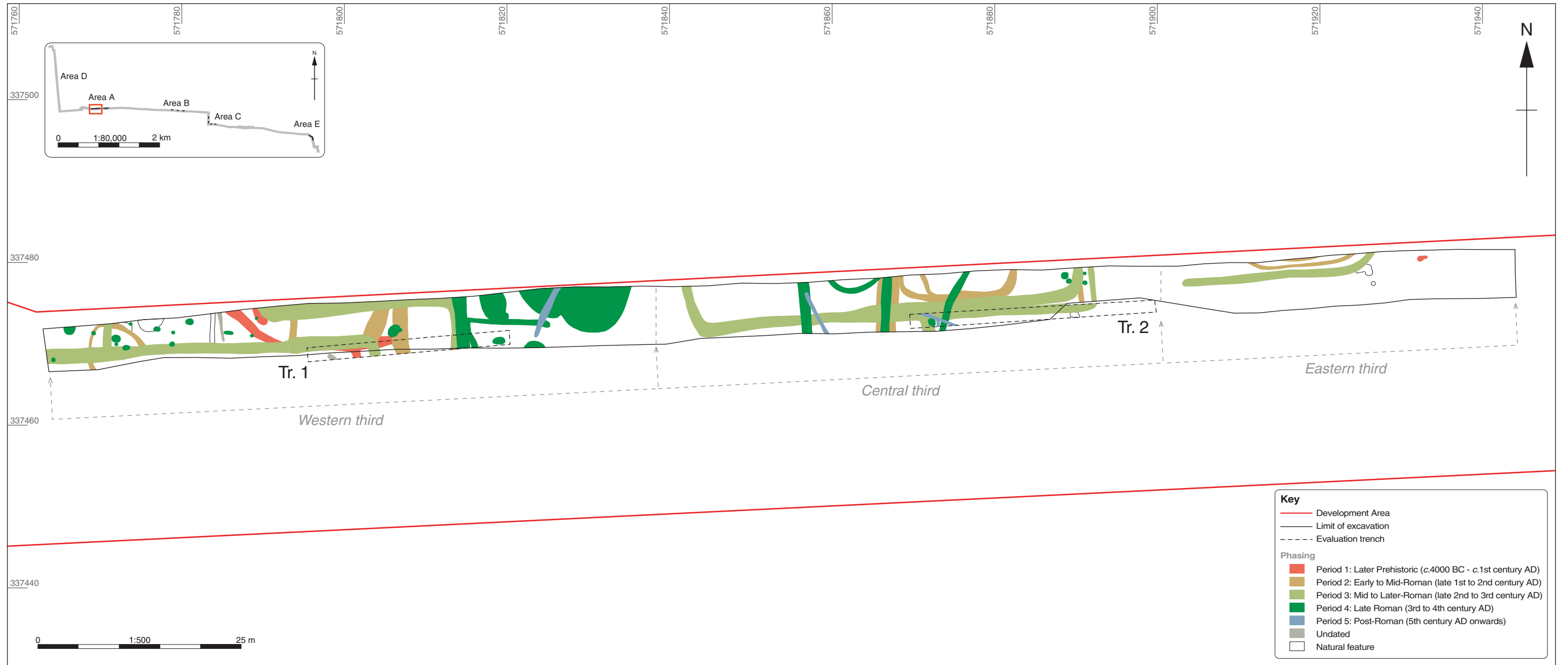


Figure 4: The excavation area (incorporating evaluation Trenches 1 and 2) showing all features and phases

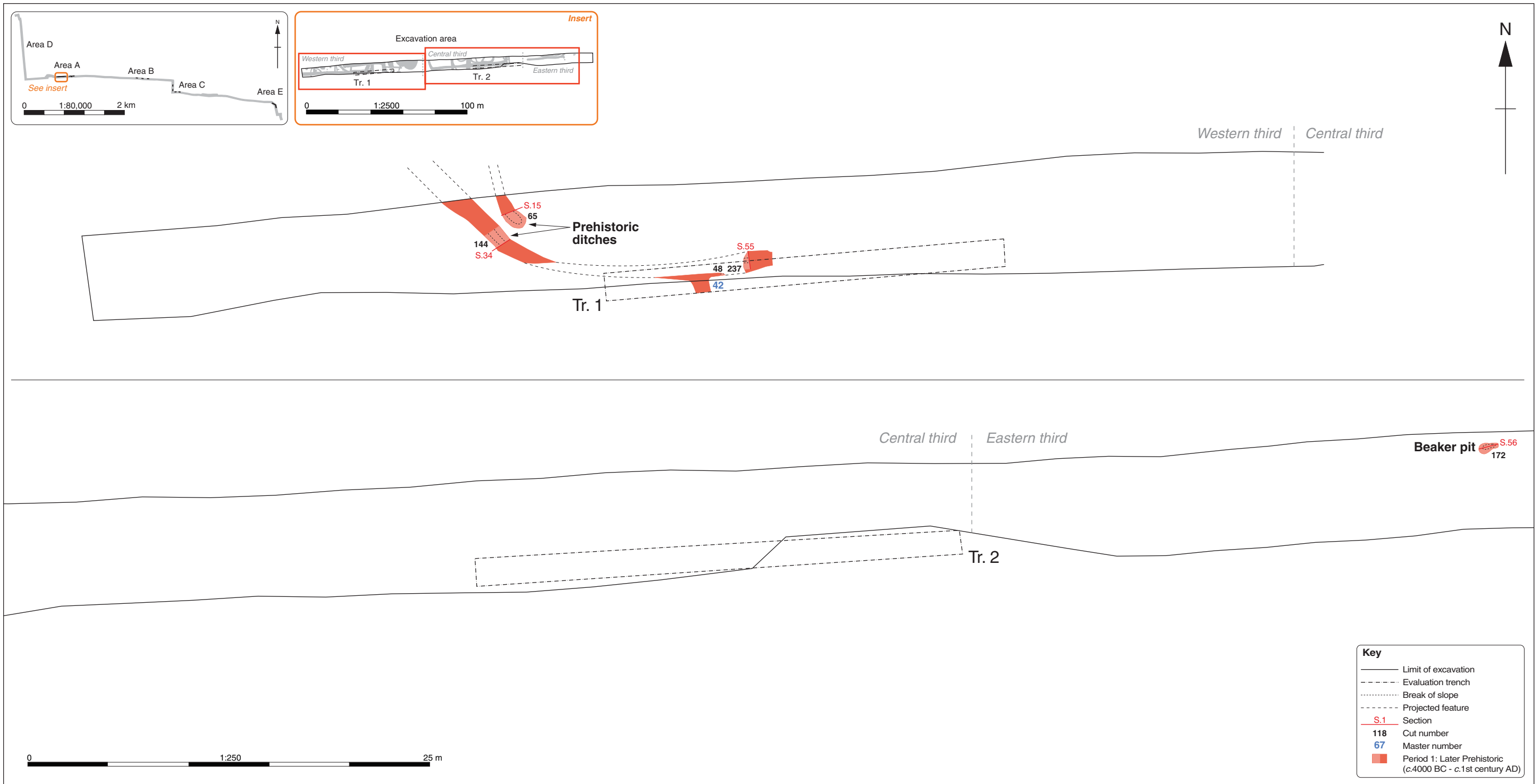


Figure 5a: The excavation area: Period 1: Later Prehistoric (c.4000 BC - c.1st century AD)

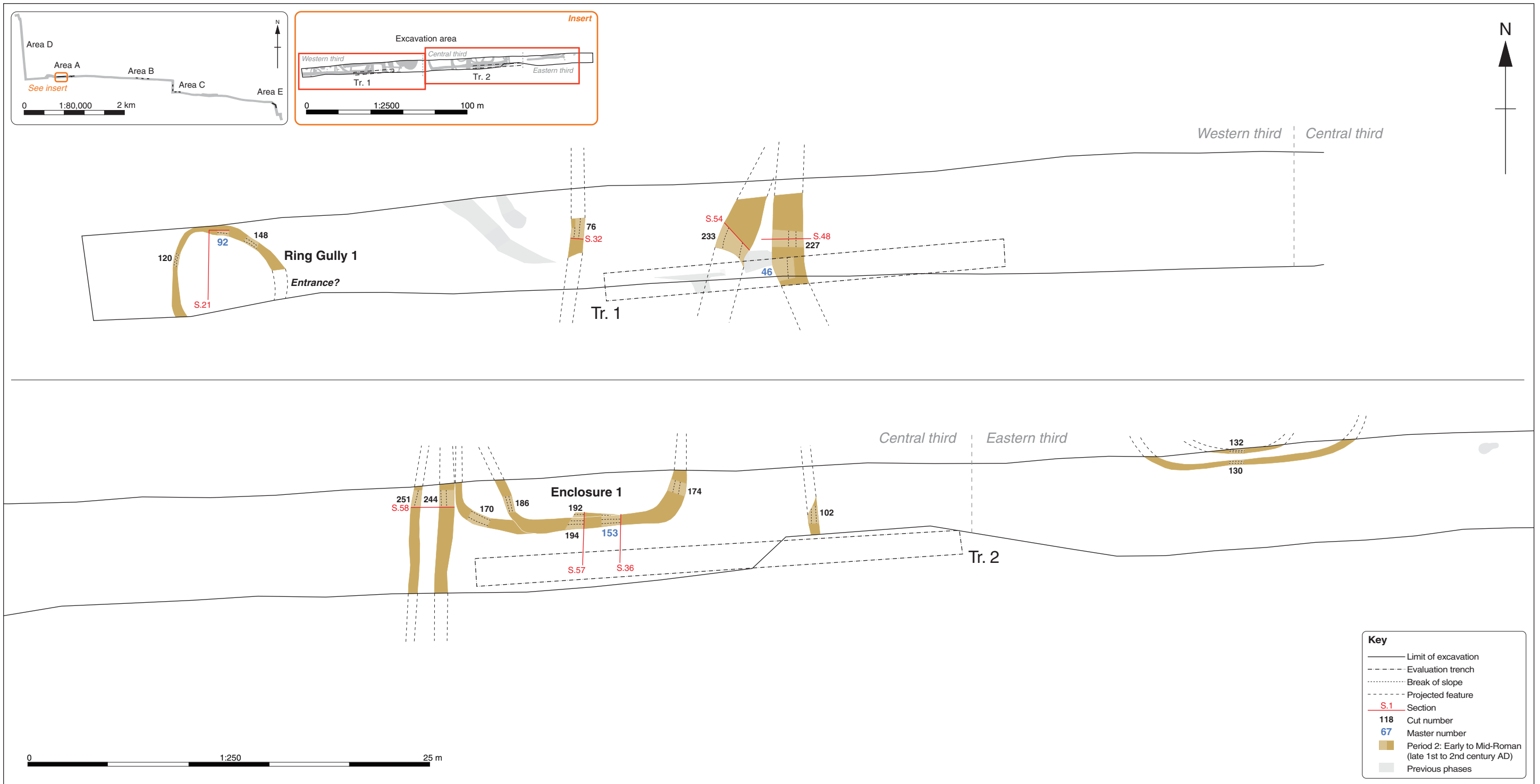


Figure 5b: The excavation area: Period 2: Early to Mid-Roman (late 1st to 2nd century AD)

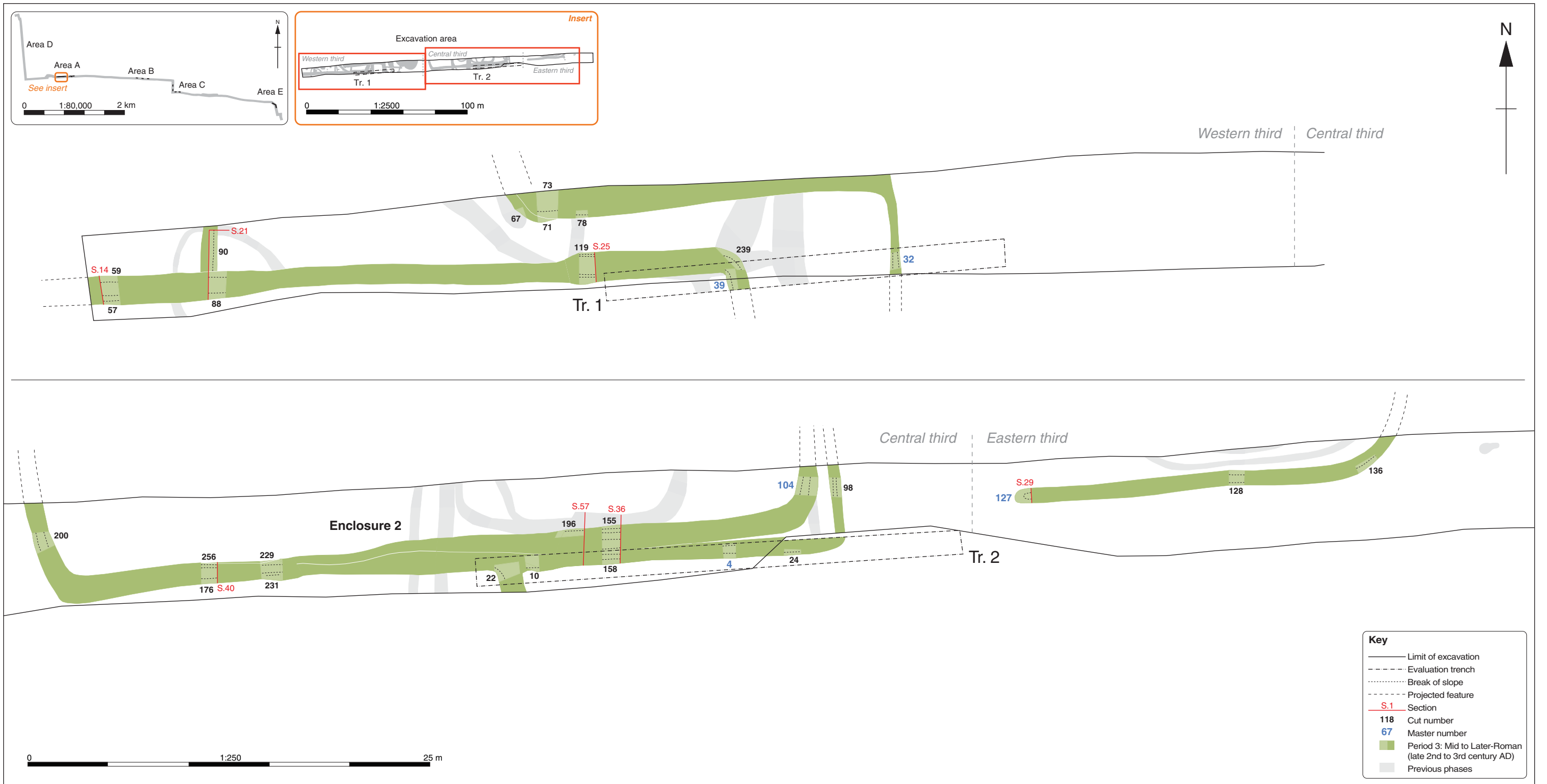


Figure 5c: The excavation area: Period 3: Mid to Later-Roman (late 2nd to 3rd century AD)



Figure 5d: The excavation area: Period 4: Late Roman (3rd to 4th century AD)

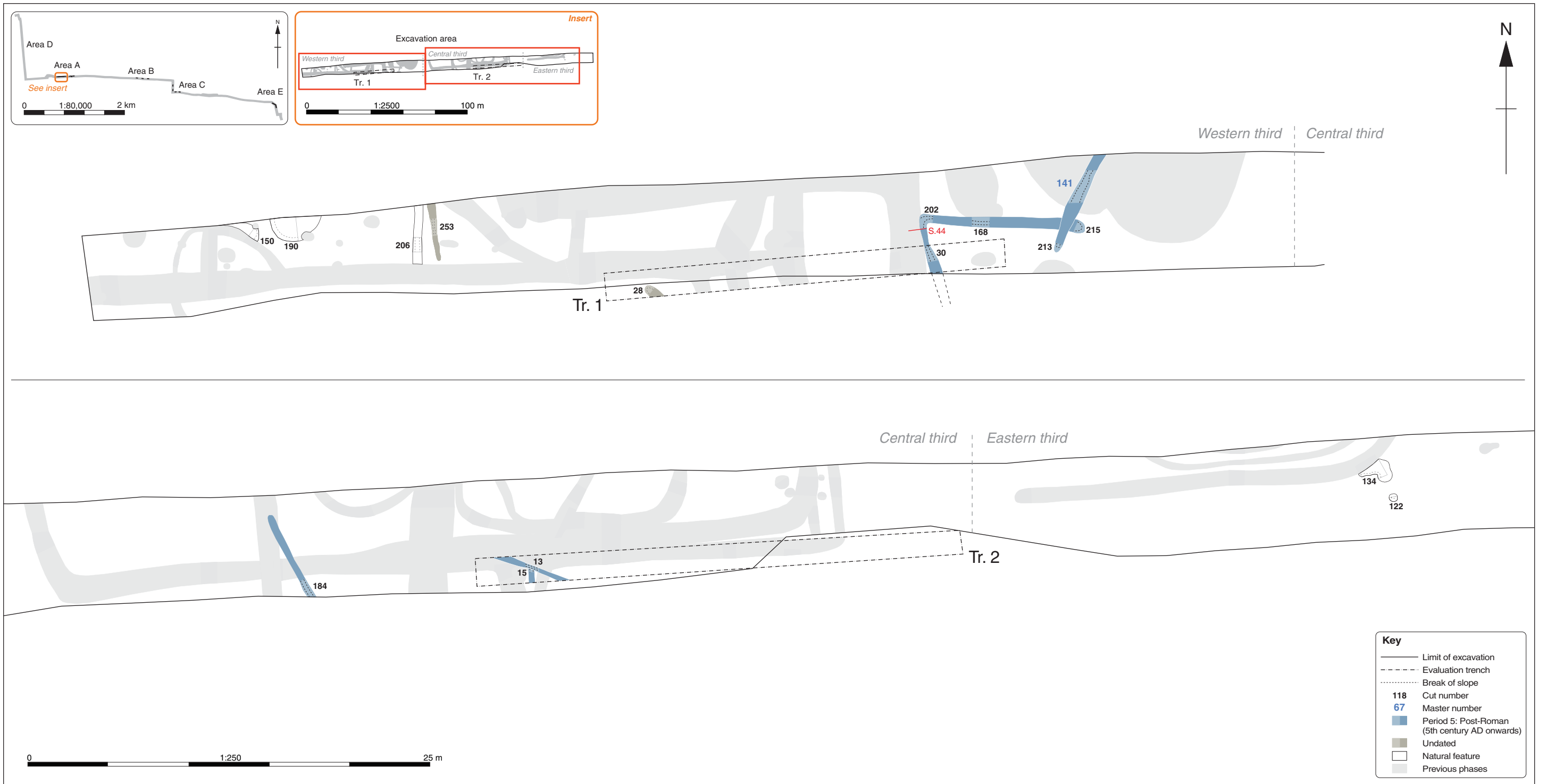


Figure 5e: The excavation area: Period 5: Post Roman (5th century AD onwards), undated and natural features

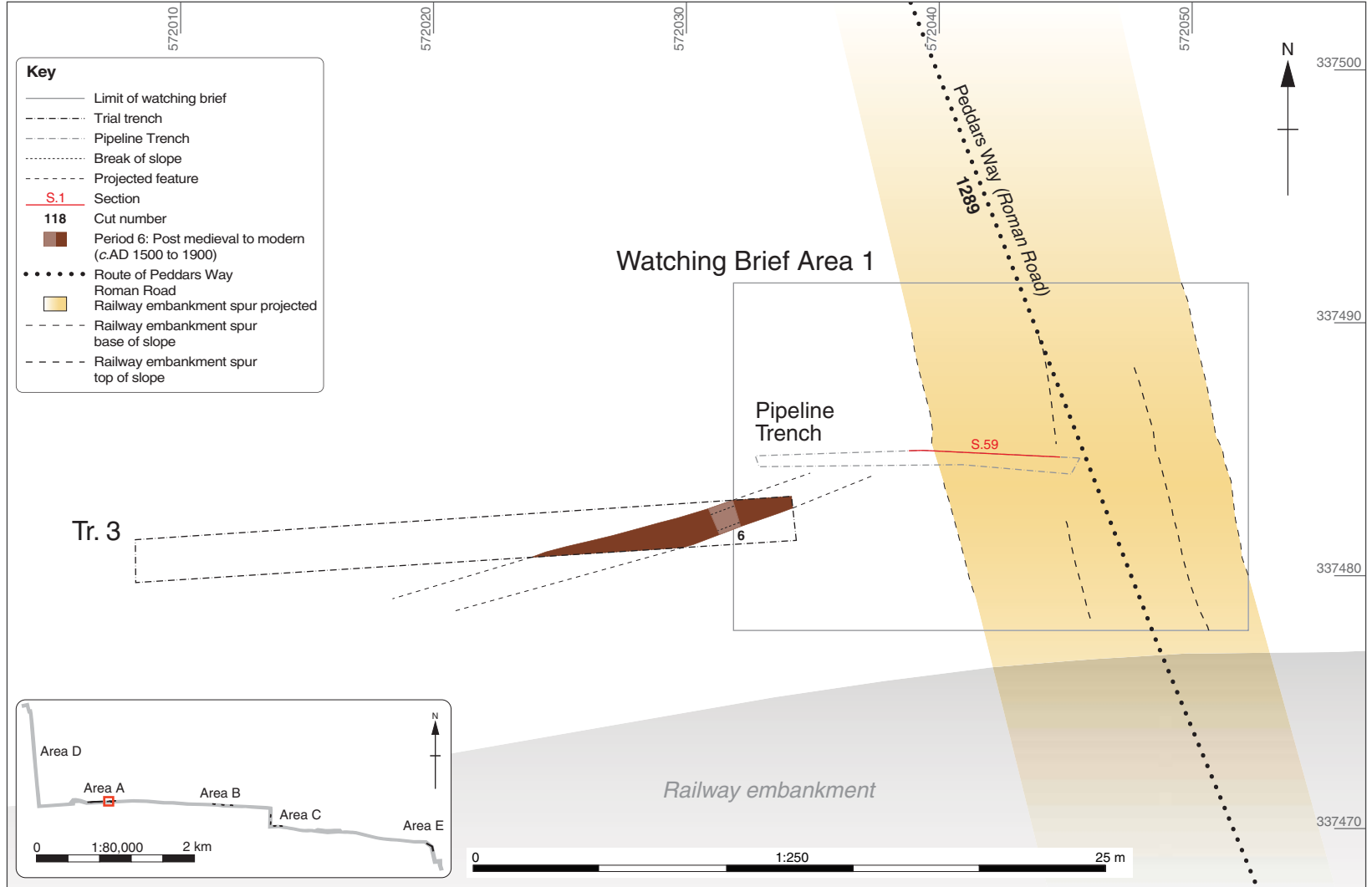


Figure 6: Evaluation Trench 3 and Watching Brief Area 1