



Late Iron Age Settlement and Roman Fields at Rockmill End, Willingham

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Late Iron Age Settlement and Roman Fields at Rockmill End, Willingham

Post-Excavation Assessment and Updated Project Design

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Summary

Between 11th January and 24th March 2018, Oxford Archaeology East (OA East) conducted an archaeological excavation on land north-east of Rockmill End, Willingham, Cambridgeshire (TL 4094 7067). The site was 0.5ha in size and was excavated in two phases due to poor ground conditions.

A relatively high density of archaeological deposits and features was found, predominantly spanning the Late Iron Age to Early Roman period (c.100 BC – 100 AD). The earliest and main focus of activity was a long-lived, large sinuous boundary ditch that ran east to north-west across the site, with further ditches denoting a field system to the south. This network of ditches appears to date to the Late Iron Age to Early Roman transition period. A roundhouse with a long occupation span was associated with the boundary ditch, along with a number of broadly contemporary pits and postholes.

In the Early Roman period the large ditch was recut and extended to the south-west, reinstating the boundary but related to a shifted focus of activity to the north-east. The third phase of activity was in the latter part of the Early Roman period and was represented by a sub-rectangular enclosure and an adjacent trackway. A ditch extending from the trackway may relate to contemporary land management. After the enclosure went out of use the site appears to have been abandoned, with no evidence for later Roman (post early 2nd century) or early post-Roman activity being identified.

At some point in the medieval or late medieval period, the land was again cultivated and the remains of furrows were found to cut across the site (on an NNW-SSE alignment). These presumably relate to the medieval open fields of Willingham. The final phase of activity was a quarry pit, with two ditches dating to the late post-medieval to early modern periods. These ditches correspond to post-Enclosure field boundaries shown on historic maps of the area.

A relatively small finds assemblage was recovered from the site – reflecting its rural, agricultural character – and largely comprises Late Iron Age to Early Roman pottery that is predominantly utilitarian and local in origin. Other finds include ceramic building material and worked stone, with very few metal finds represented. The small group of animal bone includes a high percentage of cattle and sheep/goat with smaller amounts of horse, pig, dog and bird. Environmental samples showed very poor preservation of plant remains on the site.

Acknowledgements

The work was commissioned by CgMs acting for Kier Living, following a brief designed by Gemma Stewart of the Cambridgeshire County Council Historic Environment Team, who also monitored and visited the site, with Andy Thomas taking over towards the latter stages. The project is managed by Stephen Macaulay and the fieldwork was directed by the author who was ably assisted by Frankie Wildmun, Tegan Abel, Ro Booth, Anna Lound, Scott Forsyth, Leanne Zeki-Robinson and Joanna Nastazyc. Site survey was undertaken by Katie Hutton and Joanna Nastazyc. Editing was undertaken by Rachel Clarke. Thanks are also extended to Myk Flytcroft at CgMs for his support and guidance during the works. Machine excavation was undertaken by AD Bly.

1 INTRODUCTION

1.1 Background

- 1.1.1 Between 11th January and 24th March 2018, Oxford Archaeology East (OA East) conducted a 0.5ha archaeological excavation on land north-east of Rockmill End, Willingham, Cambridgeshire (TL 4094 7067; Fig. 1). The excavation was commissioned by CgMs Consulting on behalf of their client, Kier Living.
- 1.1.2 The work was undertaken as a condition of planning permission for the construction of new dwellings with associated landscaping and services, (planning ref. S/2833/15/OL). The excavation was conducted in accordance with a brief prepared Gemma Stewart of the Cambridgeshire County Council Historic Environment Team (CCCHET), and an approved Written Scheme of Investigation submitted by OA East (Wiseman 2017).
- 1.1.3 As a result of the very poor ground conditions due to poor weather, with standing water up to 0.5m deep across the entire site, works were suspended in January 2018. Consequently, following an agreement with CCC HET, the fieldwork was undertaken in two phases: the first between January and February 2018 and the second in March of the same year.
- 1.1.4 This assessment has been conducted in accordance with the principles identified in Historic England's guidance documents *Management of Research Projects in the Historic Environment*, specifically *The MoRPHE Project Manager's Guide (2015)* and *PPN3 Archaeological Excavation (2008)*.

1.2 Geology and topography

- 1.2.1 The bedrock geology of the site is mudstone of the Ampthill Clay Formation. There are no superficial layers recorded on the site although large areas of alluvium lie immediately north of the site (British Geological Survey online map viewer, bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html, accessed 1 December 2017). The soils are deep pelo-stagnogley soils of the Denchworth association (712b) (SSEW 1983).
- 1.2.2 Located on the north-east edge of the village, the site is almost flat, lying at 7m OD. It lies southeast of the River Great Ouse floodplain, and is approximately 2.3km southeast of the former Willingham Mere. The site is bounded to the west by Rockmill End Road, to the south by residential housing, and to the north and east by allotments and open fields.
- 1.2.3 In the early 20th century, the site was planted with orchards. Parts appear to have been quarried at some unknown date (probably in the 19th century), and the northern part of the field in which the site was located has been used for allotments.

1.3 Archaeological background

- 1.3.1 Below is a summary of the pertinent archaeological background of the site, focusing on the Iron Age and Roman periods, drawn from the WSI (Wiseman 2017; Fig. 2). It is based on information held in the CCC Historic Environment Record (HER) and from the archaeological evaluation undertaken on the site by Archaeological Solutions in February 2016 (Baker and Blagg-Newsome 2016).
- 1.3.2 Located 1.2km east of the development site is the large circular earthwork of Belsar's Hill (CHER 01170). Its origins are uncertain, with a possible Bronze Age or even Danish origin suggested, but it probably originated as an Iron Age Hillfort, similar to Arbury Banks north of Cambridge or the Borough Fen ringwork north of Peterborough.
- 1.3.3 To the north, northeast and northwest of the site are extensive cropmarks of field systems and trackways, beginning at a distance of approximately 500m from the site (including CHERs 05776, 05781, 08605, 11154, 11156). Excavations and fieldwalking have established that the bulk of these date from the Iron Age and Roman periods (e.g. CHER 5776 to the north-east).
- 1.3.4 There was a Roman settlement centred slightly to the north of the current village core (between Church Street and Fen End). Roman pottery has been widely found in the village and around the cropmarks to the northeast and east (CHERs 5602, 5603, 5604, 5734, 5736, 5769). Roman tile was also found 500m southeast of the development site (CHER 5729) and 1km to the east (CHER 09611). A hoard of Late Roman pewter vessels bearing early Christian symbols was found 750m to the northwest (CHER 11499).
- 1.3.5 The evaluation on the site identified Roman boundary ditches and what appeared to be ploughed-out Roman cultivation strips. There were also a small number of undated pits, presumed to be contemporary with the field system (Baker and Blagg-Newsome 2016).

1.4 Original research aims and objectives

- 1.4.1 Based on the results of the evaluation (Baker and Blagg-Newsome 2016), and the recommendations of the brief, a selection of research aims were formulated for the excavation:
 - *Past environments* – what can be reconstructed of past environmental conditions, and how did these influence use of the site – in particular, periods of higher and lower groundwater?
 - *Farming* – How does the use of the site for farming in the Roman period relate to the wider Roman settlement around Willingham? How are Roman field systems organized? When do they go out of use and why?
 - *Animal husbandry* – what do any faunal remains reveal about local animal raising and use?
 - *Romanisation* – what does the site contribute to understanding of the adoption of Roman farming and settlement in the period between the Late Iron Age and Early Roman period?
 - *Material culture* – what do finds contribute to understanding of the local ceramic sequence in the Roman and medieval periods?

- 1.4.2 The overall aim of the Rockmill End investigation as a whole is to preserve by record the archaeological evidence contained within the footprint of the development area, prior to damage by development, and 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.
- 1.4.3 The excavation takes place within, and will contribute the goals of Regional Research Frameworks relevant to this area:
- 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)
 - Research and Archaeology Revisited: A Revised Framework for the East of England (Medlycott 2011, East Anglian Archaeology Occasional Papers 24)

1.5 Fieldwork methodology

- 1.5.1 This phase of fieldwork was undertaken in accordance with a Brief produced by Gemma Stewart (2017) of CCCHET and supplemented by a Written Scheme of Investigation produced by OA East (Wiseman 2017). All work was conducted in accordance with the Chartered Institute for Archaeologists' *Code of Conduct and Standard and Guidance for Archaeological Excavation* (2014a).
- 1.5.2 Site conditions were extremely poor throughout the fieldwork, with heavy bouts of rainfall contributing to the high level of standing water across the excavated area (Plate 1). Water management became a pressing issue on site, and this prohibited some features from being excavated in a safe and appropriate manner.
- 1.5.3 Following a monitoring meeting with CCC HET, it was agreed to suspend the fieldwork until more favourable weather and ground conditions became available. As a result, the subsequent fieldwork was undertaken in two phases: the first being between January and February, the second in March.
- 1.5.4 Machine excavation was undertaken by a 360-type excavator on both phases. Initially, the spoil was cleared from the site by two front tipping wheeled dumpers. However, for the subsequent phase a single back tipping tracked dumper was used in response to the conditions on site. The spoil was split between topsoil and subsoil.
- 1.5.5 Where possible, spoil, features and exposed surfaces were scanned with a metal detector. All metal objects were retained for inspection, except those that were clearly modern.
- 1.5.6 All archaeological features/deposits were recorded using OA East's pro-forma sheets. Feature locations, section and findspots were recorded via a Leica Smartnet GPS and digital photographs were taken of all relevant features and deposits.

- 1.5.7 All discrete features were half-sectioned and, where possible and where ground conditions allowed, interventions were placed across all exposed linear features to ensure their form and function were understood.
- 1.5.8 Environmental samples were taken from contexts deemed to have potential for preserved ecofactual remains, either by waterlogging or charring. A general strategy of ensuring a representative group of samples were taken from a range of features across the excavation was employed to ensure the highest possibility of gaining data that could aid in the interpretation of past land use and environmental history. A more focused environmental strategy was then employed as the project developed, to aid in the understanding and interpretation of certain features.
- 1.5.9 Throughout the excavation the site conditions were very poor.

1.6 Project scope

- 1.6.1 This assessment is concerned with the results of the excavation. Results of the evaluation of the area are not included but will be fully integrated into any archive report produced. It provides a summary of the fieldwork results (stratigraphic data), presented by phase, and specialist reports, supplemented by a full context list (Appendix D), an overall phase plan (Fig. 2), selected sections (Fig. 3) and plates (Plates 1-6). This is followed by an updated project design which includes the proposed methodologies for analysis, reporting and publication. The full specialist assessments are included as Appendices A and B.

2 FACTUAL DATA: STRATIGRAPHY

2.1 Stratigraphic data

2.1.1 All hand written records have been collated and checked for internal consistency, then transcribed onto a Microsoft Access database. Contexts have been initially phased dependent on finds recovered from them and their stratigraphic relationships. Site plans have been produced using AutoCAD and Adobe Illustrator.

2.1.2 The following stratigraphic records were created:

Record type	Number
Context Register	10
Context Sheet	480
Section Register	3
Site Objects Register	1
Photograph Register	8
Environmental Register	7

Table 1: Site Records

2.1.3 The following five preliminary phases of activity have been identified:

Phase 1: Late Iron Age (c. 2nd century BC – mid 1st century AD)

Phase 2: Early Roman (c. mid- late 1st century AD)

Phase 3: Early/Mid Roman (c. mid-1st – early 2nd century AD)

Phase 4: Medieval (c.1066–c.1500)

Phase 5: Post-medieval to early modern (c.1500–1900)

2.1.4 In the following summaries, cut numbers are given in **bold**, with feature groups (ditch lines, pit groups *etc*) utilising the lowest number assigned, which is also highlighted on the accompanying phase plan. The majority of features date to the Late Iron Age to Early Roman period. All context numbers are included in Appendix D.

2.2 Range, variety and condition

2.2.1 Features revealed within the area were predominantly dated to the Late Iron Age to Early Roman period and include boundary ditches, enclosure ditches, ring gullies, a quarry pit, pits, postholes, a trackway and furrows. The majority of features survived relatively well due to their depth, although shallower features such as furrows and part of the ring gullies located in the south-east of the site showed evidence for truncation from modern agriculture. This suggests that shallower features and the upper fills of deeper features may have been lost to ploughing. The subsoil cover, comprising a mid-brown silty clay, was variable, with the southern part of the area having a thinner covering (0.1m to 0.15) than the north (0.15m to 0.25m). This was overlain by a dark brown topsoil with coverage ranging from 0.20m to 0.25m. In the western half of the site, subsoil and topsoil coverage was significantly thicker, the topsoil was recorded at 0.30m and the subsoil was recorded at approximately 0.40m.

2.3 Natural features

- 2.3.1 A scatter of natural features, largely tree throws, were identified across the site (Fig. 3), some of which may have been related to the previous site use as an orchard (see Section 1.2).

2.4 Phase 1: Late Iron Age (c. 2nd century BC – mid 1st century AD)

- 2.4.1 The majority of evidence for Late Iron Age activity was represented by ditches forming field systems and boundaries, along with two ring gullies and a number of pits; predominantly focused in the southern half of the site.

Boundary 127 and associated ditches

- 2.4.2 A long, sinuous boundary ditch **127** (Plate 2) ran across the site, broadly on an east to north west alignment, with other ditches (**113**, **115** and **120**, **282**) extending off it on an NNE-SSW alignment. The main boundary ditch, which measured a maximum of 3.7m wide and 1m deep with a U-shaped profile, displayed multiple recuts and had a significant 'kink' just to the west of a roundhouse (Roundhouse **150**, see below; Fig. 3). The fills of Phase 1 ditch **127**, **459** and **437** (and its recuts **224**, **225**, **226**, **277**, **279** and **275**, **456** and **442**) were fairly uniform, formed by mid to dark brown silty clays. Combined, a total of 1289g of Late Iron to Early Roman pottery, 2047g of animal bone, 376g of fired clay and 212g of quern stone (SF 1) was recovered from the backfills of this ditch and its associated recuts. Much of this material relates to the disuse of the ditch and may be re-phased during analysis. Additionally, further analysis may facilitate the interpretation of the more intricate re-cuts visible in the ditch.

Other boundaries

- 2.4.3 Two small linear ditches on a north-east to south-west alignment were located close to the south-western limit of the excavation, one of which was not investigated as it was masked by flooding. Ditch **221** measured 0.96m wide and 0.28m deep, and contained mid-brown silty clay fills that produced no finds. The unexcavated ditch was truncated by a pit (**239**), from which a single fragment (15g) of ceramic building material of probable Roman date was recovered from its mid-brown fill, which may have been intrusive.

Roundhouse 150 and associated features

- 2.4.4 At least two partial ring gullies (**154** and **151**), representing one or more roundhouses (Roundhouse **150**) were located in the south-east corner of the excavation and may have been broadly contemporary with boundary ditch **127**. Roundhouse **150** had an overall diameter of c. 12m and the ring gullies measured between 0.50m and 0.20m wide and between 0.25m and 0.10m deep, with U-shaped profiles. Three similar postholes (**181**, **183**, **185**), ranging between 0.25m wide and 0.10m deep with U-shaped profiles, were located in the north-west part of the roundhouse and may suggest another phase of the structure. Several other postholes (**164**, **169**, **314**, **309**, **311**) with shallower U-shaped profiles, 0.30m wide and ranging from 0.10m to 0.20m deep to the southeast of the roundhouse may suggest the location of an entrance to one or more of the structures. These were truncated by the latest outer ring gully (**162**,

165, 167, 312) of the roundhouse. A total of 823g Late Iron Age to Early Roman pottery, 205g of animal bone and 1g of fired clay was recovered from the fills associated with Roundhouse **150**. This is suggestive of the roundhouse still being occupied into the Early Roman period.

- 2.4.5 A number of features lay to the immediate west and, although undated, may represent further structural remains broadly contemporary with the roundhouse. These comprise a pair of gullies (**107, 207**), that each measured 0.50m wide and 0.15m deep with U-shaped profiles and which were aligned south-east to north-east. Other features include a small group of postholes (**199, 203** and **205**) with similar dimensions of between 0.30m to 0.45m wide and 0.15m deep and a shallow pit (**201**) measuring 1.2m wide and 0.20m deep.
- 2.4.6 Slightly further to the west were two pits (**122** and **125**) with wide U-shaped profiles and measuring 0.75-0.8m wide and 0.15m deep. A further cluster of postholes (**211, 209, 243, 213**) and pits (**230, 263, 251** and **254**) were also present. The postholes had dimensions ranging from 0.40m to 0.70m wide and 0.15m to 0.20m deep, all with U-shaped profiles, while the pits all had similar dimensions, ranging from 0.55m to 0.65m wide and between 0.08m and 0.35m deep, with steep U-shaped profiles. The fills of these features were very similar, being dark black brown silty clays. No finds were recovered, although the dark colour of the fills in this group may indicate an industrial function, although the environmental preservation was extremely poor.
- 2.4.7 A small group of postholes (**423, 426, 428**) located in the north-east of the excavation area may also indicate further structural remains in this area. The postholes were similar in size, ranging from 0.75m to 0.60m wide and between 0.20m to 0.35m deep, all with U-shaped profiles. A total of 355g of animal bone was recovered from the dark brown fills of these features, while a single spindle whorl (SF 6) was recovered from the sole fill of posthole **423**.

Small ring gully 451 and associated features

- 2.4.8 Located adjacent to boundary **127** was a small ring gully **451** (Plate 3), nearby pit **432** and postholes **393** and **434**. The ring gully varied in size and depth, ranging from 0.55m wide and 0.30m deep at its northern end and 0.31m wide and 0.20 deep at its southern end, with a deep U-shaped profile. The fills were fairly uniform in their composition throughout the whole feature, being dark greyish brown silty clays. A redeposited clay deposit, possibly a lining, was located in the north-western part of the feature, and a total of 16g of Late Iron Age pottery and 1g of fired clay were recovered from its dark brownish grey fills.
- 2.4.9 Postholes **434, 452** and **393** and pit **432** are located directly to the north-west of ring gully **451**. The postholes had dimensions ranging between 0.25m and 0.47m wide and 0.10 to 0.15m deep. The very similar dark and mid-greyish brown silty clay fills of these features indicates that they may have been contemporary with the ring gully. Although a total of 5g of Early Roman pottery was recovered from the fill of posthole **393**, this probably related to the disuse of the feature. Pit **432** measured 0.60m wide by 0.15m deep and it too contained a very similar mid-grey silty clay to the postholes and ring gully.

A linear gully terminus (**398**) on a south-east to north-west alignment and a pit (**395**) located at the north-west of the site appear to have been associated with this phase, due to their similarity in their profiles and their mid-greyish brown fills. Gully terminus (**398**) measured 0.19m wide and 0.06m deep. A total of 1g of Late Iron Age pottery was recovered from the mid-greyish brown silty clay fill of gully (**398**). Although pit **395**, which measured 0.40m wide and 0.13m deep, did not yield any dating evidence, the mid-greyish brown fill was very similar to that within the gully.

2.5 Phase 2: Latest Iron Age to Early Roman (c. mid- late 1st century AD)

Enclosure ditch 247 and pits

- 2.5.1 At some point in the Early Roman period boundary ditch **127** was re-established by ditch **247** (**442** and **456**) that recut its northern extent and extended southwards. The overall width of the recut was 1.8m and it was 0.52m deep. The fills of the ditch were fairly uniform, with dark-greyish brown silty clays being the most common. A total of 1176g of Late Iron Age to Early Roman pottery, 1017g of animal bone, 1g of fired clay and 3850g of lava quern (SF 4) were recovered from the dark greyish-brown fills of this recut.
- 2.5.2 Gully **335** and pits (**351**, **355**, **353**) were located within the area of later Enclosure **143** (see below) at its eastern edge and pit **351** was cut by the enclosure ditch **347**. A total of 41g of Early Roman pottery was recovered from mid-brown silty clay fill of pit **351**, and it measured 0.80m wide and 0.25m deep. Although no finds were recovered from gully **335** and pits **355** and **353**, they all contained a very similar fill to pit **351** which suggests that they may belong to the same phase.

2.6 Phase 3: Early/Mid Roman (c. mid-1st – early 2nd century AD)

- 2.6.1 Evidence for continuing Romano-British activity was seen in the form of a rectangular enclosure which cut the Phase 2 enclosure/boundary ditch **247**, and an adjacent trackway that may have had its origins in the previous phase. The ceramic evidence, coupled with the stratigraphic data is suggestive of a narrow time-frame for this activity: later in the 1st century AD and only marginally continuing into the 2nd century.

Enclosure 143 and associated features

- 2.6.2 Located at the western edge of the site was a large sub-rectangular enclosure with an internal area of at least 600sqm (not fully exposed), defined by ditches (**143**, **360**, **249** and **385** (Plate 3)). These ditches were recut (**146**, **374**, **379**, **345** and **347**) within a short space of time. The ditches measured between 0.85m and 1m wide and between 0.65m and 0.80m deep with steep U-shaped profiles. A total of 2802g of Romano-British pottery, 1g of metalworking waste and 1025g of animal bone were recovered from the dark greyish brown silty-clay fills of the enclosure ditches and recuts; relating to their disuse.
- 2.6.3 At the north-eastern corner of the enclosure were two pits: **381** and **383**. A total of 412g of Romano-British pottery and 55g of animal bone was recovered from the dark

greyish brown silty clay fill of pit **381**. The pits were both of the same size and measured 0.50m wide and 0.15m deep.

Trackway 111

- 2.6.4 To the immediate east of Enclosure **143** was a pair of parallel ditches (**111, 195, 241, 289, 342, 399, 409 472**) and (**197, 297, 342, 407, 391, 401, and 461**) defining a trackway aligned north-east to south-west. The trackway ditches measured 0.50m wide and between 0.25 and 0.45m deep. A further ditch (**389, 464, 466 and 470**) extended to the south-east and may have been broadly contemporary as it was roughly the same size and displayed the same U-shaped profile. A total of one Iron (Fe) artefact (SF 2), 10g of Romano-British pottery, 11g of fired clay, 11g of CBM and 1g of animal bone were recovered from the mid-brown silty-clay fills of the trackway ditches. A single and severely abraded fragment of flint tempered Late Neolithic/Early Bronze Age (2200 BC – 1600 BC) was recovered from near to ditch (**391**) at the eastern side of the trackway. Its severe abrasion and proximity to a later furrow indicates that this is probably residual.
- 2.6.5 A small ditch terminus (**267**), measuring 0.45m wide and 0.21m deep and running north-east to south-west and located between the trackway ditches is also thought to belong from this phase due to its distinct similarity in its mid-brown fills. Another single fragment (1g) of Late Neolithic/Early Bronze Age (2200 BC – 1600 BC) was recovered from close proximity to this feature but is believed to be residual due to the ditches proximity to a medieval furrow.
- 2.6.6 Two linear gullies (**398 and 395**) located to the north-west of the site on a south-east to north-west alignment are believed to be associated with this phase. Although no dating evidence was recovered from their mid-greyish brown fills, they are broadly on the same alignment as Enclosure **143**. Similar in size, they range between 0.20m to 0.25m wide and 0.15m deep.

2.7 Phase 4: Medieval (c.1066–c.1500)

- 2.7.1 Numerous furrows crossed the site on an NNW-SSE alignment, cutting the earlier features. These were regularly spaced approximately 8m apart. Although undated, several intrusive late medieval pottery sherds found in earlier features may have originated from the furrow, which probably relate to the medieval open fields of Willingham.
- 2.7.2 Postholes **326, 331, 327 and 329** with similar dimensions of 0.50m wide and between 0.15 and 0.20m deep appear to follow the north-west to south-east alignment of one furrow (**334**) with posthole **331** located at the terminus of the furrow. Although no finds were recovered from any of the postholes, the similar mid-brown silty clays of the postholes to the furrow and their alignment suggests they are of the same phase, perhaps forming a fence.

2.8 Phase 5: Post-medieval to Early Modern (c.1500–1900)

Field boundaries

2.8.1 Two linear ditches (**104** and **452**), aligned NNW to SSE extended across the site, both of which contained dark fills with modern glass and pottery (of which a sample was retained of the latter). A total of 16g of 18th century pottery, 35g of CBM, 4g of shale, 7g of metal working waste and 35g of stone were recovered from these features. The ditches correspond to post-Enclosure field boundaries shown on the 1887 First edition OS map (not illustrated).

Quarry pit/pond

2.8.2 Quarry pit/pond **436** was a large sub-circular feature located in the north-west of the site. The feature was very shallow at 0.20m deep and had irregular sides and an irregular base, although immediate water logging inhibited a more defined description of the base. Its sole fill (481) a mid-brownish clayey silt was alluvial in nature which suggests it was left open to silt up naturally. The use of the feature is unknown, however it may be a quarry pit or a pond, based on its size.

2.9 Unphased

2.9.1 A total of ten features are currently unphased. These include a number of pits, tree throws and gullies that did not produce any dating evidence and could not be directly associated with phased features. Although pit (**290**) produced 1g of pottery, it was deemed not closely dateable. The environmental sample recovered from pit (**290**) produced vitrified charcoal and hammerscale which may be indicative of blacksmithing activities.

Cut	Category	Feature Type
296	cut	post hole
300	cut	post hole
340	cut	post hole
290	cut	pit
294	cut	pit
306	cut	pit
337	cut	gully
298	cut	pit
292	cut	post hole
468	cut	tree throw

Table 1 Unphased features

3 FACTUAL DATA: ARTEFACTS

3.1 General

3.1.1 The following finds were recovered:

Material	Number	Weight (g)
Ceramic Building Material	5	351
Ceramic Fired Clay	54	283
Ceramic Spindlewhorl	1	22
Ceramic Pottery (Vessel)	754	7803
Slag	1	7
Cua (Copper Alloy) artefact	1	0
Fe (Iron) artefact	2	0
Stone	9	4820
Animal Bone	659	7300

Table 2: Finds Quantification

3.2 Pottery

Prehistoric pottery

3.2.1 One sherd (1g) of possible Late Neolithic/Early Bronze Age pottery (2200 BC – 1600 BC) was recovered from near pit **267**. Due to its location immediately the north of a medieval furrow, it's believed to be residual.

3.2.2 One sherd (5g) of severely abraded flint tempered pottery was recovered from near the trackway ditch **391** and is dated to the Late Neolithic/Early Bronze Age (2200 BC – 1600 BC). Its severe abrasion and location indicates it was probably deposited by later ploughing.

Late Iron Age to Early Roman pottery

3.2.3 A total 7769g (754 sherds) of Late Iron Age (100 BC to 43 AD) to Early Roman (43 AD – 100 AD) pottery was recovered. The assemblage is predominantly local in origin, with utilitarian coarse sandy grey ware jars forming most of the group. Fine wares are scarce and specialist wares are completely absent from the assemblage. No pottery that dated beyond the early 2nd century AD was recovered, indicating activity had ceased by this time and had certainly begun to decrease during the Flavian period (69 – 96 AD).

Post-medieval pottery

3.2.4 A total of seven sherds (28g) of post-medieval (16th – 18th century) pottery was recovered from the tops of ditches **127**, **131**, **133**, **111** and furrow **442**. Due to the features' respective proximity to later features of this date, it's likely that these sherds were introduced as a result of later ploughing.

Ceramic building material

3.2.5 A very small assemblage (four fragments, 361g) of ceramic building material was recovered from the excavation, generally from the tops of earlier features. Limited

diagnostic information was within the assemblage. Two pieces (316g) are broadly Roman in date and the remaining three pieces (50g) appear post-medieval in date.

Fired clay

3.2.6 A total of 58 fragments (283g) of fired clay were recovered from the excavation, of which 23 fragments (163g) had some structural shape, although none were particularly diagnostic. Some fragments may be kiln furniture, although that is difficult to suggest with confidence.

3.2.7 A single spindlewhorl (22g) (SF 6) with a Late Iron Age to Early Roman date was recovered from posthole **423**. (Appendix A)

Metalworking waste

3.2.8 One single fragment (1g) of metalworking waste (slag) was recovered from ditch **376**. The fragment is undiagnostic could range in date from the Iron Age to post-medieval periods.

Stone

3.2.9 A small assemblage of nine fragments (4820g) of stone were recovered from the excavation. Of these, six pieces (754g) are unworked burnt stone and flint and three pieces (4069g) are Early Roman lava stone, representing querns. These types are quite typical of rural Cambridgeshire Romano-British settlements of the 1st-2nd century.

Metalwork

3.2.10 A total of two small iron objects and a single copper-alloy buckle were recovered from the excavation. The iron objects are too small to be identified and the copper-alloy buckle (SF 5) is a dress accessory and dates from between the 17th and 19th centuries.

4 FACTUAL DATA: ENVIRONMENTAL AND FAUNAL EVIDENCE

4.1 Environmental samples

- 4.1.1 A total of 51 environmental samples were taken from a range of features and phases across the site. Preservation of charred plant remains was found to be very poor, most likely resulting from the heavy clay geology. Due to the extremely poor preservation noted during the processing of grab-samples during the fieldwork, a total of sixteen samples were selected from features with the highest potential for processing.
- 4.1.2 Ditch **476** (Phase 1) contained untransformed seeds of duckweed and water-crowfoot along with mollusc shells of aquatic species which is indicative of the ditch containing water. A fragment of a barley grain was recovered from pit **213** (Phase 1) and sparse charcoal was recovered from gully terminus **251**. Pit **290** (unphased) produced vitrified charcoal and hammerscale which may be indicative of blacksmithing activities.

4.2 Animal bone

- 4.2.1 A relatively small assemblage, totalling 241 recordable fragments (7300g) of animal bone were recovered. The identifiable bone includes 125 fragments of cattle, sheep/goat, horse, pig, dog and bird. The remaining 116 fragments could be classified as large or medium mammal, but no more data can be gained from these fragments.
- 4.2.2 In the assemblage there is a high percentage of cattle and sheep/goat with smaller percentages of horse, pig, dog and bird. There is a suggestion of a higher percentage of sheep/goat than cattle – which is often more reflective of contemporary assemblages from Wessex and the south-east of England than of East Anglian region. Only a single example of butchery was identified from the assemblage, on a cattle radius from ditch **259**. However, this is not unusual because the specimens from a small number of features are badly affected by concretion. The surface condition of these specimens is often completely masked meaning that any evidence of pathology, butchery or gnawing is lost.

5 STATEMENT OF POTENTIAL

5.1 Stratigraphy

- 5.1.1 Many of the features, such as ditches **127** and **405** and small ring ditch **451**, survived well, with a good depth to their fills. Many deposits held limited potential, however, due to a lack of placed deposits or deliberate dumps of material, with most fills appearing to have been formed through natural actions. Some dumps of material were noted within the pits and ring ditch, however, with finds assemblages that will aid in dating the use and disuse of the features. The interpretation of some stratigraphic sequences is hampered by the poor ground conditions.
- 5.1.2 A number of stratigraphic relationships were evident across the site, notably in relation to the large boundary **127**. The complexity of the recuts in this boundary suggests a longevity to the boundary. However, it appears as if the recuts across the site were implemented in a relatively narrow space of time, probably owing to the heavy clays and wet conditions. Further analysis may be able to refine the phasing and chronology of the larger and maintained features.
- 5.1.3 The enclosure ditch **247** to the south-west of the site displayed a single recut, suggesting it may have been implemented slightly earlier in the early Roman period and re-established only slightly later.

5.2 Undated Features

- 5.2.1 A total of ten features are currently undated. Pit **290**, located to the south-east of the site, produced 1g of pottery, but was identified as not closely dateable. Furthermore, the environmental sample recovered from this feature produced vitrified charcoal and hammerscale which may suggest blacksmithing activity. Pit **290** is linked stratigraphically with pit **296** and postholes **294**, **298**, **300**, **302** and **306**.
- 5.2.2 Pit **337** and posthole **340** contained no dating evidence and were located at a distance from phased features. However, pit **337** has a similar profile to phase 1 pit **254** and with more refined analysis may be phased to the Late Iron Age (Phase 1).
- 5.2.3 Tree throw **468** and its location to the north-east of the site is suggestive of it being part of the orchard that is known to have been located on the site.

5.3 Artefacts

Prehistoric pottery

- 5.3.1 The two sherds of Late Neolithic to Early Bronze Age pottery recovered from the excavation are almost certainly intrusive, brought in by later ploughing. It may be suggestive that there is earlier activity within the vicinity.

Late Iron Age – Early Roman transitional pottery

- 5.3.2 The Late Iron Age and Early Roman pottery recovered from the excavation holds good potential for furthering the understanding of the transition between the Late Iron Age

and Roman periods and the local regional pottery production, when placed into the wider framework of the area. Particularly noteworthy are the local copies of Gaulish forms. This may help to supplement our understanding the question of 'Romanisation' and material culture, principally the evolution of the use of the landscape and its associated material culture and participation in burgeoning Roman ceramic markets during the late Iron Age to Roman transition, and its increasing connectivity to wider markets, such as the local copies of Gaulic forms of vessels.

5.3.3 Medieval pottery is not represented on the site to any meaningful extent, being present only in association with later features, such as furrows.

5.3.4 No further work is required.

Ceramic building material

5.3.5 The Ceramic Building Material is of limited archaeological potential, being recovered from furrows or as an intrusive object in earlier features.

Animal bone

5.3.6 The faunal remains have some potential for aiding in the past land use narrative, and the proportion of cattle to sheep (with sheep dominating the assemblage) is something that is unusual in this period for the region.

Fired clay and Spindle Whorl

5.3.7 The Fired Clay assemblage the Spindle Whorl is of limited archaeological potential and cannot be utilised to address the original research aims of the project, due to few diagnostic pieces present. No further work is required.

Worked stone

5.3.8 The worked stone, in the form of querns, has some potential due to one of the fragments showing evidence for re-purposing from a millstone into a quern, which is quite uncommon. This can be used to develop the knowledge of the material culture of the site during this period.

5.3.9 This has been selected as a possibility for illustration, should it be required.

Overall potential

5.3.10 As a generalisation, the stratigraphic and artefactual evidence from Rockmill End has limited potential when looked at individually, although it is probable that all of the artefactual evidence combined with the stratigraphic data may form a substantial contribution to the understanding of the land use and the wider environ during the Late Iron Age to Early Roman period at Willingham, and how this fits into the broader narrative of this settlement pattern from this period in the county.

5.3.11 The original research objectives can be addressed to some extent using the data collected. The ceramic evidence has the potential to supplement our knowledge on the local pottery production and dispersal of different and more Romanised forms and how local pottery production has been influenced by the Roman markets during this period. Although no further analytical work is recommended on the pottery

assemblage, it can be compared to similar assemblages in the region, to observe any trends in pottery production and markets during this period. For example, the use of local copies of Gaulic vessel forms.

- 5.3.12 The data gathered regarding the faunal evidence may increase the understanding of animal husbandry in this period, and can be used to develop more focused research questions. This can be seen in the proportion of sheep faunal remains to cattle remains, which is unusual in this area during this period.
- 5.3.13 The stratigraphic and the material culture data indicates the site went out of use at the beginning of the 2nd century AD, the last phase being characterised by a stock enclosure and a trackway. These would suggest an evolution of focus during the early 1st century AD from settlement to field systems due to the very high water table at the site which may suggest a change in the environmental conditions from the late Iron Age until the earliest 2nd century. The environmental samples taken from the site, although badly preserved do suggest a wetter landscape.

6 UPDATED PROJECT DESIGN

6.1 Revised research aims

- 6.1.1 Following the excavation at Rockmill End, the original research aims are still identified as pertinent to the project. A small number of site specific research aims were also identified and developed, these are stated below:
- 6.1.2 Can further analysis of the faunal remains increase the understanding of animal husbandry at the site? Focus will be on the unusual higher proportion of sheep to cattle remains recovered during the investigation.
- 6.1.3 Can the ceramic assemblage be analysed in conjunction with the material recovered in the evaluation in order to adequately ascertain whether there is more variation in date and form present in the overall assemblage?
- 6.1.4 Can a function be derived for the small ring ditch to the north-east of the site, for example does it have an industrial purpose? Are there any possible parallels?
- 6.1.5 How does the Late Iron Age to Early Roman phase fit in typologically with other known heritage assets in the area? (*e.g.* Belsars Hill)
- 6.1.6 Does the trackway display any signs of an earlier date?
- 6.1.7 Can further analysis of the environmental, artefactual and stratigraphic data shed light on the possible industrial processes taking place on the site? For example, can the hammerscale evidence recovered from Pit **290** be found elsewhere in other features that may be industrial in function?

6.2 Interfaces

- 6.2.1 Analysis work for the site will be undertaken principally by the author. Liz Popescu (Post-Excavation Manager) will oversee post-excavation and publication works for the duration of the project. Communication via email will be used to keep all interested parties (the client, CgMS and CCC HET) informed on the progress of any further work.

6.3 Methods statement

Stratigraphic

- 6.3.1 Context, finds and environmental data have been transcribed into an MS Access database to allow for analysis of the data. Any further specialist information from this analysis will be fully integrated to aid interpretation and the hopeful completion of a more detailed phasing of the site.

Illustration

- 6.3.2 Both archive and publication figures will be created using AutoCAD, QGIS and Adobe Illustrator. Finds recommendation for illustration (such as the re-fashioned millstone) will be hand drawn or photographed as appropriate.

Documentary research

- 6.3.3 Suitable and relevant documentary research will be undertaken where appropriate. Previous phases of work for this project (such as the evaluation) will be referred to and reassessed for relevant information. Relevant comparable sites (both local and national) from published and grey literature sources will be consulted.
- 6.3.4 The 1887 OS map, referenced in this report but not illustrated shall be included in the final archive report.

Late Iron Age to Early Roman pottery

- 6.3.5 It is recommended that no further work is required on this assemblage. However, comparative data will be accrued through comparison and incorporation of the evaluation ceramic assessment into the final report.

Faunal remains

- 6.3.6 Recording of the assemblage should be completed (measurements of all bones) and a report suitable for archive be produced placing the assemblage further within its local and regional context.

Environmental Samples

- 6.3.7 Preservation was extremely poor and the potential for preservation is very low, and is suggested to not process the remaining samples due to them having a very low potential for preservation.

Worked Stone

- 6.3.8 No further work is required. The Assessment report can be used for archive.

6.4 Publication and dissemination of results

- 6.4.1 A full grey literature report will be produced, incorporating data recovered from the previous evaluation where appropriate. It is proposed that a short 'synthetic' article focusing on the key results and research potential of the project will be published in *PCAS* (c. 3000 words, 2-3 figures).

6.5 Retention and disposal of finds and environmental evidence

- 6.5.1 All finds will be kept until all mitigation post-excavation works are completed.

6.6 Ownership and archive

- 6.6.1 All artefactual material recovered will be held in storage by OA East and ownership of all such archaeological finds will be given over to the Cambridgeshire County Council Historic Environment Team (CCCHT) to facilitate future study and ensure proper preservation of all objects. Separate ownership arrangements may be negotiated, although it is OA Ltd's policy, in line with accepted practice, to keep site archives (paper and artefactual) together where possible. A Transfer of Ownership form under site code WILROK18 will be compiled by the Project Manager to be completed prior to deposition.

6.7 Archive Deposition

- 6.7.1 The site records, artefacts and digital records produced during the excavation and post-excavation work will be deposited to an appropriately registered store as per the CCC HET guidelines on archival storage. Artefactual evidence will be deposited along with the site records at a suitable store after transfer of title has been acquired for the material remains. Digital media will be deposited with an accredited digital repository.

7 RESOURCES AND PROGRAMMING

7.1 Project team structure

7.1.1 The project team is set out in the table below:

Name	Organisation	Role
Stephen Macaulay (SM)	OA East	Deputy Regional Manager
Paddy Lambert (PL)	OA East	Project Supervisor
Liz Popescu (LP)	OA East	Head of Post-Excavation
Rachel Clarke	OA East	Post-excavation Editor
Gillian Greer (GG)	OA East	Illustrator
Zoe Ui Choileain (ZUC)	OA East	Faunal Remains Specialist
Kat Hamilton (KH)	OA East	Archives Supervisor
Alice Lyons (AL)	Freelance	Roman Ceramic Specialist

Table 4 Project Team Structure

7.2 Task list and programme

7.2.1 The programme of work will commence in January 2019 and end with the issue of the grey literature report in December 2019. The short publication article will be published in 2020.

7.2.2 A task list is presented below. A programme is appended at the end of the report.

Task No.	Task	Staff	No. Days
Project Management			
1	Project management	SPM	2
2	Team meetings	SPM/PL	1
3	Liaison with relevant staff and specialists, distribution of relevant information and materials	PL	1
Stage 1: Stratigraphic analysis			
4	Update database and digital plans/sections to reflect any changes	PL/GG	1
5	Finalise site phasing	PL	1
6	Add final phasing and groups to database	PL	1
7	Compile overall stratigraphic text and site narrative to form the basis of the full/archive report	PL	5
Illustration			
8	Prepare draft phase plans, sections and other report figures	GG	2
9	Select photographs for inclusion in the report	PL	0.5
10	Select sections for inclusion in the report	PL	0.5
Documentary research			
11	Research into relevant Iron Age and Roman sites	PL	2

Task No.	Task	Staff	No. Days
Ecofact studies			
12	Faunal remains: archive catalogue, further analysis, research, archive report and publication synopsis	ZUC	3
Stage 2: Report Writing			
13	Integrate documentary research	PL	1
14	Write historical and archaeological background text	PL	2
15	Compile list of illustrations/liaise with illustrators	PL	1
16	Write discussion and conclusions	PL	4
17	Prepare report figures	GG	2
18	Collate/edit captions, bibliography, appendices etc	PL	1
19	Internal edit	RC	1
20	Incorporate internal edits	PL	1
21	Final edit	RC	0.5
22	Send to CCC for approval	PL	-
23	Approval revisions	PL/RC	1
Stage 3: Publication			
24	Produce draft publication	PL	2
25	Compile list of illustrations/liaise with illustrators	PL	0.5
26	Produce publication figures	GG	1
27	Internal edit	RC	2
28	Incorporate internal edits	PL	0.5
29	Final edit	RC	0.5
30	Send to publisher for refereeing	RC	-
31	Post-refereeing revisions	PL/RC	1
32	Copy edit queries	RC	0.5
33	Proof-reading	EP	1
Stage 4: Archiving			
34	Compile paper archive	KH	1
35	Archive/delete digital photographs	KH	0.5
36	Compile/check and deposit material archive	KH	0.5

Table 5: Task List and Programme

8 BIBLIOGRAPHY

Albarella, U. and Davis, S.J. 1996. *'Mammals and birds from Launceston Castle, Cornwall: decline in status and the rise of agriculture'*, *Circaea* 12 (1), 1-156

Anderson, K., 2013 *'Roman Pottery' in Evans, C. et al Process and History. Romano-British Communities at Colne Fen, Earith. CAU Landscape Archives: The Archaeology of the Lower Ouse valley, vol II, 299-323*

Barclay, A., Knight, D., Booth, P., Evans, J., Brown, D.H., Wood, I., 2016 *A Standard for Pottery Studies in Archaeology, Prehistoric Ceramics Research Group, Study Group for Roman Pottery (Historic England)*

Baker and Blagg-Newsome, 2016 *'Land at Rockmill End, Willingham, Cambridgeshire' Archaeological Evaluation Report, Rep No. 5052, Archaeological Solutions Unpublished Report*

Brown, D 2011 *Archaeological archives. A guide to best practice in creation, transfer and curation, 2nd edition, Archaeological Archives Forum*

Cappers, R.T.J, Bekker R.M, and Jans, J.E.A. 2006 *Digital Seed Atlas of the Netherlands Groningen Archaeological Studies 4, Barkhuis Publishing, Eelde, The Netherlands. www.seedatlas.nl*

CifA, 2014a *Standard and guidance for archaeological excavation*

CifA, 2014b *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*

Evans, J, Macaulay, S., and Mills, P., 2017 *The Horningsea Roman Pottery Industry in Context. Volume 1: Production, Distribution and the Old Tillage, East Anglian Archaeology 162*

Grant, A. 1982. *'The use of tooth wear as a guide to the age of domestic ungulates'*, in B. Wilson, C. Grigson and S. Payne (eds.), *Ageing and sexing animal bones from archaeological sites, 91-108. (British Archaeological Reports British Series 109). Oxford: BAR.*

Hambleton, E. 1999. *Animal Husbandry Regimes in Iron Age Britain: BAR British Series 282. Archaeopress.*

Historic England, 2006 *Management of research projects in the historic environment. The MoRPHE project manager's guide*

Historic England, 2008 *Management of research projects in the historic environment. PPN3: Archaeological excavation*

Higham, C.F.W. 1967. 'Stockrearing as a cultural factor in prehistoric Europe', *Proceedings of the Prehistoric Society* 33, 84-106.

Hillson, S. 1992. *Mammal Bones and Teeth: An Introductory Guide to Methods and Identification*. London Institute of Archaeology: University College London.

Jacomet, S. 2006 Identification of cereal remains from archaeological sites. (2nd edition, 2006) IPNA, Universität Basel / Published by the IPAS, Basel University.

Cappers, R.T.J, Bekker R.M, and Jans, J.E.A. 2006 Digital Seed Atlas of the Netherlands

Groningen Archaeological Studies 4, Barkhuis Publishing, Eelde, The Netherlands.
www.seedatlas.nl

McCormick, F. and Murray E. 2007. *Knowth and the Zooarchaeology of Early Christian Ireland*. Dublin: Royal Irish Academy.

McKinley, J. I. 2004 Compiling a Skeletal Inventory: disarticulated and co-mingled remains in (eds) Brickley, M. and McKinley, J.I. *Guidelines to the Standards for Recording Human Remains* IFA Paper No. 7.

Monteil, G., 2013 'Roman Pottery' in Evans, C. et al Process and History. Romano-British Communities at Colne Fen, Earith. CAU Landscape Archives: The Archaeology of the Lower Ouse valley, vol II, 85-97.

Payne, S. 1973. 'Kill off patterns in sheep and goats: the mandible from Asvan Kale', *Anatolian Studies* 23, 281-303.

Peachey, A., 2016 'The Roman pottery' in Blagg-Newsome, M., Land at Rockmill End, Willingham, Cambridgeshire. An Archaeological Evaluation, AS Report 5052, pp. 26-27

Schmid, E. 1972. *Atlas of Animal Bones for Prehistorians, Archaeologists and Quaternary Geologists*. Amsterdam-London-New York: Elsevier Publishing Company

Silver, I.A. 1970. The Ageing of Domestic Animals. In D.R. Brothwell and E.S Higgs (eds), *Science in Archaeology: A Survey of Progress and Research*, pp.283-302. New York: Prager Publishing.

Stace, C., 2010 *New Flora of the British Isles*. Third edition. Cambridge University Press

Tyers P. 1996 *Roman Pottery in Britain*, London, Batsford

Upex, S. G. 2008. *The Romans in the East of England: Settlement and Landscape in the Lower Nene Valley*. Tempus Publishing.

Willis, S., Lyons, A., Shepherd Popescu, E., and Roberts, J., 2008 Late Iron Age/Early Roman Pottery Kilns at Blackhorse Lane, Swavesey, 1988-99, *Proceedings of the Cambridge Antiquarian Society*, Vol XCVII, pp 53-76

Wiseman, R, 2017 *'Land off Rockmill End and Meadow Road, Willingham' Written Scheme of Investigation*, OA East Unpublished Document

Zohary, D., Hopf, M. 2000 *Domestication of Plants in the Old World – The origin and spread of cultivated plants in West Asia, Europe, and the Nile Valley*. 3rd edition. Oxford University Press

APPENDIX A ARTEFACT ASSESSMENTS

A.1 Late Iron Age and Roman pottery

by Alice Lyons

A.1.1 A total of 754 sherds, representing a minimum of 142 individual Late Iron Age and Early Roman vessels, weighing 7769g, (6.61 EVE) was recovered during an excavation at Willingham, Cambridgeshire. This was in addition to the small quantity of severely abraded Early Roman pottery recovered during the evaluation stage of the project which has been reported on separately (Peachey 2016).

Feature	Sherd Count	Weight (g)	Weight (%)
Evaluation	30	555	6.67
Excavation	754	7769	93.33
Total	784	8324	100.00

Table 3. The quantities of pottery recovered from evaluation and excavation

A.1.2 The pottery was generally in a severely abraded condition with an average sherd weight of only 10g. None of the pottery was deliberately placed, rather it is fragmentary and consistent with middened material deposited in fields as part of a rubbish disposal protocol. The small size of the sherds indicates that the ceramic material has been repeatedly disturbed (post-deposition) – possibly as the result of ploughing.

Methodology

A.1.3 The pottery was analysed following the national guidelines (Barclay *et al* 2016). The total assemblage was studied, and a full 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.

A.1.4 The assemblage was assessed for illustration, however, due to its small sherd size and general poor condition none was selected.

A.1.5 OA East curates the pottery and archive.

Factual data/Assemblage

A.1.6 Eight broad fabric groups were identified during analysis (RB pot table 3).

Coarse ware

A.1.7 The earliest component of this assemblage are the handmade grey wares which were tempered (or mixed) with grog or organic material to strengthen them during production. Although no diagnostic forms were found jar/bowl and storage jar fragments were identified. These fragments were retrieved from, in addition to

ditches, the gullies and post-holes of the Iron Age round houses and associated features.

- A.1.8 The bulk of the assemblage, however, consists of locally produced ‘Romanizing’ coarse Sandy grey wares (75.5% by weight). This group encompasses a variety of wheel made fabrics, all with a reduced core, often with a ‘sandwiched’ appearance and with common oxidised (paler) surfaces. The range of forms are conservative and utilitarian wide mouthed cordoned jars predominate (Monteil 2013, 90, no’s 8, 11, & 18), although a few forms following the ‘Gallo-Belgic’ tradition are also present (such as the Butt Beaker; Tyers 1996, 163, fig 200, 113). A small proportion of the assemblage are oxidised versions of the coarse sandy fabrics (SREDW; SOW) which were made in a limited range of jar/bowl and storage jar forms.
- A.1.9 Other coarse wares include several examples of handmade Horningsea storage jars. These vessels were made within a large industry centred around Horningsea located only c. 12km to the south-east and some Flavian-Trajanic production is known (Evans et al, 83). Shelly wares were also found, although only in small quantities and exclusively as globular jars (cooking pots), their origin is thought also to be local (Monteil 2013, 93).
- A.1.10 Within this group of locally produced coarse wares Verulamium white wares, produced around St. Albans, are noteworthy. Although no diagnostic pieces were found the white jar fragments often have distinctive external fuming. Verulamium wares are also noted as a contemporary traded ware at nearby at Langdale Fen, Earith (Monteil 2013, 89).

Fabric name and Abbreviation (publication)	Vessel	Sherd Count	Weight (g)	Sum of EVE	Weight (%)
Sandy grey ware: SGW, SGW(Q); SGW(OX SURAFCES); BSRW	Carinated cup, Butt beaker, carinated bowl, wide mouthed cordoned jar, wide mouthed jar with girth groove, medium mouthed globular jar, lid, storage jar	615	5867	5.4	75.51
Grey ware with grog inclusions: GW(GROG)	Jar/bowl, storage jar	48	550	0.47	7.08
Sandy red ware: SREDW; SOW	Jar/bowl, storage jar	19	320	0.17	4.12
Verulamium Oxidised Ware: VER OW (Tyers 1996, 199-201)	Jar	11	206	0.00	2.65
Horningsea grey ware: HORN RE (Evans <i>et al</i> 2017, 52, RO21)	Storage jar	4	586	0.53	7.54
Shelly ware: STW	Jar	30	110	0.00	1.42
Grey ware with organic temper: GW(ORG); SGW(ORG)	Jar, storage jar	19	106	0.0	1.36
Fine grey ware: GW(FINE) (Tyers 1996, 170-171)	Beaker, bowl (copy of Dr37)	8	24	0.04	0.32
Total		754	7769	6.61	100.00

RB Pot Table 5. The Pottery Assemblage by Fabric, listed in descending order of weight

Fine ware

- A.1.11 Fine wares are not well represented within the assemblage. Indeed, imported material such as Gaulish samian (Tyers 1996, 105-116) is completely absent from the group.

What was found, however, are a small quantity of domestically produced fine grey wares (most probably made within the Nene Valley, near modern Peterborough) which referenced samian forms – in this case a deep conical bowl (Tyers 1996, p. 108, fig 92, Dr37).

Specialist ware

A.1.12 Specialist wares such as the large storage vessels used to transport luxury goods around the Roman Empire (Amphora; Tyers 1996. 85-105) and mixing bowls (Mortaria; Tyers 1996, 117-135) were completely absent within this group. Although it is worth noting amphora was present in the evaluation assemblage.

The pottery from features

A.1.13 The site comprised a system of ditched field systems, an enclosure, trackway and round house dwellings. Most of pottery recovered during the excavation was recovered from the ditches, although small quantities were found in other feature-types (RB Pot Table 2).

Feature	Sherd Count	Weight (g)	Sum of EVE	Weight (%)
Ditch	686	6879	5.75	88.54
Post hole	9	426	0.23	5.48
Gully	45	229	0.15	2.95
Subsoil	7	130	0.48	1.68
Pit	7	105	0.00	1.35
Total	754	7769	6.61	100.00

RB Pot Table 4. The assemblage quantified by feature type

A.1.14 The largest group of pottery was found within enclosure ditch segment 360 (139 sherds, 1452g, 2.06 EVE), which represents c. 19% of the whole site assemblage by weight. The assemblage was entirely composed of Sandy grey ware wide mouthed cordoned jar fragments, also the remains of a single Butt beaker vessel. It is possible this material represents a dump of domestic waste associated with a near-by roundhouse possibly in the mid-1st century AD (before the Roman conquest).

Discussion

A.1.15 The assemblage spans the late Iron Age and Early Roman periods, with activity decreasing during the Flavian period (**69 AD and 96 AD**) and certainly not continuing after the early 2nd century AD. The pottery is predominantly local in origin, with utilitarian coarse sandy grey ware jars forming most of the group, moreover fine wares are scarce and specialist wares completely absent. It assemblage did include, however, local copies of Gaulish forms. It is worthy of note therefore, that although no pottery was imported from the wider Roman Empire vessels were traded from the regional centres of Verulamium and the Lower Nene Valley. The reasons for this particular use of fabrics and forms is almost certainly related to the date and location of the site, as imported wares (such as samian) were not widely distributed within rural non-military communities in Cambridgeshire until the post-Flavian period (Monteil 2013, 86).

Although it is worthy of comment that these communities were not isolated as they were using pottery in the Gaulish fashion and new technologies such as wheel made production were also known (Willis et al 2008, 63).

A.1.16 Within the context of this area there is abundant evidence for Late Iron Age and Romano-British settlement in the locality and large amounts of contemporary pottery has been found and reported upon (Anderson 2013; Montiel 2013; Willis et al 2008). In comparison the Rockmill End, Willingham assemblage is quite small and in poor condition, happily it is still possible to conclude that the range of fabrics and forms found appear typical for its date and location. As such it adds to the growing corpus of late Iron Age and Early Roman pottery found to the north of Cambridge, on the southern Fen-edge which continues to increase our understanding of pottery use and deposition at this time.

A.1.17 It is recommended that no further work is required on this assemblage, other than the incorporation of data from this assemblage and the data recovered from the evaluation.

Bibliography

- | | | |
|-----------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Anderson, K., | 2013 | 'Roman Pottery' in Evans, C. et al <i>Process and History. Romano-British Communities at Colne Fen, Earith</i> . CAU Landscape Archives: The Archaeology of the Lower Ouse valley, vol II, 299-323 |
| Barclay, A., Knight, D.,
Booth, P., Evans, J.,
Brown, D.H., Wood, I., | 2016 | <i>A Standard for Pottery Studies in Archaeology</i> , Prehistoric Ceramics Research Group, Study Group for Roman Pottery (Historic England) |
| Evans, J, Macaulay, S., and
Mills, P., | 2017 | <i>The Horningsea Roman Pottery Industry in Context. Volume 1: Production, Distribution and the Old Tillage</i> , East Anglian Archaeology 162 |
| Monteil, G., | 2013 | 'Roman Pottery' in Evans, C. et al <i>Process and History. Romano-British Communities at Colne Fen, Earith</i> . CAU Landscape Archives: The Archaeology of the Lower Ouse valley, vol II, 85-97. |
| Peachey, A., | 2016 | 'The Roman pottery' in Blagg-Newsome, M., <i>Land at Rockmill End, Willingham, Cambridgeshire. An Archaeological Evaluation</i> , AS Report 5052, pp. 26-27 |
| Tyers P., | 1996 | <i>Roman Pottery in Britain</i> , London, Batsford |
| Willis, S., Lyons, A.,
Shepherd Popescu, E., and
Roberts, J., | 2008 | Late Iron Age/Early Roman Pottery Kilns at Blackhorse Lane, Swavesey, 1988-99, <i>Proceedings of the Cambridge Antiquarian Society</i> , Vol XCVII, pp 53-76 |

A.2 Ceramic building material

By Ted Levermore

Introduction

- A.2.1 Archaeological work recovered 4 fragments, 351g, of ceramic building material (CBM). This assemblage comprised a Roman tile and undiagnostic fragments attributed broadly to the medieval to post-medieval periods.

Methodology

- A.2.2 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. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive.

Factual data

Fabrics

- A.2.3 Three fabrics were recorded from this small assemblage. The fabrics recorded were all typical CBM recipes, with preferences towards large and unsorted inclusions in the earlier forms and refined fabrics for the later post-medieval and early modern material. Full fabric descriptions can be found with the site archive.

Assemblage by phase

Roman

- A.2.4 Pit **239** produced a slightly abraded fragment of Roman brick or tile (35mm thick; 301g). It was made in a dull orange silty fabric, with a grey core, containing occasional fine quartz flecks and rare but very coarse rounded pebble inclusions. The majority of the form was lost, leaving only a smoothed upper face and an abraded base which appeared to be sanded. Fabric rather than form was used to date this piece.
- A.2.5 Context **443** produced a small fragment of a combed tile (10mm thick; 15g); made in a Dull orange-brown sandy fabric with fine flint and calcareous flecks and occasional coarse ferrous material. It had one smoothed face and the reverse was combed with some sooting. The fragment was not large enough for identification of the complete tile form or combing style. Nevertheless, it is suggested that this was also Roman in date and likely related to a *hypocaust* system.

Medieval to post-medieval

- A.2.6 Two severely abraded fragments of CBM were collected from Ditch **133** (35g). They may derive from a brick, however they have clearly been subjected to erosional processes – probably related to modern agriculture.

Statement of potential

The material recovered was abraded and fragmentary and therefore offer little information to draw any conclusions from. The later material is likely to have been brought to the site – or moved around the site – by agricultural processes. It represents little more than background noise in the archaeological landscape.

Recommendations for further work

- A.2.7 This material has been fully recorded. It should be considered for discard.

A.3 Fired/baked clay

By Ted Levermore

Introduction

- A.3.1 Archaeological work recovered 58 fragments, 283g, of fired clay. This assemblage comprised both amorphous pieces with no discernible features (35 fragments, 120g) and more 'structural' pieces with flattened surfaces and signs of hand-forming (23 fragments, 163g). No diagnostic objects were present; however, some fragments may tentatively be considered kiln furniture. Generally, this material was abraded.

Methodology

- A.3.2 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 **FC1**.

Factual data

Fabrics

- A.3.3 Five fabrics were recorded from this small assemblage; two were subsets. All fabrics could be considered as deriving from local silt clays with varying amounts of sand, grit and flint with little to no paste preparation. Full fabric descriptions can be found with the site archive.

Assemblage

Amorphous fragments

- A.3.4 Ten contexts produced amorphous fragments of fired clay. The fragments cannot be characterised 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

- A.3.5 Nine 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). Of note are the fragments from Ditch **419** and Contexts **443** and

463; all of which suggest that may have derived from kiln furniture or other similar objects. Ditch **419** contained fragments (17g) that suggested a square-cross section – perhaps a kiln bar or weight. Context **443** produced ten fragments, 101g, the exhibited flattened surfaces, including one that appeared to have a squared shape (42g) and was heavily reduced. Context **463** contained a hand-squeezed clay form (10g) similar to a prop or a spacer found among kiln and briquetage assemblages.

A.3.6 No further work is required on this small assemblage.

A.4 Burnt and worked stone

By Simon Timberlake

Introduction

A.4.1 A small assemblage consisting of 4.82 kg (x9 pieces) of stone was examined from this excavation, of which 0.754 kg consisted of burnt stone and flint and 4.07 kg consisted of worked stone (quern). All of this quern came from Early Roman (Romano-British) features.

A.4.2 The quern consisted of one large fragment of a flat-topped quern made of Millstone Grit (3.85 kg) and two much smaller fragments of imported lava quern (0.22 kg).

A.4.3 The cracked cobbles of burnt stone have the appearance of ‘pot boilers’, and almost certainly these are domestic and probably Late Prehistoric in date (Iron Age?), although these may well have become re-deposited in later features.

Methodology

A.4.4 All the stone was identified visually using an illuminated x10 magnifying lens, and compared where necessary with an archaeological worked stone reference collection. This included a number of specimens of basalt collected from the lava flow beds quarried in the Roman-Medieval quern quarries at Mayen, Germany and some of the Millstone Grit quern lithologies from South Yorkshire. The projected quern diameter was estimated using a chart. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of calcite in the rock.

Factual data

Burnt stone

A.4.5 Analysis of the burnt stone has revealed a small but in general well-fired and quenched fragmentary assemblage which includes some re-fitting cobble pieces.

Context	Nos. pieces	Weight (g)	Size (mm)	Shape	Geology	Notes
128	1	232	65x75x50	sub-round	Jur-Cret micac sstn	reduced firing - broken
145	1	32	40x35x24	sub-round	Jur-Cret sstn	more oxidised + sooted
256	2	456	70x65x30+ 70x65x35	sub-square	Jur-Cret micac sstn	oxidised – re-fitting halves of cobble

378	2	34	40x30x10 + 25x20x10	irregular	flint	calcined (quenched) BF
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Table 7: Catalogue of burnt stone

Worked stone

A.4.6 The rotary quern fragments identified include contrasting types such as a piece from a thin radially-grooved stone made of imported basalt lava from the Mayen quarries (Eifel district, Germany) and an unusually thick (up to 85mm) though relatively small diameter (c.440mm) upper stone made from a coarse Millstone Grit (Chatsworth Grit?), perhaps from the Roman extraction sites near to Hathersage, Derbyshire (Peacock 1998) The latter stone may well have been re-fashioned from a millstone fragment. The grinding surface is well-worn (with signs of concentric rim polish), and following use (or during the latter stages of its use) the upper rim of the stone appears to have been chipped off and the stone then heavily burnt.

Context	SF no	Weight (g)	Size (mm)	Original diam (mm)	Grinding surface	Geology	Notes
128	1	212	70x55x32	500+?	radial groove furrows (harp) 10-11mm	basalt lava from Mayen quarries	lower stone?
222		7	20x22x8			-ditto-	
364	4	3850	240x160x8 5-65	440	dished with concentric stria + polish	coarse gritstone (Chatsworth Grit?) Millstone Grit	upper quern stone – re-worked millstone?

Table 6: catalogue of worked stone

Statement of potential and discussion

A.4.7 The very small incidence of burnt stone from this site most likely indicates the re-deposition of Iron Age or earlier stone within later features. A short distance from Willingham at Barleycroft Farm near Over large amounts of re-cycled used and broken-up saddlequern was recovered from Iron Age features into which this had been dumped after having been used as a source of burnt stone for cooking. The percentage of re-cycled worked stone within this burnt stone assemblage (at 22%) was the highest encountered within an Iron Age or Romano-British settlement in Cambridgeshire (SEE Timberlake in Evans & Tabor 2012)

A.4.8 The upper quern stone fragment recovered from context 364 is interesting in that a stone with these dimensions and this shape used in a small rotary handmill is uncommon. In fact, the well-defined and carefully worked vertical rim of this flat-topped Millstone Grit quern resembles in many respects that of a millstone. This is certainly of the expected thickness for the latter, yet it is clearly too small, whilst the central shallow-sloping hopper concavity which can be identified on the flat top together with the strongly concave grind surface underneath is much more characteristic of a quern or hand mill.

A.4.9 Nevertheless, the distinction between a quern and a millstone is sometimes difficult to determine. This was noted by Ruth Shaffrey in her description of the Millstone Grit querns and millstones from Stanford Wharf, Essex (Oxford Archaeology 2012). The

earliest Romano-British millstones (such as that found at Woolaston villa, Gloucestershire) possessed smaller upper ('runner') stones with concave or dished grind surfaces, the lower stones being convex, whilst in general, later Roman millstones were larger in diameter and possessed much flatter grind surfaces (SEE M.&S. Watts 2006: www.millsarchive.org/ and Watts, M 2002, 59). Chris Green (IN Bird 2017) defined Roman millstones as being 'grinding stones over 500mm in diameter, with top stones exceeding 50kg when new'....normally with a date 'after 100 AD in Roman Britain'.

- A.4.10 However, there is very little discussion about the potential modification or re-cycling of millstones as querns, particularly where this relates to the tougher sandstone lithologies, such as the Millstone Grit. There is rather more evidence for the re-use (or re-fashioning) of querns from millstones or from large querns of basalt lava, particularly in the medieval period, as was noted recently in the OAE assessment of quern from the site of Bramford in Suffolk.
- A.4.11 In all probability, at Willingham we are looking at a quern re-fashioned from a small millstone, and worked in a similar way around its circumference.
- A.4.12 The small fragment of lava quern recovered from context 128 possesses a very distinctive lithology which sources it to the lava flow beds of the Bellerberg volcano quarried in the Roman quarries at Mayen, near Andernach on the Rhine (Horter et al. 1951; Mangartz 2008). Although a poorly diagnostic piece in terms of quern typology, the presence of radially-segmented grooves across the direction of rotation places this amongst the classic type of handmill, most likely one between 380mm and 420mm in diameter, with a metal rhynd and a wooden handle attached to a metal band around the outside of the runner stone.
- A.4.13 Notes on the production and trade of quernstone from the Mayen – Niedermendig quarry source, Eifel Region Germany. Quern production at Mayen begins in the Late Neolithic, and was already considerably developed by the Late Iron Age (La Tène) period, although the height of production and trade with Britain and the Low Countries wasn't reached until Roman times. The latter expansion in production at Mayen followed the complete removal of the overburden of pumice ash deposits, and subsequently quarrying began on an industrial scale along a front 5000 metres long and up to 50 metres deep into the bedded lava flows, this involving the total removal of at least one and a quarter million cubic metres of stone (Hörter et al. *ibid.*, 72) Boats laden with quern and millstone as ballast left the port of Andernach on the Rhine for London and Colchester. Quern blanks or rough-outs were either prepared at the quarry site(s) themselves from the splitting and shaping of the polygonal-shaped columns of basalt detached from the cooling joints of the flows (Mangartz *ibid.*, 66-67), or else were exported as crudely fashioned discs of lava, the larger ones intended for millstones, and the smaller ones as querns.
- A.4.14 After landing at the ports of London or Colchester, the blanks were then worked up and the quernstones finished in local workshops. This perhaps explains the variety of styles of quern/ millstone that were encountered within Roman Britain.

A.4.15 The cross-channel trade in lava quern does not really begin until the end of the 1st century but then continues until at least the 3rd century AD.

Conclusion

A.4.16 The presence of both lava quern and flat-topped Millstone Grit at Rockmill End, Willingham is quite typical of rural Cambridgeshire Romano-British settlements of the 1st-2nd century AD. However, both of these quern types are post-Conquest in character, although the presence here of (re-deposited) domestic burnt stone in the form of fired and quenched (cracked) glacial erratic cobbles from the gravels confirms perhaps the late prehistoric origins of the site.

A.4.17 Of interest though is the potential evidence for the re-use of old millstone, the latter suggesting the former presence here of an animal/human powered traction mill.

Recommendations for further work

A.4.18 No further work is required on this small assemblage. However, the re-fashioned millstone/ quern should perhaps be drawn in advance of publication.

Retention and dispersal

A.4.19 With the exception of the Millstone Grit quern and lava quern (128) all of the material may be disposed of.

Bibliography

Evans, C. & Tabor, J. 2012 *Excavations at Barleycroft Farm Plant Site*, Cambridge Archaeological Unit Report no.1104, July 2012

Green, C. 2017 'Querns and millstones in Late Iron Age and Roman London and South-East England' In: Bird, D. *Agriculture and Industry in South-East Roman Britain*, Oxbow Books

Horter, F., Michels, F.X. and Roder, J. 1951 *Die Geschichte der Basalt Lava industrie von Mayen und Niedermendig*, 2-3 Jahrg, 1-32

Mangartz, F. 2008 *Römischer Basaltlava-Abbay Zwischen Eifel und Rhein*, Verlag des Römisch-Germanischen Zentralmuseums, Mainz

Peacock, D.P.S. 1998, *The Archaeology of Stone*, English Heritage

Shaffrey, R., 2012 'Worked Stone' (Specialist Report no.10) in *London Gateway – Iron Age and Roman Salt Making in the Thames Estuary: Excavation at Stanford Wharf*, Essex, Oxford Archaeology

Timberlake, S. 2016 A published review of: Watts, S.R. 2014 *The Life and Death of Querns. The deposition and use-contexts of querns in south-western England from the Neolithic to the Iron Age*, Southampton Monographs in Archaeology New Series 3; in *Proceedings of Prehistoric Soc.* For 2016

Watts, M. 2002 *The Archaeology of Mills and Milling*, Tempus, Stroud, Glos., 160

A.5 Small Finds

By Denis Sami

Introduction

- A.5.1 A copper-alloy fragment of a modern buckle and two lumps of iron were recovered from top-soil 101, gully **112** and pit **212**.
- A.5.2 Given its thickness and relatively large size, buckle SF 101 could only have been used as a dress or hat decoration (see catalogue). The fragment is too small and its typology is so simple that it is not possible to suggest a precise chronology for the artefact, but it is an item produced between the 17th and the 19th centuries.
- A.5.3 The two lumps of iron are very small and cannot be identified. The metalwork assemblage is too small to contribute in the site narrative.

Statement of potential

- A.5.4 The finds have no real potential to inform us about the archaeology of the site.

Method Statement

- A.5.5 Only the copper-alloy buckle is described in the catalogue. Measurements such as length (L), width (W) and thickness (Th) with the description of the objects, the context as well as a suggested chronology are provided in the catalogue.

Retention, Dispersal and Display

- A.5.6 Finds can be dispersed. No further work is needed.

SF	Context	Feature	Description	Date
5	101	Top-soil	Incomplete fragment of buckle made from a thin leaf of metal. The pin rest area is expanded and narrows toward the axis terminating into a with hook. L: 34 mm; W: 42 mm; Th: 0.08 mm.	Modern

Metalwork Catalogue

A.6 Spindlewhorl

Introduction

- A.6.1 A poorly preserved ceramic spindle-whorl dating to the Late Iron Age or Roman period was found in posthole fill 424.
- A.6.2 The spindle-whorl is made in a coarse, dark brown, gritty ceramic fabric with abundant poorly sorted stone inclusions.

Statement of potential

A.6.3 The find has a limited potential. It suggests a possible Late Iron Age or Roman chronology for post-hole **423**. In addition, the spindle-whorl may indicate domestic textile activity in the area.

Method Statement

A.6.4 Measurements such as diameter (diam.) of the whorl and the whorl’s hole together with the artefact height (H) and weight (Wg) are given in the below catalogue. A description and suggested chronology of the object is also included in the catalogue.

A.6.5 (L), width (W) and thickness (Th) with the description of the objects, the context as well as a suggested chronology are provided in the catalogue.

Retention, dispersal and display

A.6.6 The spindle-whorl should be kept, properly packed and stored accordingly to the office finds guidance. No further work is required.

Catalogue

SF	Context	Feature	Description	Date
6	424	Posthole	A ceramic sub-circular whorl with D shaped cross-section. The dark brownish fabric is gritty with abundant poorly sorted stone inclusions. Diam: 35 mm; H: 23 mm; Hole diam: 0.7 mm; Wg: 22 g	Late Iron Age to Roman

APPENDIX B ENVIRONMENTAL ASSESSMENTS

B.1 Faunal remains

By Zoë Uí Choileáin

Introduction

- B.1.1 Excavations at the site uncovered a total of 241 recordable fragments (7.3kg) of animal bone. The identifiable bone included 125 fragments of cattle, sheep/goat, horse, pig, dog and bird. The remaining 116 fragments could be classified as large or medium mammal and have not been discussed further in this report.
- B.1.2 This assemblage dates entirely to the Late Iron Age-Early Romano-British transition period and includes both hand collected material and environmental samples. The bulk of the assemblage is primarily from ditches and drip gullies although some material was collected from pits and postholes.
- B.1.3 The method used to quantify this assemblage was a modified of that devised by Albarella and Davis (1996). Identification of all bone was attempted but only those that could be clearly narrowed to species were used for NISP (Number of identifiable species and mni (minimum number of individuals) counts. Both epiphyses and shaft fragments were identified where possible. Fragmented elements are not counted multiple times which narrows down the assemblage and produces more accurate NISP and MNI results. MNI (minimum number of individuals) was calculated for all species present. MNI estimates the smallest number of animals that could be represented by the elements recovered. Identification of the faunal remains was carried out at Oxford Archaeology East. References to Hillson (1992), Schmid (1972) and Cohen & Serjeantson (1996) were used where needed for identification purposes.
- B.1.4 The surface condition of the bone was assessed using the 0-5 scale devised by McKinley where 0 represents no erosion and 5 represents the total erosion of the surface bone (2004, 16, Fig. 6).
- B.1.5 For all identifiable bone butchery marks, burning and gnawing were recorded where observed.

Factual data

- B.1.6 The surface condition of the bone is variable however the main bulk represents a 1-2 on the McKinley scale (2004, 16, Fig. 6), meaning that while some erosion is present, the entirety of the bone is not affected. Specimens from a small number of features are badly affected by concretion. The surface condition of these specimens is often completely masked meaning that any evidence of pathology, butchery or gnawing is lost. Eleven fragments of long bone show evidence of carnivore gnawing while two fragments suggest rodent gnawing.
- B.1.7 As is common in domestic assemblages of this date there is a high percentage of cattle and sheep/goat with smaller percentages of horse, pig, dog and bird. The MNI suggests a higher percentage of sheep/goat than cattle – which is often more reflective of assemblages from Wessex and the South-East of England than of East Anglian

assemblages (Hambleton 1999, 46). As there is however a high variation in the focus on cattle and sheep/goat in East Anglia the significance of this is negligible. The low percentages of pig are again reflective of rural trends in the late Iron Age-Early Romano-British period. A full summary of the number of identifiable specimens (NISP) and minimum of individuals (MNI) per taxon are presented in the table below.

Taxon	NISP	NISP %	MNI	MNI %
Cattle	51	40.8	3	20
Sheep/goat	43	34.4	5	33.3
Pig	9	7.2	2	13.3
Horse	11	8.8	2	13.3
Dog	9	7.2	1	6.6
Bird	2	1.6	2	13.3
Totals	125	100	15	100

Table 8: Number of identifiable specimens (NISP) and Minimum number of individuals (MNI) per taxon.

- B.1.8 A single example of butchery is present on a cattle radius from ditch **259**. Fine cut marks are present on the anterior and posterior shaft.
- B.1.9 A male pig mandibular canine was identified from ditch **373**.
- B.1.10 Thirteen fragments of burnt bone were identified. Five of these fragments represent a small collection of fully calcined bone from ditch 442 which could be identified as large and medium mammal.

Statement of potential

- 8.1.1 Recording dental wear and epiphyseal fusion data could provide evidence of husbandry trends on this site. It has been suggested that in the Roman period a higher proportion of younger sheep were kept and overwintered for secondary products such as wool, meat and milk (Upex 2008, 167). A fuller analysis of the tooth wear in this assemblage has the potential to explore whether this trend exists during the transition period. Very few measurements are possible due to the high fragmentation levels, however these have limited potential to provide data on shoulder height and sex. The two fragments of bird bone are complete and can be further identified to species using reference material. This assemblage does have potential to add to the wider body of information on animal husbandry practised in East Anglia during the Late Iron Age-Early Romano British transition period.

Recommendations for Further Work/Methodology

Description	Performed by	Days
Aging data	Zoë Uí Choileáin	1/2 day
Measurements	Zoë Uí Choileáin	1 hr
Identify Bird bone	Zoë Uí Choileáin	1 hr
Fully grey literature report	Zoë Uí Choileáin	1 day

Retention, Dispersal and Display

- 8.1.2 It is recommended that this material be retained for the permanent record as it has potential to add to the wider body of evidence on butchery trends in East Anglia.

Bibliography

- Albarella, U. and Davis, S.J. 1996. 'Mammals and birds from Launceston Castle, Cornwall: decline in status and the rise of agriculture', *Circaea* 12 (1), 1-156
- Evans, C. & Tabor, J. 2012 Excavations at Barleycroft Farm Plant Site, Cambridge Archaeological Unit Report no.1104, July 2012
- Green, C. 2017 'Querns and millstones in Late Iron Age and Roman London and South-East England' In: Bird, D. Agriculture and Industry in South-East Roman Britain, Oxbow Books
- Grant, A. 1982. 'The use of tooth wear as a guide to the age of domestic ungulates', in B. Wilson, C. Grigson and S. Payne (eds.), *Ageing and sexing animal bones from archaeological sites*, 91-108. (British Archaeological Reports British Series 109). Oxford: BAR.
- Horter, F., Michels, F.X. and Roder, J. 1951 *Die Geschichte der Basalt Lava industrie von Mayen und Niedermendig*, 2-3 Jahrg, 1-32
- Hambleton, E. 1999. *Animal Husbandry Regimes in Iron Age Britain*: BAR British Series Archaeopress.
- Higham, C.F.W. 1967. 'Stockrearing as a cultural factor in prehistoric Europe', *Proceedings of the Prehistoric Society* 33, 84-106.
- Hillson, S. 1992. *Mammal Bones and Teeth: An Introductory Guide to Methods and Identification*. London Institute of Archaeology: University College London.
- Mangartz, F. 2008 *Römischer Basaltlava-Abbay Zwischen Eifel und Rhein*, Verlag des Römisch-Germanischen Zentralmuseums, Mainz
- McCormick, F. and Murray E. 2007. *Knowth and the Zooarchaeology of Early Christian Ireland*. Dublin: Royal Irish Academy.
- McKinley, J. I. 2004 *Compiling a Skeletal Inventory: disarticulated and co-mingled remains in* (eds) Brickley, M. and McKinley, J.I. *Guidelines to the Standards for Recording Human Remains IFA Paper No. 7*.
- Peacock, D.P.S. 1998, *The Archaeology of Stone*, English Heritage
- Schmid, E. 1972. *Atlas of Animal Bones for Prehistorians, Archaeologists and Quaternary Geologists*. Amsterdam-London-New York: Elsevier Publishing Company

Silver, I.A. 1970. The Ageing of Domestic Animals. In D.R. Brothwell and E.S Higgs (eds), *Science in Archaeology: A Survey of Progress and Research*, pp.283-302. New York: Prager Publishing.

Shaffrey, R., 2012 'Worked Stone' (Specialist Report no.10) in *London Gateway – Iron Age and Roman Salt Making in the Thames Estuary: Excavation at Stanford Wharf, Essex*, Oxford Archaeology

Timberlake, S. 2016 A published review of: Watts, S.R. 2014 *The Life and Death of Querns. The deposition and use-contexts of querns in south-western England from the Neolithic to the Iron Age*, Southampton Monographs in Archaeology New Series 3; in *Proceedings of Prehistoric Soc. For 2016*

Upex, S. G. 2008. *The Romans in the East of England: Settlement and Landscape in the Lower Nene Valley*. Tempus Publishing.

Watts, M. 2002 *The Archaeology of Mills and Milling*, Tempus, Stroud, Glos., 160

B.2 Charred plant remains

By Rachel Fosberry

Introduction

B.1.11 Fifty-one bulk samples were taken from features within the excavated area at Rockmill End. Samples processed for feedback during the excavation indicated that preservation of plant remains was extremely poor. Sixteen samples were selected for an initial assessment 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. Samples were taken deposits from three phases of site activity.

Methodology

B.1.12 The samples were processed by tank flotation using modified Siraff-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.

B.1.13 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.

B.1.14 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 1. 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).

B.1.15 For the purpose of this assessment, items such as seeds, cereal grains and artefacts have been scanned and recorded qualitatively according to the following categories:

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

B.1.16 Items that cannot be easily quantified such as charcoal have been scored for abundance

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

U=untransformed, f = fragment

Factual data

B.1.17 Preservation of plant remains is scarce in all samples from all phases. Sparse charcoal fragments are frequently vitrified and may represent modern intrusive material as rootlets and modern seeds are also present suggesting movement of material between contexts.

Phase 1: Late Iron Age (c. 2nd century BC – mid 1st century AD)

B.1.18 Eleven samples were taken from Late Iron Age features representing field systems, roundhouse structures and pits. Occasional charred plant remains are found in pits and postholes and include three cereal grains, single seeds of fairy/perennial flax (*Linum catharticum/perenne*), sheep's sorrel (*Rumex acetosella*) and pale persicaria (*Persicaria lapathifolia*) along with a fragment of a possible bean (Fabaceae).

B.1.19 Untransformed seeds of duckweed (*Lemna* sp.) are present in some of the deeper ditch fills and indicate that these features contained water at some point, possibly seasonally.

Phase 2: Early Roman (c. mid- late 1st century AD)

B.1.20 Basal fill 474 of ditch **476** contains untransformed seeds of duckweed and water-crowfoot (*Ranunculus* subgenus *Batrachium*) along with mollusc shells of aquatic species indicating that the ditch contained water.

Phase 3: Early/Mid Roman (c. mid-1st – early 2nd century AD)

B.1.21 Samples were taken from three Phase 3 features that included a possible corn drier (254). Charred plant remains are sparse and include a fragment of a barley (*Hordeum vulgare*) grain from pit **213** and sparse charcoal from a pit believed to have an industrial purpose **263** and gully terminus **251**.

Phase 0: undated

B.1.22 Fill 291 of undated pit **290** produced several pottery sherds that should be able to date this deposit. The sample contains vitrified charcoal and hammerscale which may be indicative of blacksmithing activities.

Phase	Sample No.	Context No.	Feature No.	Feature Type	Volume	Flot Volume (ml)	Cereals	Legumes	Weed Seeds	Charcoal <2mm	Charcoal > 2mm	Flot comments	Pottery	Small mammal bones	Large mammal bones
0	33	291	290	Pit	12	25	0	0	0	++V	0	vitrified charcoal	##	0	0
1	4	123	122	Pit	16	30	#	0	#	+	+V	2 indet grains, 1 pale persicaria seed, duckweed, sparse charcoal	#	0	#
1	7	129	127	Ditch	9	30	0	0	#	+V	0	duckweed seeds and vitrified charcoal	#	0	##
1	12	152	151	Round house	16	10	0	0	0	0	+	sparse charcoal only	0	0	##
1	15	170	169	Post-hole	8	2	#	0	0	+V	+	1 oat grain, sparse charcoal	0	0	#
1	16	176	175	Drip gully	8	2	0	0	0	0	+	sparse charcoal only	0	0	##
1	24	222	221	Ditch	16	30	0	0	0	+	+/'+V	sparse charcoal, some vitrified	#	0	#
1	38	394	393	Post-hole	8	2	0	#f	#	++	+	charred dock seed and fragment of bean	#	0	0
1	41	415	411	Ditch	16	20	0	0	0	0	0	no preservation	#	0	##
1	40	424	423	Post-hole	18	1	0	0	#	+	+	Charred fairy/perennial flax seed	0	###	0
1	50	463	459	Ditch	16	1	0	0	#	+	+	duckweed seeds and sparse charcoal	#	#	0
1	47	476	416	Ditch	16	5	0	0	0	0	0	no preservation	#	#	#
2	51	474	456	Ditch	16	3	0	0	###u	0	0	duckweed and water-crowfoot seeds	0	#	#
3	23	214	213	Pit	11	10	#f	0	0	0	+	barley grain fragment	#	#	#
3	28	252	251	Gully terminus	8	15	0	0	0	0	+	sparse charcoal only	0	0	#
3	30	255	254	Corn dryer	16	30	0	0	0	0	+V/+	sparse charcoal, some vitrified	0	0	#

Table 9: Environmental samples

Overview

- B.1.23 The preservation of plant remains from this site are extremely poor and preclude further interpretation of the deposits sampled. There is archaeological evidence of cereal processing on site through the discovery of a corn drier and quern stone fragments but there is no significant survival of archaeobotanical evidence. Similarly, most of the sample residues contain pottery and/or animal bone but lack plant remains.
- B.1.24 The presence of duckweed in deeper features is indicative of standing water indicating the level of groundwater.

Statement of potential and recommendations for further work

- B.1.25 The samples selected for processing have produced a sparse assemblage of preserved plant remains that has no potential for further work. The few charred remains recovered would not be considered reliable for radiocarbon dating. The remaining samples could be considered for processing but it is unlikely that they are going to be productive.

Bibliography

Jacomet, S. 2006 Identification of cereal remains from archaeological sites. (2nd edition, 2006) IPNA, Universität Basel / Published by the IPAS, Basel University.

Cappers, R.T.J, Bekker R.M, and Jans, J.E.A. 2006 Digital Seed Atlas of the Netherlands Groningen Archaeological Studies 4, Barkhuis Publishing, Eelde, The Netherlands. www.seedatlas.nl

Stace, C., 2010 *New Flora of the British Isles*. Third edition. Cambridge University Press

Zohary, D., Hopf, M. 2000 Domestication of Plants in the Old World – The origin and spread of cultivated plants in West Asia, Europe, and the Nile Valley. 3rd edition. Oxford University Press

APPENDIX C RISK LOG

C.1.1 The table below lists potential risks for the PX analysis work.

No.	Description	Probability	Impact	Countermeasures	Estimated time/costs	Owner	Date updated
1	Specialists unable to deliver analysis report due to over running work programmes/ ill health/other problems	Medium	Variable	OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary	Variable		
2	Non-delivery of full report due to field work pressures/ management pressure on co-authors	Medium	Medium-high	Liaise with OA management team	Variable		
3							

APPENDIX D CONTEXT LIST

Context	Cut No	Category	Feature Type	Function	Phase	Master Number	Breadth	Depth
260	259	fill	DITCH	disuse	1	0		0.3
448	448	cut	ditch	unknown	1	451		
447	442	fill	ditch	unknown	2	0		
446	442	fill	ditch	disuse	2	451		0.2
444	437	fill	ditch	disuse	1	451		0.4
384	383	fill	pit	disuse	3	0		0.14
441	437	fill	ditch	disuse	1	0		0.2
440	437	fill	ditch	disuse	1	0		0.3
370	0		VOID		0	0		
338	337	fill	gully	silting up	0	0		0.31
287			VOID		0	0		
451	0				1	451		
386	385	fill	ditch	disuse	3	0		0.46
388	387	fill	ditch	disuse	3	0		0.3
256	254	fill	gully	disuse	3	0		0.08
255	254	fill	gully	disuse	3	0		0.27
390	389	fill	ditch	disuse	3	0		0.15
246	245	fill	FURROW	disuse	4	0		0.09
392	391	fill	gully	disuse	3	0		0.15
268	270	fill	ditch	disuse	1	0		0.29
359	358	fill	gully	dis	1	0		0.06
375	374	fill	ditch	enclosure	3	0		0.5
265	263	fill	gully	disuse	3	0		0.04
264	263	fill	gully	disuse	3	0		0.17
366	367	fill	ditch	disuse	3	0		0.17
214	213	fill	pit	disuse	3	0		0.18
212	211	fill	pit	disuse	3	0		0.12
368	369	fill	ditch	disuse	3	0		0.34
210	209	fill	pit	disuse	3	0		0.12
371	373	fill	ditch	enclosure	1	0		
449	437	fill	ditch	slumping	1	451		0.4
372	373	fill	ditch	disuse	1	0		

450	448	fill	ditch	disuse	2	451	0.24
377	376	fill	ditch	tip layer	3	0	
198	197	fill	ditch	disuse	3	0	0.19
378	376	fill	ditch		3	0	0.36
196	195	fill	ditch	disuse	3	0	0.11
380	379	fill	ditch	disuse	3	0	0.63
457	456	fill	ditch	disuse	1	0	0.24
455	454	fill			4	0	0.13
453	452	fill	post hole	disuse	5	0	0.11
336	335	fill	ditch	disuse	0	0	0.16
206	205	fill	pit	disuse	1	0	0.08
421	419	fill	ditch	silting	1	0	0.03
413	411	fill	ditch	disuse	2	0	0.05
244	243	fill	ditch	disuse	3	0	0.17
414	411	fill	ditch	slump	2	0	0.15
415	411	fill	ditch	disuse	1	0	0.12
417	416	fill	ditch	silting	1	0	0.03
418	416	fill	ditch	disuse	1	0	0.2
237	225	fill	ditch	disuse	1	0	0.32
236	225	fill	ditch	disuse	1	0	0.16
240	239	fill	pit	disuse	1	0	0.18
420	419	fill	ditch	slump	2	0	0.2
148	0	VOID	VOID		0	0	
422	419	fill	ditch	disuse	1	0	0.14
424	423	fill	post hole	disuse	1	0	0.29
425	419	fill	ditch	disuse	2	0	0.15
427	424	fill	post hole	disuse	1	0	0.2
142	141	fill	furrow	disuse	4	0	0.12
140	139	fill	ditch	disuse	1	0	0.2
138	137	fill	furrow	disuse	4	0	0.11
123	122	fill	pit	disuse	1	0	0.14
235	225	fill	ditch	disuse	1	0	0.32
402	401	fill	gully	disuse	3	0	0.24
394	393	fill	post hole	disuse	1	451	0.12
333	334	fill	furrow	disuse	4	0	

332	331	fill	furrow	disuse	4	0	0.08
396	395	fill	ditch terminus	disuse	1	0	0.13
330	329	fill	post hole	disuse	0	0	0.41
397	398	fill	gully terminus	disuse	1	0	0.06
328	327	fill	pit or posthole	disuse	0	0	
168	167	fill	gully	disuse	1	150	0.04
248	247	fill	ditch	disuse	2	0	0.15
302	289	fill	ditch	primary fill	3	0	0.31
412	411	fill	ditch	silting	1	0	0.07
406	405	fill	ditch	disuse	2	0	0.52
158	157	fill	gully	disuse	1	150	0.22
156	155	fill	gully	disuse	1	150	
408	407	fill	gully	disuse	3	0	
152	151	fill	ditch	disuse	1	150	
410	409	fill	gully terminus	disuse	3	0	0.2
160	159	fill	DRIP GULLY	disuse	1	150	0.15
149	0	VOID	VOID		0	0	
458	456	fill	ditch	disuse	1	0	0.2
400	399	fill	gully	disuse	3	0	0.18
465	463	fill	gully	disuse	3	0	0.23
281	282	fill	gully	disuse	0	0	0.22
301	300	fill	post hole	disuse	0	0	0.08
315	315	fill	pit	disuse	0	150	0.16
316	314	fill	pit	disuse	1	150	0.24
318	317	fill	drip gully	disuse	1	0	0.35
443	442	fill	ditch		2	0	0.4
319	320	fill	ditch	disuse	1	0	0.22
313	312	fill	drip gully	disuse	0	150	
321	322	fill	ditch	disuse	1	0	0.38
323	324	fill	ditch	disuse	1	0	
225	0	cut	ditch	boundary	1	0	0.92
382	381	fill	pit	disuse	3	0	0.3
325	326	fill	pit	disuse	0	0	

222	221	fill	ditch	disuse	1	0	0.28
231	230	fill	pit	disuse	1	0	
280	282	fill	gully	disuse	0	0	0.08
469	468	fill	tree throw	disuse	0	0	0.13
269	270	fill	ditch	disuse	1	0	0.1
293	292	fill	post hole	disuse	0	0	0.1
307	306	fill	pit	disuse	0	0	0.13
473	472	fill	gully	disuse	3	0	
438	437	fill	ditch	redep natural slump	1	0	0.05
305	286	fill	ditch	primary silting	3	0	0.15
462	461	fill	gully	disuse	3	0	0.2
297	296	fill	natural	unknwon	0	0	0.08
467	466	fill	gully		0	0	0.21
299	298	fill	pit	disuse	0	0	0.11
474	456	fill	ditch	disuse	2	0	0.45
463	459	fill	ditch	disuse	1	0	0.35
445	442	fill	ditch	disuse	2	0	0.2
475	456	fill	ditch	disuse	1	0	0.1
352	353	fill	pit	disuse	2	0	0.23
220	219	fill	pit	disuse	3	0	0.14
279	279	cut	ditch	enclosure	1	0	0.28
308	309	fill	post hole	disuse	0	150	0.11
304	286	fill	ditch	disuse	3	0	0.12
344	345	fill	gully	disuse	0	0	0.12
346	347	fill	ditch	disuse	3	0	0.52
285	284	fill	ditch	disuse	3	0	0.27
350	351	fill	pit	disuse	1	0	0.25
343	342	fill	ditch	disuse	3	0	
460	459	cut	ditch	disuse	2	0	0.15
354	355	fill	pit	disuse	0	0	0.18
361	360	fill	ditch	disuse	3	0	0.16
363	362	fill	ditch	disuse	3	0	0.42
480	479	fill	ditch	disuse	1	0	0.35
303	289	fill	ditch	silting up	3	0	0.3

364	365	fill	ditch	disuse	3	0		0.32
348	349	fill	gully	disuse	0	0		0.2
478	477	fill	post hole	disuse	1	0		0.26
310	311	fill	post hole	structural	1	150		0.09
431	430	fill	post hole	disuse	5	0		0.1
341	340	fill	post hole	disuse	0	0		0.12
433	432	fill	pit	disuse	1	0		0.15
435	434	fill	post hole		1	0		0.1
439	437	fill	ditch	slumping	1	0		0.28
101	0	layer		sub soil	0	0		0.15
284	286	fill	ditch	disuse	3	0		0.19
218	217	fill	ditch	disuse	3	0		0.16
215	213	fill	pit	redeposit ed natural	3	0	0.05	0.16
167	0	cut	gully	drainage gully	1	150	0.06	0.04
130	127	fill	ditch	slumping	1	0	0.15	0.54
296	296	cut	post hole	unknown	0	0	0.15	0.08
300	300	cut	post hole	unknown	0	0	0.17	0.08
398	398	cut	gully terminu s	unknown	1	0	0.19	0.06
358	0	cut	gully	UNKNOW N	1	0	0.21	0.06
477	477	cut	post hole	STRUCTU RAL	1	451	0.22	0.26
391	391	cut	gully	drainage	3	0	0.22	0.15
340	340	cut	post hole	unknown	0	0	0.23	0.12
434	0	cut	post hole		1	0	0.23	0.1
174	173	fill	pit	disuse	1	150	0.24	0.12
173	0	cut	post hole	structural	1	150	0.24	0.12
118	117	fill	ditch	slumping	1	0	0.24	0.09
395	395	cut	ditch	unknown	1	0	0.25	0.13
181	0	cut	post hole	structural	1	150	0.25	0.09
182	181	fill	post hole	disuse	1	150	0.25	0.09
194	193	fill	post hole	disuse	1	0	0.25	0.1
291	290	fill	pit	disuse	0	0	0.25	0.07
290	290	cut	pit	unknown	0	0	0.25	0.07
193	193	cut	post hole	structural	1	150	0.25	0.1

452	452	cut	post hole	fence	5	0	0.26	0.11
185	0	cut	post hole	structural	1	150	0.27	0.06
339	337	fill	gully	tip fill0.18	0	0	0.27	0.18
186	185	fill	pit	disuse	1	150	0.27	0.06
110	109	fill	post hole	disuse	1	0	0.28	0.12
109	109	cut	post hole	unknown	1	0	0.28	0.12
430	430	cut	post hole	fence	5	0	0.28	0.1
219	0	cut	pit	unknown	3	0	0.3	0.14
204	203	fill	post hole	disuse	1	0	0.3	0.12
170	169	fill	post hole	disuse	1	150	0.3	0.12
203	0	cut	post hole	unknown	1	0	0.3	0.12
407	407	cut	gully	enclosure	3	0	0.3	0.19
199	0	cut	post hole	unknown	1	0	0.3	0.08
262	261	fill	gully	disuse	1	0	0.3	0.11
200	199	fill	post hole	disuse	1	0	0.3	0.08
356	356	cut	ditch	unknown	1	0	0.3	0.2
169	0	cut	post hole	structural	1	150	0.3	0.12
106	104	fill	ditch	SILTING	3	0	0.3	0.14
180	179	fill	inner drip gully	disuse	1	150	0.3	0.2
470	470	cut	gully	drainage	3	0	0.3	0.15
471	470	fill	gully	disuse	3	0	0.3	0.15
228	227	fill	ditch	disuse	1	0	0.3	0.2
179	179	cut	gully	disuse	1	150	0.3	0.2
171	0	cut	gully	structural /drainage	1	150	0.3	0.12
172	171	fill	gully	disuse	1	150	0.3	0.12
261	261	cut	gully	drainage	1	0	0.3	0.11
466	466	cut	gully	drainage	3	0	0.3	0.21
411	411	cut	ditch	unknown	1	0	0.31	0.24
294	294	cut	pit	unknown	0	0	0.33	0.06
309	309	cut	post hole	structural	1	150	0.33	0.11
154	0	cut	gully	roundhouse drip gully	1	150	0.34	0.12
184	183	fill	post hole	disuse	1	150	0.34	0.08
183	0	cut	post hole	structural	1	150	0.34	0.08

153	154	fill	gully	disuse	1	150	0.34	0.12
314	314	cut	pit	unknown	1	150	0.34	0.4
389	389	cut	ditch	enclosure	3	0	0.35	0.15
306	306	cut	pit	unknown	0	0	0.35	0.13
159	159	cut	GULLY	R/H drainage	1	150	0.36	0.15
164	0	cut	post hole	structural	1	150	0.38	0.12
163	164	fill	post hole	disuse	1	150	0.38	0.12
320	320	cut	ditch	boundary	1	0	0.39	0.27
461	461	cut	gully	trackway drainage	3	0	0.4	0.2
239	239	cut	pit	unknown	1	0	0.4	0.18
367	367	cut	ditch	enclosure	3	0	0.4	0.42
216	213	fill	pit	disuse	3	0	0.4	0.18
401	401	cut	gully	unknown	3	0	0.4	0.24
190	189	fill	gully	disuse	1	150	0.4	0.25
189	0	cut	gully	drip gully	1	150	0.4	0.25
187	0	cut	gully	drainage	1	150	0.4	0.14
188	187	fill	post hole	disuse	1	0	0.4	0.14
191	191	cut	gully	inner drip gully	1	150	0.42	0.16
192	191	fill	inner gully	disuse	1	150	0.42	0.16
381	381	cut	pit	structural	3	0	0.45	0.3
267	267	cut	pit	industrial	3	0	0.45	0.21
177	177	cut	Gully	Drip Gully terminus	1	150	0.45	0.16
178	177	fill	Drip Gully Terminu s	disuse	1	150	0.45	0.16
409	409	cut	gully terminu s		3	0	0.45	0.2
266	267	fill	pit	unknown/ industrial	3	0	0.45	0.21
208	207	fill	gully	disuse	1	0	0.45	0.15
337	337	cut	gully	unknown	0	0	0.45	0.31
207	0	cut	gully	terminus	1	0	0.45	0.15
250	249	fill	gully	disuse	3	0	0.46	0.16
249	0	cut	gully	enclosure	3	0	0.46	0.16
464	464	cut	gully	drainage	3	0	0.46	0.23
454	454	cut	gully	drainage	4	0	0.46	0.13
399	399	cut	gully	unknown	3	0	0.46	0.18

298	298	cut	pit	unknown	0	0	0.46	0.11
312	312	cut	drip gully	drainage	1	150	0.46	0.14
292	292	cut	post hole	unknown	0	0	0.47	0.1
393	393	cut	post hole	structural	1	451	0.47	0.12
151	0	cut	ditch	round house drip gully	1	150	0.48	0.2
205	0	cut	pit	knknown	1	0	0.48	0.08
166	165	fill	pit	disuse	1	150	0.48	0.11
165	0	cut	post hole	structural	1	150	0.48	0.11
419	419	cut	ditch	unknown	2	0	0.49	0.2
162		cut	gully	disuse	1	150	0.49	0.11
161	160	fill	gully	disuse	1		0.49	0.11
345	345	cut	gully	enclosure	0	0	0.49	0.12
195	0	cut	ditch	trackway ditch	3	0	0.5	0.11
107	107	cut	gully	drainage	1	0	0.5	0.14
176	175	fill	drip gully	disuse	1	150	0.5	0.15
209	0	cut	pit	unknown	3	0	0.5	0.12
327	327	cut	pit or posthole	unknown possible structural /fencing	0	0	0.5	0.11
108	107	fill	gully	disuse	1	0	0.5	0.14
241	0	cut	pit	unknown	3	0	0.5	0.12
242	241	fill	pit	disuse	3	0	0.5	0.12
247	0	cut	ditch	agricultural or drainage	2	0	0.5	0.15
175	175	cut	Gully	Drip Gully Term.	1	150	0.5	0.15
331	331	cut	furrow	agricultural	4	0	0.5	0.08
472	472	cut	gully	drainage	3	0	0.5	0.22
139	139	cut	ditch	enclosure ?	1	0	0.5	0.2
383	383	cut	pit	unknown	3	0	0.5	0.14
468	468	cut	tree throw		0	0	0.5	0.13
360	360	cut	ditch		3	0	0.5	0.16
353	353	cut	pit	unknown	0	0	0.51	0.23
145	143	fill	ditch	slumping	3	0	0.54	0.34
326	326	cut	posthole	unknown	0	0	0.54	0.2
416	416	cut	ditch	unknown	1	451	0.54	0.28

263	263	cut	pit	drying/pr ocessing	3	0	0.55	0.21
311	310	cut	post hole	structural	1	150	0.55	0.09
349	349	cut	gully	enclosure	3	0	0.56	0.2
342	342	cut	ditch	enclosure	3	0	0.58	0.18
251	0	cut	gully	uncertain	3	0	0.6	0.18
129	127	fill	ditch	disuse	1	0	0.6	0.26
429	428	fill	post hole	disuse	1	0	0.6	0.1
357	356	fill	ditch	disuse	1	0	0.6	0.22
252	251	fill	gully	disuse	3	0	0.6	0.18
112	111	fill	gully	disuse	3	0	0.6	0.2
428	0	cut	post hole		1	0	0.6	0.1
102	102	cut	ditch	boundary	5	0	0.6	0.3
103	102	fill	ditch	disuse	5	0	0.6	0.3
426	426	cut	post hole	structural	1	0	0.6	0.2
111	111	cut	gully	unknown	3	0	0.6	0.2
155	0	cut	gully	roundhou se drip gully	1	150	0.62	0.16
432	432	cut	pit	unknow/i ndustrial?	1	0	0.62	0.15
254	254	cut	pit	drying?	3	0	0.65	0.35
230	0	cut	pit	unknown	1	0	0.65	0.08
329	329	cut	post hole	structural	0	0	0.65	0.41
355	355	cut	pit	unknown	0	0	0.68	0.18
253	252	layer	tree throw	disuse	0	0	0.7	0.09
376	376	cut	ditch	enclosure	3	0	0.7	0.44
317	317	cut	drip gully	drainage	1	150	0.7	0.35
211	0	cut	pit	unknown	3	0	0.7	0.12
476	475	layer	gully	lining	1	451	0.7	0.26
213	0	cut	pit	crop processin g?	3	0	0.7	0.18
259	259	cut	ditch	boundary	1	0	0.7	0.3
116	115	fill	ditch	disuse	1	0	0.7	0.26
115	115	cut	ditch	unknown	1	0	0.7	0.26
387	387	cut	ditch	enclosure	3	0	0.74	0.3
125	125	cut	pit	unknown	1	0	0.75	0.19
423	423	cut	post hole	structural	1	0	0.75	0.29

157	0	cut	gully	drip gully	1	150	0.75	0.22
124	123	fill	pit	disuse	1	0	0.75	0.19
197	197	cut	ditch	trackway gully?	3	0	0.75	0.19
223	0	cut	ditch	boundary	1	0	0.76	0.2
232	223	fill	ditch	disuse	1	0	0.76	0.2
351	351	cut	pit	unknown	2	0	0.77	0.25
282	282	cut	gully	unknown	3	0	0.8	0.28
132	131	fill	ditch	disuse	5	0	0.8	0.28
278	279	fill	ditch	enclosure	1	0	0.8	0.28
226	0	cut	ditch	boundary	1	0	0.8	0.2
146	146	cut	ditch	enclosure	3	0	0.8	0.26
147	146	fill	ditch	disuse	3	112	0.8	0.26
122	122	cut	pit	unknown	1	0	0.8	0.14
229	228	fill	ditch	disuse	1	0	0.8	0.28
238	226	fill	ditch	disuse	1	0	0.8	0.2
403	403	cut	ditch	enclosure	1	0	0.8	0.34
404	403	fill	ditch	disuse	1	0	0.8	0.34
385	385	cut	ditch	enclosure	3	0	0.82	0.46
277	277	cut	ditch	enclosure	1	0	0.9	0.36
276	277	fill	ditch		1	0	0.9	0.36
270	270	cut	ditch	boundary	1	0	0.9	0.38
217	0	cut	gully	unknown	3	0	0.9	0.16
221	221	cut	ditch	boundary	1	0	0.96	0.28
144	143	fill	ditch	disuse	3	0	0.96	0.6
334	334	cut	furrow	agricultural	4	0	0.97	0.08
369	369	cut	ditch	enclosure	2	0	1	0.64
335	335	cut	ditch	unknown	0	0	1	0.16
362	362	cut	ditch	enclosure	3	0	1.04	0.42
324	324	cut	ditch	boundary	1	0	1.06	0.36
322	322	cut	ditch	boundary	1	0	1.07	0.38
120	0	cut	ditch	boundary	1	0	1.1	0.28
227	0	cut	ditch	boundary /unknown	1	0	1.1	0.28
121	120	fill	ditch	disuse	1	0	1.1	0.28
365	365	cut	ditch	enclosure	3	0	1.12	0.32
104	104	cut	ditch	boundary	3	0	1.18	0.52

105	104	fill	ditch	disuse	3	0	1.18	0.38
245	245	cut	furrow	agricultural	4	0	1.2	0.09
274	275	fill	ditch	disuse	1	0	1.2	0.11
243	0	cut	ditch	unknown	3	0	1.2	0.17
137	137	cut	furrow	agricultural	4	0	1.2	0.11
374	374	cut	ditch	enclosure	3	0	1.2	0.5
202	201	fill	pit	disuse	1	0	1.2	0.2
141	141	cut	furrow	agricultural	4	0	1.2	0.12
201	0	cut	pit	unknown	1	0	1.2	0.2
283	286	fill	ditch	upper silting	3	0	1.2	0.32
134	133	fill	pit	disuse	5	0	1.24	0.1
133	133	cut	pit	unknown	1	0	1.24	0.1
114	113	fill	ditch	disuse	1	0	1.25	0.27
113	113	cut	ditch	enclosure	1	0	1.25	0.27
143	143	cut	ditch	enclosure	3	0	1.26	0.64
286	0	cut	ditch	boundary	3	0	1.29	0.72
379	379	cut	ditch	enclosure	3	0	1.3	0.63
288	289	fill	ditch	silting	3	0	1.35	0.62
258	257	fill	ditch	disuse	1	0	1.48	0.34
257	257	cut	ditch	boundary	1	0	1.48	0.34
233	224	fill	ditch	disuse	1	0	1.5	0.36
373	373	cut	ditch	enclosure	1	0	1.58	0.53
479	479	cut	ditch	boundary	1	0	1.6	0.35
347	347	cut	ditch	enclosure	3	0	1.67	0.52
128	127	fill	ditch	disuse	2	0	1.7	0.88
127	127	cut	ditch	boundary	1	0	1.7	1.02
405	405	cut	ditch	enclosure	2	0	1.8	0.52
131	131	cut	ditch	boundary	5	0	1.8	0.28
224	0	cut	ditch	boundary	1	0	1.9	0.76
234	224	fill	ditch	disuse	1	0	1.9	0.4
289	289	cut	ditch	boundary	3	0	1.97	0.91
271	275	fill	ditch	disuse	1	0	2	0.14
273	275	fill	ditch	disuse	1	0	2.04	0.6
442	442	cut	ditch	enclosure	2	451	2.12	0.56
275	275	cut	ditch		1	0	2.13	0.64

119	117	fill	ditch	silting	1	0	2.2	0.29
117	0	cut	ditch	boundary	1	0	2.2	0.38
136	135	fill	furrow	disuse	4	0	2.2	0.16
126	117	fill	ditch	re-dep natural	1	0	2.2	0.38
135	135	cut	furrow	agricultur al	4	0	2.2	0.16
272	275	layer	ditch	manuring ?	1	0	2.4	0.12
459	459	cut	ditch	enclosure	2	0	2.54	
437	437	cut	ditch	enclosure	1	0	3.12	0.9
456	456	cut	ditch	enclosure	1	0	3.7	1.02
481	436	fill	pit	disuse	0	0	5	0.2
436	436	cut	pit	quarrying	5	0	5	0.2
150	0		structur e	domestic	1	0	12	

APPENDIX E HEALTH AND SAFETY

E.1.1 All OA post-excavation work will be carried out under relevant Health and Safety legislation, including the Health and Safety at Work Act (1974). A copy of the Health and Safety Policy can be supplied. The nature of the work means that the requirements of the following legislation are particularly relevant:

- Workplace (Health, Safety and Welfare) Regulations 1992 – offices and finds processing areas
- Manual Handling Operations Regulations (1992) – transport: bulk finds and samples
- Health and Safety (Display Screen Equipment) Regulations (1992) – use of computers for word-processing and database work
- COSHH (1988) – finds conservation and environmental processing/analysis

APPENDIX F OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3 - 333256		
Project Name	Iron Age Settlement and Roman Fields at Rockmill End, Willingham		
Start of Fieldwork	11/01/2018	End of Fieldwork	24/03/2018
Previous Work	Yes	Future Work	No

Project Reference Codes

Site Code	WILROK18	Planning App. Number	S/2833/15/OL
HER Number	ECB 5306	Related Numbers	N/A

Prompt	Planning condition
Development Type	Housing Estate

Techniques used (tick all that apply)

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

Monument	Period	Object	Period
Ditch	Late Iron Age (- 100 to 43)	Pottery	Late Iron Age (- 100 to 43)
Ditch	Roman (43 to 410)	Pottery	Roman (43 to 410)
Roundhouse	Late Iron Age (- 100 to 43)	Pottery	Late Prehistoric (- 4000 to 43)
Posthole	Late Iron Age (100 – 43)	Pottery	Post Medieval (1500 – 1750)
Ditch	Post Medieval (1540 - 1901)	Tile	Roman (43 – 410)
Furrow	Medieval (1066 – 1540)	Animal Bone	Late Iron Age (100 – 43)

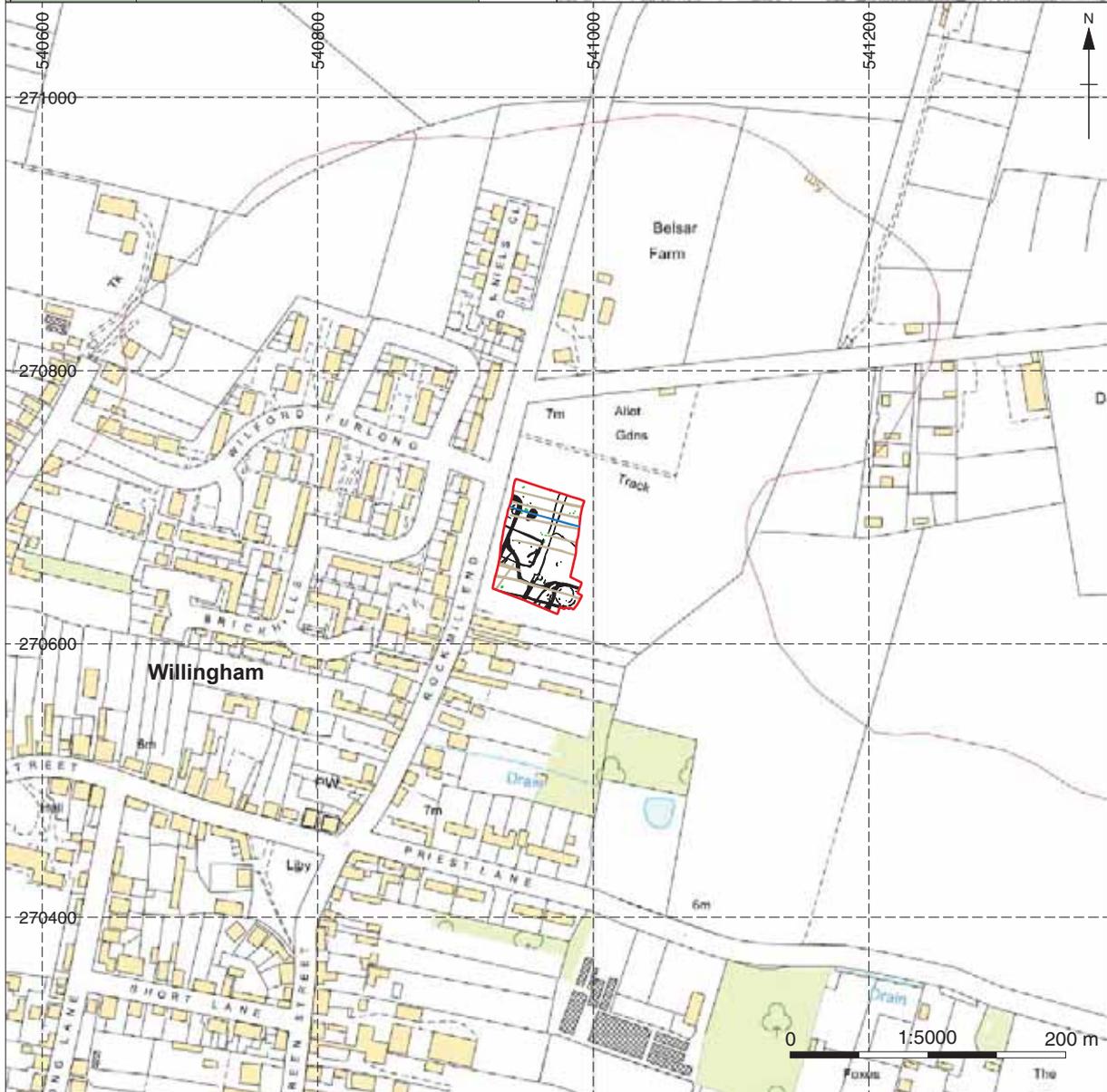
Insert more lines as appropriate.

Project Location

County	Cambridgeshire	Address (including Postcode) Land off Rockmill End, Willingham, CB24 5HY
District	South Cambs	
Parish	Willingham	
HER office	Cambridgeshire	
Size of Study Area	0.5 ha	
National Grid Ref	TL 4094 7067	

Project Originators

Organisation	OAE
Project Brief Originator	Gemma Stewart
Project Design Originator	Rob Wiseman
Project Manager	Stephen Macaulay
Project Supervisor	Paddy Lambert



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Figure 1: Site location showing archaeological features (black) in development area (red)



Figure 3: Trench plan

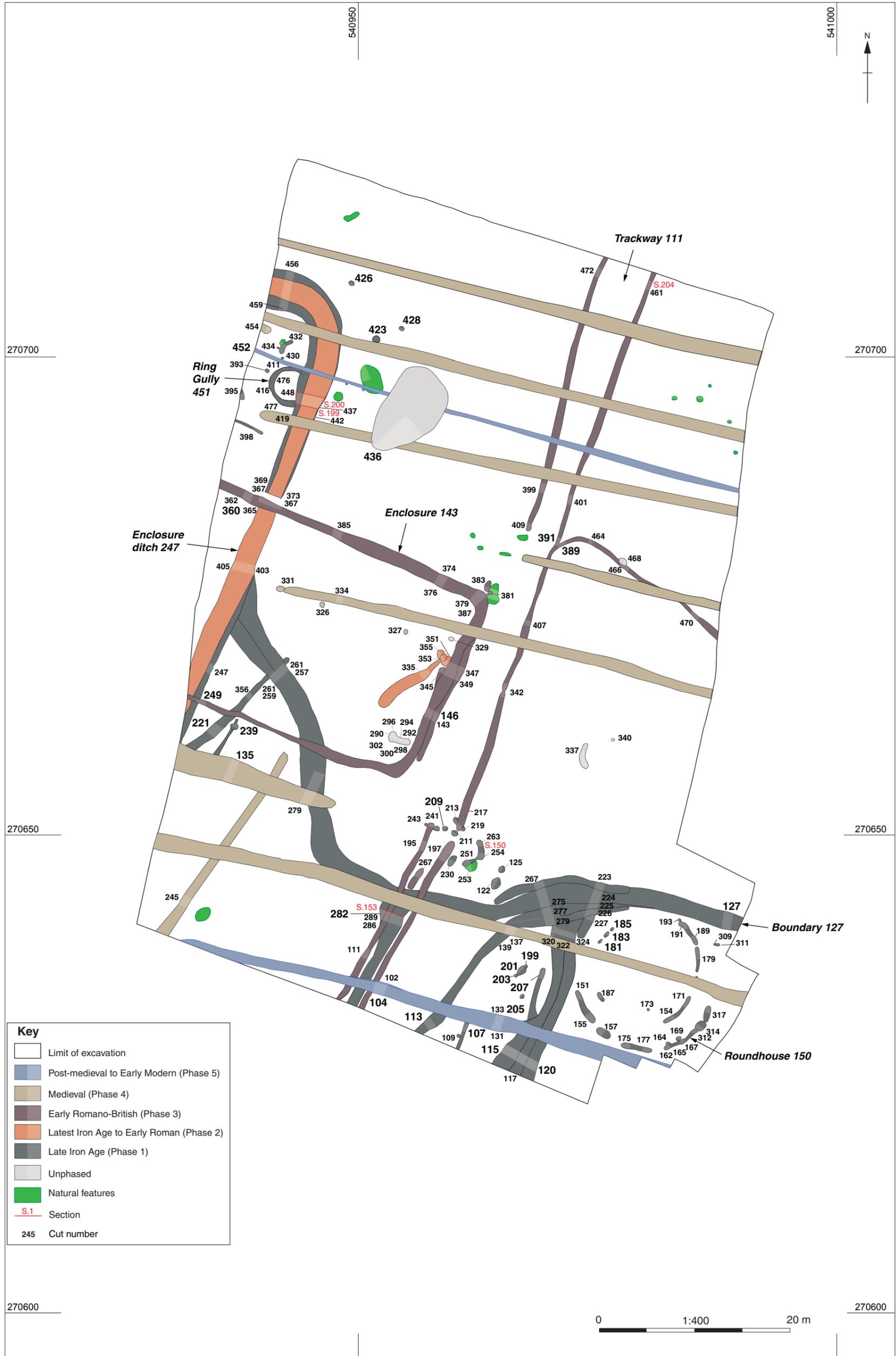


Figure 3: Phase plan

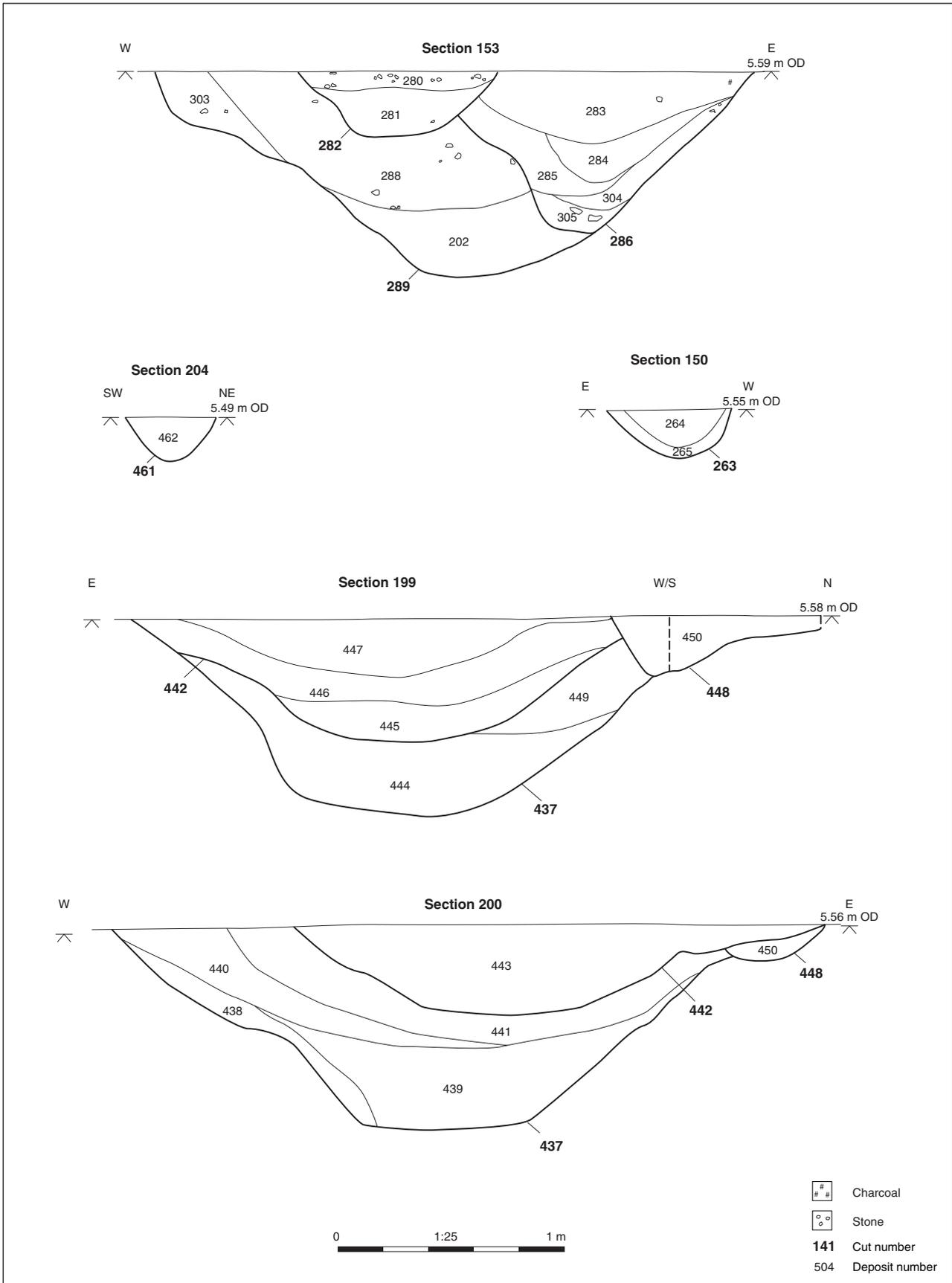


Figure 4: Selected sections. Scale 1:25



Plate 1: Site conditions looking north-east



Plate 2: Boundary Ditch 127



Plate 3: Ring Ditch 451 looking east



Plate 4: Enclosure Ditch 385 looking north-west



Plate 5: Enclosure ditch 437 and recut 442 looking north



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