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## Main Street, Great Casterton Rutland

Final Report



Planning Ref: 2020/0706/FUL
Accession Code: OAKRM:2021.7
Ref: 247882.01
March 2023

## wessexarchaeology

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Unit R6
Sheaf Bank Business Park
Prospect Road
Sheffield
S2 3EN

## www.wessexarch.co.uk

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## Document Information

| Document title | Main Street, Great Casterton, Rutland |
| :---: | :---: |
| Document subtitle | Final Report |
| Document reference | 247882.1 |
| Commissioned by | Oakwood Homes |
| Address | Construction House <br> Fengate <br> Peterborough <br> PE1 5BH |
| Site location | Main Street, Great Casterton, PE9 4AU |
| County | Rutland |
| National grid reference (NGR) | 499951309211 (SK 99951 09211) |
| Planning authority | Rutland County Council |
| Planning reference | 2020/0706/FUL |
| Museum name | Rutland Museum |
| Museum accession code | OAKRM: 2021.7 |
| OASIS Id | wessexar1-502991 |
| WA project codes | 247881 and 247882 |
| Date of fieldwork | 4-17 November 2021 |
| Fieldwork directed by | Gwen Naylor |
| Assisted by | Chris Warburton, Frances Garnett and Justin Ayres |
| Project management by | John Winfer |
| Document compiled by | Clare Jackson-Slater |
| Contributions from | Dr Ed Treasure and Megan Scantlebury (environmental) |
| Graphics by | Nancy Dixon |
| Document edited by | Andrew Valdez-Tullett |
| Quality Assurance |  |
| Issue Date | Author Approved by |
| 1 28/03/2023 | CJS $\leqslant$ SO |

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## Summary

Wessex Archaeology was commissioned by Class Q Ltd. to undertake archaeological mitigation works on a parcel of land measuring approximately covering $600 \mathrm{~m}^{2}$ located on Main Street, Great Casterton, Rutland (NGR 499951 309211). The work was carried out as a condition of planning permission, granted by Rutland County Council (2020/0706/FUL). This final assessment report was commissioned by Oakwood Homes and was produced following recommendations in the initial postexcavation document that further analysis of the finds and environmental assemblages should be undertaken.

The majority of the archaeological remains were Romano-British in date and comprised ditches and pits. The period was divided into two phases of activity, through pottery dating, scientific dating, and stratigraphic relationships. The first phase of activity comprised two parallel ditches, probably boundary ditches, with a small drainage offshoot from the northern ditch. A large pit, which was cut by a drainage gully, was also included in this phase along with a smaller pit, possibly associated with crop drying activities. Two small areas of burning were also dated to this phase. Finds from these features date the phase to the early Roman period, from AD 41 to the 2nd century AD, with two samples, one from the small pit and one from a burnt area, radiocarbon dated to the 2nd century AD (UBA-49740, $1946 \pm 26$ BP and UBA-49741, $1977 \pm 21$ BP). The second phase of activity comprised a further ditch, on a different alignment, and a rubbish pit, both cutting into or across the earlier features. Finds from these features provide a late Romano-British date, up to the 4th century AD, while a sample from the rubbish pit was radiocarbon dated to the mid-3rd-4th century (UBA-49742, $1700 \pm 22 \mathrm{BP}$ ).

Other remains include two ditches dating to the post-medieval/modern period. The finds assemblage is modest but provides good dating for most features. The pottery and animal bone assemblages provide evidence of domestic activity, whilst the environmental remains provide evidence of local industry, particularly crop processing and production of malt to brew ale. Interesting artefacts recovered from the Roman features include two coins, a copper toilet implement and a glass bead.

The finds and archaeological remains provide a picture of a site on the periphery of settlement and industrial activity, with little occurring on the site itself. The exception to this is the small and large pits in the first phase, which have tentatively been associated with local agriculture and the pottery making industry. This follows the pattern of previous nearby excavations with Roman kilns and crop driers uncovered to the immediate east (Hunt 2011) and north-east (Archaeological Solutions 2005). It is possible that the large pit was initially used for clay extraction or puddling, before later being reused for refuse disposal. This interpretation is limited as there is little evidence to support this supposition beyond the pit's location, size, and shallow profile. The possible crop drying pit contained evidence of malt production; a similar pit, with a lining of stone was recorded at the school kiln site (Hunt 2011), though there was no conclusion to its function or date.

Overall, the remains are typical for the period and region. The small size of the site, the low number of features, and the fact it seems to be on the periphery of any Romano-British activity means it has limited archaeological significance. The findings, however, do contribute to the picture of the Romano-British town at Great Casterton and provides an insight to the lifestyle of the inhabitants.

## Acknowledgements

Wessex Archaeology would like to thank Oakwood Homes, for commissioning the final report, in particular Matthew Meek. Wessex Archaeology is also grateful for the advice of the Senior Planning Archaeologist, who monitored the project for Leicestershire City Council.

# Main Street, Great Casterton, Rutland 

Final Report

## 1 INTRODUCTION

### 1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by Class Q Ltd. to undertake archaeological mitigation works comprising a strip, map and sample excavation on a parcel of land measuring approximately $600 \mathrm{~m}^{2}$ located off Main Street, Great Casterton, Rutland, PE9 4AU. The work was centred on NGR 499951309211 (Fig. 1).
1.1.2 The work was carried out as a condition of planning permission, granted by Rutland County Council (2020/0706/FUL), for the construction of four residential two-storey dwellings, an access road, a public footpath and children's play area. The Senior Planning Archaeologist (SPA) at Leicestershire County Council recommended that prior to determination the applicant should carry out:

A field evaluation, by appropriate techniques including trial trenching, as identified necessary in the desk-based assessment [Witham Archaeology Report no.370], to identify and locate any archaeological remains of significance and propose suitable treatment to avoid or minimise damage by the development. Further design, civil engineering or archaeological work may then be necessary to achieve this.
1.1.3 The excavation was preceded by archaeological works consisting of a desk-based assessment (Witham Archaeology 2020) and an archaeological evaluation (Fig. 1) which comprised the excavation, investigation and recording of four trial trenches (each measuring 20 m by 1.5 m ), equating to a $5.5 \%$ sample of the proposed development area (Wessex Archaeology 2021a).
1.1.4 The excavation was undertaken in accordance with a written scheme of investigation (WSI), which detailed the aims, methodologies and standards to be employed, for both the fieldwork and the post-excavation work (Wessex Archaeology 2021b). The SPA approved the WSI, on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing. The excavation was undertaken 4-17 November 2021.

### 1.2 Scope of the report

1.2.1 This report provides further analysis of the results of the excavation, and the preceding evaluation, and assesses how the results address the research aims outlined in the updated project design (Wessex Archaeology 2022). It has been produced following recommendations made in the initial post-excavation assessment document (ibid.) that further analysis of the samian pottery, charred plant remains and charcoal should be undertaken, along with radiocarbon dating of specific samples. The purpose of the recommended analysis was to better realise the potential of these aspects of the excavation results to contribute to project aims and objectives.

### 1.3 Location, topography and geology

1.3.1 The excavation area is located in the northern part of the village of Great Casterton, which lies approximately 3.5 km north-west of Stamford. The site is bounded to the north by Great Casterton Osteopathy Clinic, to the east by Pickworth Road, to the south by Main Street and to the west by domestic dwellings on Ermine Rise. The site was formerly a beer garden and bowling green.
1.3.2 Existing ground levels lie approximately 45 m OD.
1.3.3 The bedrock geology is Limestone of the Lower Lincolnshire Member, with no superficial deposits (British Geological Survey 2023).

## 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

### 2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (Witham Archaeology 2020), which considered the recorded historic environment resource within a 1 km study area of the proposed development. A summary of the results is presented below, with relevant entry numbers from the Leicestershire Historic Environment Record (LHER) and the National Heritage List for England (NHLE) included. Additional sources of information are referenced, as appropriate.

### 2.2 Previous works related to the development

Walkover survey (2020)
2.2.1 Witham Archaeology undertook a walkover survey of the site in May 2020. The survey identified evidence of significant landscaping at the east of the site as well as evidence of a demolished building (Witham 2020).

Archaeological evaluation (2021)
2.2.2 Archaeological remains were encountered in two of the four trenches. Romano-British field boundary ditches were exposed in the two western trenches (Fig. 1). The eastern two trenches were sited within an area previously remodelled for a bowling green and were archaeologically sterile (Wessex Archaeology 2021a).
2.2.3 Pottery recovered from the ditches, subsoil and topsoil dated to between the 2nd and 4th centuries AD. A small quantity of animal bone was also found.
2.2.4 Remains of cereal crops, namely spelt, barley and oats, were present in the environmental samples taken from the features on the site.
2.2.5 The archaeological remains probably relate to the former cultivation of the site, which appears to have lain within the agricultural hinterland of the Romano-British precursor to Great Casterton.

### 2.3 Archaeological and historical context <br> Prehistoric (AD 43 and earlier)

2.3.1 Three heritage assets of prehistoric date were identified by the LHER. North-east of the proposed area of development, three undated crouched burials were identified during an excavation. The burials are thought to date from the Iron Age or early Romano-British period.
2.3.2 Prehistoric (possibly Iron Age) cropmarks (MLE5471) identified from aerial photographs lie east of the site. The cropmarks include a single enclosure, a ditch, pits and possible ring ditch.
2.3.3 A possible Bronze Age ring ditch (MLE5798) was identified in aerial photographs to the south-west of the site, south of Inthorpe.

Romano-British (AD 43-410)
2.3.4 Twenty-three Romano-British heritage assets recorded by the LHER fall within a 1 km radius of the site, all located in and around Great Casterton.
2.3.5 The village of Great Casterton lies on the site of a Roman town that was located on a major Roman road (now known as Ermine Street (MLE5748)) connecting London to Lincoln and York. The settlement lay within a loop of the River Gwash, north of the road crossing. The proposed area of development is located in the northern part of the village, near the intersection of Main Street and Pickworth Road, just outside the Roman town enclosure ditch and close to a Roman and Anglo-Saxon cemetery to the north-east.
2.3.6 A second Roman road, the north to south aligned Tixover Road (MLE5425), connected Great Casterton to at least Tixover to the south. This passes to the east of the site.
2.3.7 A Roman fort is visible as cropmarks in the field west of the Ryhall Road. The fort was established in the AD 40s, contracted in the AD 70s and was disused by the AD 80s. Southwest of the fort a Roman town developed, covering 7.3 ha, and surrounded by a defensive earthwork dating from the late 2nd to early 3rd century and reorganised with the construction of stone bastions in the 4th century. North of the ramparts, a Roman cemetery and pottery kilns have been identified.
2.3.8 Excavations within the Roman town have identified evidence of a 1st-century bathhouse and other successive timber-framed structures. A primitive iron smelting hearth was also found.

Early medieval (AD 410-1066)
2.3.9 There are three heritage assets of Saxon date within 1 km of the site. The nearest is an Anglo-Saxon cemetery (MLE5305) located to the north of the Roman Town. During an emergency excavation undertaken during road widening works at Rhyhall Road in 1966 (ELE1676), 35 cremations and 15 inhumations were recorded, and several Anglo-Saxon finds recovered.
2.3.10 Great Casterton is mentioned in the Domesday Book of 1086, which indicates that there was a settlement present at least in the late Saxon period.

Medieval (AD 1066-1540)
2.3.11 Ten heritage assets of medieval date are recorded by the LHER within the search area. The site is located within the medieval core of Great Casterton.
2.3.12 Great Casterton was held by Earl Morcar before the 1066 Norman conquest and in 1086 was held by Hugh, son of Baldric from the king (Open Domesday 2023). The holding included 24 villagers, a 16 acres meadow and a mill. Although the church of St Peter and St Paul was mostly built in the 13th century, there are elements of the fabric that indicate the structure was extant in the Norman period.

Post-medieval (AD 1540-1900)
2.3.13 Four heritage assets of post-medieval date were recorded by the LHER search within 1 km of the site. A post-medieval malting kiln is recorded (MLE5291) to the north of St Peter and Paul church. To the south of the site a turnpike road was identified (MLE20651), it was established in 1738-9. Structural remains of 17th to 18th-century cottages (MLE19782) were revealed at 3 Main Street during trial trenching. North-west of the assessment area at Tickencote, a possible post-medieval mill pond (MLE20689) was foundl.
2.3.14 The 1887 First Edition Ordnance Survey map shows the site occupied by houses fronting Pickworth Road and structures to the rear on the eastern part of the development area. Three small allotments occupy the rest of the site.

## 3 AIMS AND OBJECTIVES

### 3.1 Aims

3.1.1 The general aims of the excavation, as stated in the WSI (Wessex Archaeology 2021b) and in compliance with the Chartered Institute for Archaeologists' Standard and Guidance for Archaeological Excavation (CIfA 2014a), were to:

- examine the archaeological resource within a given area or site within a framework of defined research objectives;
- seek a better understanding of the resource;
- compile a lasting record of the resource; and
- analyse and interpret the results of the excavation and disseminate them.


## 4 METHODS

### 4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2021b) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The post-excavation assessment and reporting followed advice issued by the Association of Local Government Archaeological Officers (ALGAO 2015). The methods employed are summarised below.
4.1.2 The fieldwork comprised the excavation, investigation and recording of remains within a single area measuring approximately $600 \mathrm{~m}^{2}$ (Fig. 1). The mitigation area focused on the west of the proposed development area, where archaeological evaluation had revealed Romano-British ditches. The evaluation demonstrated that the eastern side of the site had suffered disturbance and consequently there was a low likelihood for archaeological remains to survive there.
4.1.3 The mitigation area had to be adjusted slightly due to the presence of a greenhouse and large shed in its north-east corner, preventing excavation taking place in that location.
4.1.4 Further obstructions prevented excavation within its south-east corner.
4.1.5 The SPA for the LPA was informed of these changes to the mitigation area.

### 4.2 Fieldwork methods

## General

4.2.1 The excavation area was set out using a Global Navigation Satellite System (GNSS), in the same position as that proposed in the WSI (Fig. 1) - apart from the adjustments noted above. The topsoil/overburden was removed in level spits using a $360^{\circ}$ excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded in level spits until the archaeological horizon or the natural geology was exposed.
4.2.2 Where necessary, the surfaces of archaeological deposits were cleaned by hand. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the excavation. A sample of natural features, such as tree-throw holes, was also investigated.
4.2.3 Spoil derived from machine stripping and hand-excavated archaeological features was visually scanned for the purposes of finds retrieval. A metal detector was also used. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th-century or later) were recorded on site and not retained.

## Recording

4.2.4 All archaeological features and deposits were recorded using Wessex Archaeology's pro forma recording system. A complete record of excavated features and deposits was made, including plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid.
4.2.5 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of at least 50 mm .
4.2.6 A full photographic record was made using digital cameras equipped with an image sensor of not less than 16 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

### 4.3 Finds and environmental strategies

4.3.1 Strategies for the recovery, processing and assessment of finds and environmental samples were in line with those detailed in the WSI (Wessex Archaeology 2021b). The treatment of artefacts and environmental remains was in general accordance with: Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (CIfA 2014b), Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (English Heritage 2011) and CIfA's Toolkit for Specialist Reporting (Type 2: Appraisal).

### 4.4 Radiocarbon dating

4.4.1 The radiocarbon dates have been calculated using the calibration curve of Stuiver and Reimer (1993) and the computer program OxCal (v4.4) (Bronk Ramsey 2009). Calibrated dates are reported at the $95 \%$ probability level, with end points rounded outwards to 10 years.

### 4.5 Monitoring

4.5.1 The SPA monitored the works on behalf of the LPA. Any variations to the WSI, if required to better address the project aims, were agreed in advance with the client and SPA.

## 5 STRATIGRAPHIC EVIDENCE

### 5.1 Introduction

Summary of archaeological features and deposits
5.1.1 With the exception of its north-east section, archaeological remains were present and well distributed across the entirety of the site. The archaeological remains encountered were Romano-British in date and chiefly comprised ditches, gullies, and pits.
5.1.2 Three main phases (Fig. 2) have been identified through excavation, dating of artefacts and stratigraphic relationships:

- Early to mid-Romano-British (mid- 1st-2nd century)
- Late Romano-British (3rd-4th century)
- Post-medieval/modern (AD 1500-present)


## Methods of stratigraphic assessment and quantity of data

5.1.3 All handwritten and drawn records from the excavation have been collated, checked for consistency and stratigraphic relationships. Key data has been transcribed into a database, which can be updated during any further analysis. Preliminary phasing of archaeological features and deposits was principally undertaken using stratigraphic relationships and the spot dating from artefacts, particularly pottery.

### 5.2 Soil sequence and natural deposits

5.2.1 The natural substrate typically consisted of a mid-orange brown silty clay with regular small to medium sized limestone inclusions. There was a slight variation in the underlying geology in the eastern part of the site where it became more yellow brown in colour and the limestone bedrock was more apparent, with features cut into it.
5.2.2 A mid-yellow brown subsoil was visible to depths of 0.70 m .
5.2.3 A dark grey brown silty clay topsoil was present across site at depths up to 0.35 m .
5.2.4 The depths of the overlying soil can be attributed to the build-up and use of the land over time, particularly through the modern uses as a beer garden and any activity related to the construction and destruction of the bowling green to the east.

### 5.3 Phase 1: Early to mid-Romano-British

5.3.1 The stratigraphically earliest arrangement of features on the site consists of parallel ditches 1061 and 1062, drainage gullies 1021 and 1060, pit 1004 and large refuse pit 1043. At the end of this phase two possible episodes of burning took place on top of pit 1043 and gully 1060. The ditches were possibly the boundaries of an early field system/enclosure which went out of use during the 2nd century.
5.3.2 Pit 1004 lay near the eastern edge of the site and measured 1.1 m by 0.82 m , with a depth of 0.36 m . It had a stone lining at the base with charcoal-rich deposit 1006 above, presumed
to be the product left from a fire. The burnt deposit contained remnants of charred and calcined bone ( 1 g ), along with charred cereals ( $47 \%$ germinated) and local wild plants, and predominantly non-oak wood charcoal. The high proportion of germinated cereal grains suggests the pit was used in the malting process or possibly as a crop drier. The pit was capped with redeposited natural 1007 from the adjacent pit 1008 that appeared to have been purposefully dug to cap the pit (Fig. 3A; PI. 1). Pottery (ten sherds, 207 g ) recovered from fills 1006 and 1007 dated to the 2nd century and a glass bead (Fig. 4B) was recovered from fill 1006. A radiocarbon date from a charred spelt wheat grain (fill 1006) has provided a date of 40 cal. BC-cal. AD 210 (UBA-49740, $1946 \pm 26$ ), supporting the pottery dating evidence.
5.3.3 Ditch 1062 ran 8.9 m from the eastern bulk of the mitigation area, on a WNW-ESE alignment, and terminated in the west. The greatest recorded depth was 0.42 m in the east (Fig. 3B; PI. 2), reducing to 0.10 m at the terminus. Pottery (seven sherds, 67 g ) recovered from the ditch dated to the late 2nd to early 3rd century; animal bone ( 16 fragments, 267 g ), an iron nail ( 1 g ), and iron smelting slag ( 103 g ) were also recovered. An environmental sample from the ditch contained a small number of charred cereal grains.
5.3.4 In the east, gully 1021 was dug into the top of ditch 1062 (Fig. 3C; PI. 3), probably for drainage purposes. As it terminated 2.4 m north-west of the ditch, was only 0.10 m deep and 0.43 m wide it was unlikely to have been a boundary ditch. Pottery ( 19 sherds, 147 g ) dating to the 2 nd century was recovered from the fill, along with animal bone (six fragments, 12 g ) and a bone spindle whorl ( 11 g ; Fig. 4D.2).
5.3.5 Ditch 1061 ran for 18 m along the southern border of the mitigation area, parallel to ditch 1062 with a 5 m gap. The fills of the two ditches were similar, suggesting that they were filled in around the same time. The ditch was fairly shallow with the maximum recorded depth at 0.22 m , and a maximum recorded width of 1.42 m . The fill was generally a midorange brown with certain points being mottled with a mid-grey brown clay, likely from gradual filling at different points in time (Pls 4,5 and 6 ). Pottery ( 49 sherds, 437 g ) recovered from the fill dated from the 2nd century onwards; animal bone ( 18 fragments, 113 g ), CBM (seven fragments, 609 g ), an iron nail ( 8 g ), iron smelting slag ( 40 g ) and a worked bone toggle ( 6 g ; Fig. 4D.1) were also recovered from the ditch, along with a small number of charred cereal grains and charcoal.
5.3.6 Due to the limit of excavation, refuse pit 1043=1058 was not fully uncovered. The diameter at the widest visible point was 7.54 m and the maximum depth recorded was 0.5 m . Pit 1043 contained three fills: a primary fill 1057 evident only on the eastern side, dumping deposit 1044 and a capping deposit of redeposited natural 1045=1054 (Fig. 3G; PI. 6). The profile of the fills suggest that the pit was left open after it was initially constructed, allowing for the eastern edge of the pit to erode and silt up. The pit was then used for refuse disposal, until it was capped off to fully backfill and level the ground. Bar a copper alloy toilet implement within capping deposit 1045, all finds from the feature came from dumping deposit 1044. Pottery ( 289 sherds, $7,441 \mathrm{~g}$ ) provides an early to mid-2nd-century date for the refuse disposal, however the recovery of two late 1st-century AD coins suggests that an early 2ndcentury date is more likely. In addition, animal bone ( 71 fragments, 399 g ), an iron nail ( 5 g ) and a piece of crumpled lead ( 47 g ) were recovered from the fill. An environmental sample collected from fill 1044 contained moderate amounts of charred cereals and wood charcoal. The primary function of the large pit 1043 is unclear, though its size suggests clay extraction. Artefacts and ecofacts recovered from the fills suggest it became a convenient receptacle of the nearby settlement's refuse once it had gone out of use.
5.3.7 Gully 1060 was cut into and followed the eastern edge of pit 1043, indicating it was purposefully dug to respect the feature. It then curved and extended on a north-west to south-east alignment until it met ditch 1059. The gully was possibly used for drainage, as the cut deepened from 0.25 m at the terminus to 0.5 m at the north. The gully was recorded during the evaluation (107 and 108). Unlike other features on the site, artefacts were scarce from the gully, with only a single sherd ( 66 g ) of shell-tempered Romano-British pottery recovered during the evaluation, from context 106 (Wessex Archaeology 2021a).
5.3.8 Two possible occurrences of in situ burning, 1014 and 1015, were located in the north-west; one (1014) located directly on top of pit 1043 and the other (1015) above gully 1060. Due to their close proximity, it is likely that they occurred around the same time. Both consisted of a charcoal-rich deposit sat upon heat affected clay; the charcoal comprised mainly oak, a valuable fuel source in the Romano-British craft industry. Sherds of Romano-British pottery (four sherds, 12 g ) and burnt animal bone ( 11 fragments, 5 g ) were also recovered from the deposits. A radiocarbon date from a fragment of charcoal (1014) has provided a date of cal. AD 1-160 (UBA-49741, $1977 \pm 21$ BP).

### 5.4 Phase 2: Late Romano-British

5.4.1 Phase 2 saw the addition of new features to the site, with a change in orientation of ditches, shifting from east-west, to a north-west to south-east orientation. A refuse pit was also present, suggesting a continuation of occupation near the site during this phase. Dating from ditch 1059 and pit 1034 showed the features were filled in the late Romano-British period.
5.4.2 Ditch 1059 was aligned north-west to south-east and cut ditch 1061 in the south-east (PI. 4) and cut pit 1043 in the north-west (Fig. 3H). Its maximum depth recorded was 0.27 m , making it a fairly shallow feature (Figs 3E and 3F; Pl. 7). The ditch was recorded during the evaluation (104). Pottery ( 26 sherds, 546 g ) dating to the late Romano-British period was recovered from the fill, along with animal bone ( 12 fragments, 246 g ), fired clay ( 17 g ) and an oyster shell ( 25 g ).
5.4.3 A large pit, 1034, measuring 2.39 m by 1.77 m by 0.94 m deep was located along the southern edge of the site, cutting into the terminal of ditch 1061 (Fig. 3D). It contained numerous fills of dumped material and finds suggesting that the pit was used to discard material (PI. 5). Artefacts include animal bone ( 37 fragments, $1,462 \mathrm{~g}$ ), iron nails (six nails, $48 \mathrm{~g})$, iron smelting slag ( 97 g ), a possible stone tile ( 130 g ), and Romano-British pottery ( 48 sherds, 942 g ), mainly dating to the 2 nd to 3 rd-centuries, but also including a 4th-century jar from the lower fill 1036. Charred and mineralised cereal grains and local wild plants were also recovered from the primary fill. A radiocarbon date from a charred wheat grain (1036) provided a date of cal. AD 250-420 (UBA-49742, $1700 \pm 22$ ).

### 5.5 Phase 3: Post-medieval/modern

5.5.1 Gully 1031 was only visible for 2.7 m from the southern bulk running north-west. It cut pit 1034 and ditch 1061 (PI. 5) before terminating within pit 1034. Romano-British and postmedieval material, the latter including a possible gaslight fitting, was recovered from gully 1031. The feature had been deliberately capped off with a thin layer ( 0.09 m ) of degraded and possibly heat-affected red sandstone.
5.5.2 A NNW-SSE aligned ditch, measuring only 0.07 m deep, and containing modern material was recorded during the evaluation. No further evidence of the ditch was uncovered or recorded during the excavation.

## 6 FINDS EVIDENCE

### 6.1 Introduction

6.1.1 The finds assemblage mostly consists of pottery and animal bone, with other material types represented in minimal quantities. The assemblage is almost entirely of Romano-British date, with a few later (post-medieval/modern) items. Finds derived almost exclusively from feature fills (pits and ditches) with a few from the subsoil. All finds have been quantified by material type within each context. Totals by material type are presented in Table 1.

Table 1 Finds totals by material type

| Material Type | EVALUATION |  | MITIGATION |  |
| :--- | :---: | :---: | :---: | :---: |
|  | No. frags | Weight (g) | No. frags | Weight (g) |
| Pottery | 37 | 841 | 484 | 10,288 |
| Ceramic building material | - | - | 7 | 609 |
| Fired clay | 1 | 17 | 1 | 1 |
| Clay tobacco pipe | 4 | 7 | 2 | 4 |
| Stone | - | - | 1 | 130 |
| Glass | 2 | 37 | 1 | - |
| Slag | - | - | 3 | 240 |
| Metal | - | - | 4 | - |
| Copper alloy | 1 | - | 1 | - |
| Lead | 1 | - | 9 | - |
| Iron | - | - | - |  |
| Other metal | - | - | 2 | - |
| Animal bone | 9 | 73 | 181 | 2549 |
| Marine shell | 1 | 25 | 2 | 20 |

### 6.2 Pottery

6.2.1 The condition of the pottery assemblage is almost universally good, but some sherds have suffered minimal surface and edge abrasion. The sherds are relatively large, with an overall mean sherd weight of 21.1 g , although this is somewhat skewed by the presence of big pieces from thick-walled vessels in one context. A number of conjoins were noted (none cross-context) and these are mostly on fresh breaks, although there are a few on old breaks.
6.2.2 The assemblage has been quantified (sherd count and weight) by ware type within each context, using a combination of known ware types (e.g., Nene Valley colour coated ware) and broader 'catch-all' types based on dominant inclusion type (e.g., grog-tempered ware). Correlation has been made with the National Roman Fabric Reference Collection codes where possible (Tomber and Dore 1998). Estimated Vessel Equivalents (EVEs) have not been used as the number of measurable rims is relatively low. Instead, an Estimated Number of Vessels (ENV) has been calculated by counting conjoining sherds, or those almost certainly from the same vessel, as 1 . The number of conjoins are reflected in the total ENV of 380 vessels.
6.2.3 Identifiable vessel forms have also been noted, along with any other diagnostic features. The level of recording accords with the 'basic record' advocated by national standards (Barclay et al 2016), aimed at producing a rapid characterisation of the assemblage. Totals by ware type are given in Table 2.

Table 2 Pottery totals by ware type

| Ware type | Fabric code | EVALUATION |  |  | EXCAVATION |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No. sherds | Wt. (g) | ENV | No. sherds | Wt. (g) | ENV |
| Romano-British |  |  |  |  |  |  |  |
| Southern Gaulish samian | LGF SA |  |  |  | 1 | 3 | 1 |
| Central Gaulish samian | LEZ SA 2 |  |  |  | 22 | 269 | 16 |
| Central Gaulish colourcoated ware | CNG CC | 1 | 1 | 1 | 1 | 1 | 1 |
| Dressel 20 amphora | BAT AM |  |  |  | 1 | 170 | 1 |
| Nene valley mortaria | LNV WH/ LNV PA | 2 | 30 | 2 | 1 | 31 | 1 |
| Nene Valley colourcoated ware | LNV CC | 5 | 274 | 4 | 19 | 245 | 16 |
| Nene Valley greyware |  | 17 | 268 | 5 | 54 | 427 | 43 |
| Great Casterton ware | GRC CC |  |  |  | 1 | 1 | 1 |
| London-type ware |  |  |  |  | 2 | 4 | 2 |
| Sandy/calcareous ware |  |  |  |  | 20 | 294 | 6 |
| Greywares, type unspecified |  | 1 | 3 | 1 | 79 | 965 | 70 |
| Grog-tempered wares |  |  |  |  | 33 | 469 | 28 |
| Oolitic tempered ware |  |  |  |  | 1 | 21 | 1 |
| Oxidised wares, type unspecified |  |  |  |  | 4 | 18 | 4 |
| Shell-tempered wares |  | 6 | 204 | 6 | 177 | 6186 | 166 |
| White-slipped oxidised sandy ware |  |  |  |  | 1 | 18 | 1 |
| Whitewares, type unspecified |  | 1 | 2 | 1 | 23 | 242 | 15 |
| Post-medieval/modern |  |  |  |  |  |  |  |
| Redware |  | 1 | 20 | 1 | 5 | 80 | 5 |
| Refined whiteware |  | 3 | 39 | 3 | 2 | 3 | 2 |
| Total |  | 37 | 841 | 24 | 447 | 9447 | 380 |

## Romano-British

6.2.4 Romano-British pottery was recovered from 14 features and deposits as well as topsoil and subsoil contexts, although the assemblage is dominated by one large group ( 285 sherds) from pit 1043 (deliberate backfill layer 1044). The assemblage includes locally produced wares, as well as imported finewares and other, unsourced coarsewares.

## Imported finewares

6.2.5 Twenty-three sherds of samian represent a maximum of 17 vessels. One small burnt sherd of Southern Gaulish samian probably comes from a form 29 decorated bowl and was found residually in pit 1043. The other pieces are all from Central Gaulish sources, probably Lezoux. The most diagnostic of these is the full profile of a form 18/31 dish found in pit 1004. This vessel bears a stamp of Cerealis ii (Hartley and Dickinson 2008, 350-2, stamp 6-b), who worked at Lezoux c. AD 135-165, although his most common forms (which include 18/31) suggest activity no later than AD 160. One other form $18 / 31$ rim was found in pit 1034, while a rim from gully terminal 1011 is from a form 37 decorated bowl.
6.2.6 Ten of the Central Gaulish sherds, some re-joining, were found in pit 1043. These include two small rims and three base angle sherds all likely to be from separate dishes as well as a flake from a decorated vessel. The largest sherd, from a dish base, has a scratched graffito on the underside, possibly lettering but only part of one letter survives (a vertical stroke with a horizontal across its original end - possibly a T or an I). This may represent an owner's mark.
6.2.7 Two small sherds in fine, colour-coated, white-firing fabrics (pit 1043 and subsoil layer 202) have been tentatively identified as Central Gaulish colour coated ware, although the reddish-brown slip on the sherd from the pit has almost entirely worn away. This fabric was imported during the late 1st-2nd century AD, with a floruit in the Flavian-Trajanic period (c. AD 70-120).

## Amphora

6.2.8 One sherd from a Spanish Dressel 20 amphora in the earlier, coarser fabric variant (BAT AM 1; c. AD 50-300), came from pit 1034. These vessels carried olive oil, but once empty, were also traded in their own right as useful empty containers.

## Nene Valley finewares

6.2.9 Given the position of the site, the predominance of Lower Nene Valley products in the assemblage is not unexpected. A single sherd of Great Casterton ware, although produced in the same area, is considered separately as a chronologically distinct type - the seven excavated kilns appear to have been operating from the early 2nd to early 3rd century AD (Corder 1961, 50-3; Hunt 2011; Archaeological Solutions 2005). The sherd seen here, from ditch 1062 (upper fill 1013), is from a closed vessel form (probably a beaker) with applied barbotine decoration.
6.2.10 Production of the more commonly occurring and widespread Lower Nene Valley colourcoated wares (LNV CC) is considered to have been started by migrant of potters from British centres such as Colchester and from the Continent during the mid-2nd century AD, and the establishment of kilns at Great Casterton may have been part of the same migration (Perrin 1999, 87). The Lower Nene Valley colour-coated ware (LNV CC) sherds include the profile of a shallow, plain-rimmed dish and a wide-mouthed jar (both from pit 1034). The dish is a form produced from the late 2nd century AD onwards, although most examples are 4th century (ibid., fig. 63, cat no's 231-5), while the wide-mouthed jar is more certainly of 4thcentury date, when they constituted the most common jar type in use (ibid., fig. 65, cat no. 280). These are the only two clearly diagnostic vessel forms present, although a narrow base from the lower fill (1018) of ditch 1062 is probably from a beaker of some form.

## Coarsewares

6.2.11 The coarseware component includes several ware types. Greywares make up the largest proportion, and of the 133 sherds from the excavation, 54 can be identified as Nene Valley products, with their distinctive dark grey surfaces on pale grey fabrics. Diagnostic forms include a cordoned jar from ditch 1061 and a flared dish with a slightly beaded rim from pit 1034. The cordoned jar is an early form whose production may have been confined to the 2nd century AD although examples have been found in early 3rd-century contexts (Perrin 1999, fig. 56, cat no. 26). Dishes featured in the Lower Nene Valley repertoire from the beginning of production, with an initial focus on decorated vessels apparently replaced by plain forms in the later 2nd century AD. Dishes with beaded or grooved rims such as this example were produced from then until the early 3rd century AD (ibid., fig. 58, cat no's 837).
6.2.12 Two small body sherds from gully 1021 have been identified as London-type ware based on their compass-drawn decoration. There is strong evidence for production of London-type ware in the Lower Nene Valley, mainly in the second quarter of the 2nd century AD but with possible earlier and later examples (Perrin 1999, 106-8, fig. 65).
6.2.13 Similar forms occurred in other greyware fabrics, with dishes with beaded or grooved rims from ditch 1059 and pit 1034 and a plain-rimmed dish from pit 1034. Sherds from a beaker with a short, everted rim (Fig. 4A.1), two necked jars, two cordoned jars and a flagon all came from pit 1043. A narrow base from a small globular vessel from pit 1034 almost certainly represents another beaker.
6.2.14 The whitewares and oxidised wares are each likely to encompass the products of more than one source, including the Lower Nene Valley industry. Whiteware mortaria are represented by a grooved flange fragment (Hartley and Perrin 1999, fig. 78, M43), typologically of 4thcentury AD date from the topsoil (201), as well as body sherds from pit 1043 and subsoil 202. Other diagnostic forms are confined to an everted rim jar perhaps of a 4th-century date (e.g., Perrin 1999, fig. 66, cat no. 327) from gully terminal 1010. There are no diagnostic sherds amongst the oxidised wares, which include one white-slipped piece.
6.2.15 Shell-tempered wares make up approximately $40 \%$ of the total Romano-British assemblage by sherd count, but this is skewed by a large group of these wares ( 143 sherds) from pit 1043. These comprise large parts of several vessels, the rim sherds suggesting a minimum of six. The majority are in coarsely tempered fabrics and appear to belong to large storage jars with heavy, everted rims and shoulder grooves (Fig. 4A.2) or cordons, some with burnished-line decorative motifs (Perrin 1999, fig. 49, cat no. 427), although a plain, thickwalled, convex-sided dish (Fig. 4A.3), is represented by four sherds. A smaller proportion are in more finely-tempered and better finished fabrics; these include rims from four small to medium jars with rilled shoulders (ibid., fig. 48, cat no's 433-5; Figs 4A. 4 and 4A.5). The parallels from Water Newton suggest a mid/late 2nd-3rd-century date for the shelltempered group from pit 1043, although the complete absence of colour-coated wares from this feature is also suggestive (see below). There is one other rilled jar from pit 1034, and an everted rim jar of uncertain form from ditch 1062.
6.2.16 Shell-tempered wares represent a continuation of an indigenous ceramic tradition originating in the Iron Age, and they continued to be produced and used throughout the Romano-British period. The larger vessels tend to be standardised and vary little with time; the chronological range represented here extends from 2nd to 4th century AD, but dating is largely dependent on associated wares and vessel forms rather than on the shell-tempered forms themselves. There is some evidence for production of shell-tempered wares at Water Orton in the later 1st century AD (Perrin 1999, 118). Shelly clays were also exploited at Harrold in Bedfordshire from the 1st century onwards (Brown 1994), and this source is often associated with a distinctive 4th-century ware type which contains frequent, finely crushed, well-sorted shell fragments. Three sherds from ditch 1061 match this type, but most of the rest are more coarsely and/or more sparsely tempered.
6.2.17 The small group of grog-tempered wares ( 33 sherds, all but one from pit 1043) include a cordoned jar with burnished lattice on the shoulder (Fig. 4A.6) and a plain-rimmed convex dish. Pit 1043 also contained the only examples of calcareous wares: one sherd in an oolitictempered fabric and 20 sherds in a sandy fabric with fine calcareous flecks (possibly also oolitic in origin). Fifteen of these sherds almost certainly belong to a single jar or beaker with an upright, pointed rim and girth grooves (Fig. 4A.7). These wares remain unsourced.
6.2.18 With the exception of one small sherd of 1st century AD Southern Gaulish samian, there is nothing definitely pre-dating the 2nd century AD, and while there is a focus on material belonging within the later 2nd to 3rd century, there are also forms which can be fairly confidently dated to the 4th century AD. However, with the exception of pit 1043, quantities of pottery per feature are low. The sherds from pit 1043 form an interesting contrast to the rest of the assemblage. There is a much higher proportion of shelly wares, even allowing for the fact that these are likely to represent a small number of vessels, and Nene Valley colour-coated wares are completely absent, although other Nene Valley products (greywares, mortarium) are represented. It seems likely that this pit group is of earlier date than the rest of the assemblage, perhaps dating to the very beginning of Lower Nene Valley pottery production in the early-mid 2nd century AD, with the other features dating between the mid/late 2nd and 4th centuries.

## Post-medieval/Modern

6.2.19 The sherds belonging within this period comprise six redwares and five refined whitewares. One redware sherd from pit 1043 is from an internally glazed vessel, probably of 18thcentury or later date, but this appears to be intrusive in an otherwise solidly Romano-British context group of just under 300 sherds. One sherd from the subsoil is in a late white-slipped redware (19th/early 20th century) and belongs to a kitchenware bowl. The other sherds are from unglazed flowerpots (19th/20th century) and include one (ditch 204) with the stamp of Sankey of Nottingham. Those from ditch 1061 are also assumed to be intrusive in these features which are otherwise dated as Romano-British. The refined whitewares, all tea/tablewares of 19th/20th century date, came from subsoil and topsoil.

### 6.3 Ceramic building material

6.3.1 The seven fragments recovered came from the fill (1026) of ditch 1061 and all belong to a single item, a Romano-British imbrex roof tile in a relatively coarse fabric. The fragments conjoin on fresh breaks.

### 6.4 Glass

6.4.1 A tiny glass bead was recovered from a sieved soil sample taken from the burnt deposit (1006) in pit 1004. The bead is globular (diameter 4 mm , thickness 2 mm ) and is in an opaque pale blue glass with four marvered opaque white and red lengthwise stripes, equally spaced around the bead (Fig. 4B). Based on the associated pottery, the bead is assumed to be of Romano-British date, but no parallel can be found in the published repertoire of Roman beads. In terms of technique, its closest affinities lie with long blue biconical or square-sectioned beads with bands or chevrons in opaque white with a red line in the centre. These are known from 3rd- and 4th-century contexts (Guido 1978, 98), although none are recorded from the east Midlands.
6.4.2 No other glass was recovered from the mitigation, but two fragments of modern vessel glass came from the evaluation.

### 6.5 Metalwork

6.5.1 The metalwork includes two coins as well as other objects of copper alloy, lead and iron. Both coins are copper alloy issues, dating to the 1st century AD. Both came from pit 1043 (deliberate backfill 1044). The more legible of the two is an as of Vespasian, dated AD 746 . The other coin is more worn and cannot be attributed to type.
6.5.2 The other copper alloy objects include a Romano-British toilet implement (Fig. 4C). The 'blade' of this implement, which has a long pointed shank, is broken but it is probably a
ligula, used to extract materials such as cosmetics or perfumed oils from phials and to facilitate their application. The other object is of modern date - a perforated cone, possibly a gaslight fitting, found intrusively in gully 1031 alongside modern pottery sherds.
6.5.3 The lead object from the evaluation (topsoil) is a solidified lump of molten waste, while the second, a folded and flattened offcut sheet fragment, was found in pit 1043, where associated finds indicate a Romano-British date.
6.5.4 The iron objects predominantly consist of nails, one (pit 1034) of which is a hobnail. A second possible hobnail (badly corroded and more ambiguous) came from ditch 1062. A modern, iron, screw-threaded machinery part and an 'other metal' Tom Thumb cigar tin were also recovered from the topsoil during the evaluation.

### 6.6 Worked bone

6.6.1 A section (length 78 mm ) of sheep/goat tibia shaft (Fig. 4D.1), with a small central perforation through one side only (i.e., not through the whole bone) was recovered from ditch 1061. The ends are worn and the whole object is polished, presumably through use. Its function is unknown, but such objects are generally interpreted as 'toggles' for use as some kind of fastener. A worked bone spindle whorl (Fig. 4D.2) made from the unfused head of a cattle femur was found in gully terminal 1010. Associated finds indicate a Romano-British date for both objects.

### 6.7 Animal bone

6.7.1 The quantity of the animal bones is provided in Table 1. The bones are in generally good condition, although a few fragments recovered from the backfill of ditch 1062 are abraded and therefore likely to be residual, having been reworked and redeposited. The bones were rapidly scanned and assessed following current guidelines (Baker and Worley 2019).
6.7.2 The assemblage is quantified by species in Table 3. Note that the overall total is less than presented in Table 1 because it considers fragmentation, hence refitting fragments from a single bone or loose teeth that can be reassociated to a mandible, are counted once.

Table 3 Animal bone: number of identified specimens present (or NISP)

| Species | Romano-British | Undated | Total |
| :--- | :--- | :--- | :--- |
| Cattle | 18 | 3 | 21 |
| Sheep/goat | 28 | 5 | 33 |
| Pig | 5 | - | 5 |
| Horse | 0 | 2 | 2 |
| Domestic fowl | 1 | - | 1 |
| Dog | 0 | 1 | 1 |
| Total identified | $\mathbf{5 2}$ | $\mathbf{1 1}$ | $\mathbf{2}$ |
| Total unidentifiable | $\mathbf{1 0 2}$ | - | $\mathbf{1 0 2}$ |
| Overall total | $\mathbf{1 5 4}$ | $\mathbf{1 1}$ | $\mathbf{1 6 5}$ |

## Romano-British

6.7.3 Animal bones were recovered from several ditches, gullies, pits, and a burnt deposit. The assemblage is dominated by bones from domestic livestock, particularly sheep/goat and cattle. Both main species of livestock are represented by a broad range of skeletal elements, although the main emphasis is on post-cranial bones from meat joints. The general character of the assemblage is therefore one of domestic refuse from meat consumption, with little or no waste from the initial stages of carcass processing.
6.7.4 Pit deposits were relatively rich in animal bones compared with the fills of ditches and gullies. The largest concentration came from pit 1043, which contained a group of disarticulated sheep/goat bones from at least two adult animals and a lamb. A few cattle and pig bones were also recovered from the pit, as well as several small, unidentifiable burnt fragments. These probably represent the remnants of roasted meat joints. Mostly cattle bones were recovered from pit 1034, including two distal humeri, potentially from the same animal, plus a few pig bones and a sheep/goat humerus. In addition, a single sheep/goat tooth was recovered from pit 1004.
6.7.5 Few bone fragments were recovered from individual linear features, and these are mostly post-cranial elements, several of which show signs of butchery. Of note are two lamb bones from gully 1031 and bone objects (see worked bone) from gully 1010 and ditch 1061, made from a cattle femoral head and sheep/goat tibia shaft.
6.7.6 In addition, several small, unidentifiable fragments of charred and calcined bone came from burnt deposit 1014, likely to represent an episode of in situ burning, potentially the remnants of a bon(e)fire.

## Undated

6.7.7 Part of a cattle skull with horn core attached, came from ditch 1046, and a fragment of cattle pelvis and a horse tooth and tibia were recovered from ditch 1059. Other identifiable fragments include three sheep/goat teeth from ditch 204, as well as a cattle rib, two sheep/goat humeri, one from an immature individual, and a dog radius from the topsoil and subsoil deposits.

### 6.8 Other finds

6.8.1 Other finds comprise very small quantities (Table 1) of clay tobacco pipes (stem fragments, 18th century or later), stone (possible roof tile fragment, probably Romano-British), iron smelting slag and oyster shell. In addition, an undiagnostic and undatable fragment of fired clay was recovered during the evaluation.

### 6.9 Catalogue of illustrated objects

Catalogue of illustrated pottery sherds - all from the fill (1044) of pit 1043:
Fig. 4A. 1 Beaker with a short, everted rim; fine greyware.
Fig. 4A. 2 Large storage jar with a heavy, everted rim and a grooved shoulder; oxidised.
Fig. 4A. 3 Plain, thick-walled, convex-sided dish; unoxidized, coarse shell-tempered ware.
Fig. 4A. 4 Small, slightly lid-seated jar with an everted rim and a rilled shoulder; oxidised fine shell-tempered ware.
Fig. 4A. 5 Upright-necked jar with a rilled shoulder; fine shell-tempered ware.
Fig. 4A. 6 Necked, cordoned jar with burnished lattice on shoulder; unoxidised grogtempered ware.
Fig. 4A. 7 Jar or beaker with a pointed rim and girth grooves; sandy, calcareous ware.

## Catalogue of photographed glass:

Fig. 4B Glass bead; pale blue with four equally space, marvered opaque white and red lengthwise stripes; probably Romano-British. Burnt deposit (1006) in pit 1004.

Catalogue of illustrated other finds:
Fig. 4C Copper alloy toilet implement, probably a ligula. Roman. Capping layer (1045) of pit 1043.

Fig. 4D. 1 Worked bone 'toggle'; polished and perforated; sheep/goat tibia shaft. Fill (1026) of ditch 1061.

Fig. 4D. 2 Worked bone spindle whorl; unfused cattle femoral head. Roman. Fill (1011) of gully terminal 1010.

## 7 ENVIRONMENTAL EVIDENCE

### 7.1 Introduction

7.1.1 A total of 11 bulk sediment samples were taken during the evaluation and mitigation stages of work, from a range of early to mid-Romano-British and late Romano-British features, including ditches, pits, and layers. Following an assessment, further analysis undertaken on the charred plant remains (three samples) and wood charcoal (six samples). This report presents the results of the analysis, together with an update of the assessment data.

### 7.2 Methodology

7.2.1 The samples were processed following Wessex Archaeology's standard procedures using a Siraf-type flotation tank with a 0.25 mm flot mesh and a 1 mm residue mesh. The flots and residues were examined using a stereomicroscope at up to $40 x$ magnification for charred and mineralised plant remains, wood charcoal, and other material. The presence of recent material within the flots was noted, including modern roots, modern seeds, earthworm eggs, and shells of the burrowing blind snail (Cecilioides acicula), which is a medieval introduction.

## Charred and mineralised remains

7.2.2 The charred plant remains were fully quantified where possible by counting the 'Minimum Number of Individuals' (MNI) using diagnostic anatomical regions for cereal grains (apical/embryo ends), cereal chaff (upper parts of rachis segments, glume bases), and pulse seeds (embryo ends, dividing split cotyledons by two). Highly fragmented plant remains are counted as individual fragments (e.g., nutshell). Germinated cereal grains were identified based on the presence of a groove on the dorsal surface and a combination of other features, including a damaged embryo end, a shiny (glass-like) surface on the embryo end, and a 'shrunken' or 'collapsed' appearance (cf. Helm and Carruthers 2011). Mineralised plant remains were recorded semi-quantitively on an abundance scale: $\mathrm{C}=<5$ ('Trace'), $B=5-10$ ('Rare'), $A=10-30$ ('Occasional'), $A^{*}=30-100$ ('Common'), $A^{* *}=100-$ 500 ('Abundant'), $A^{* * *}=>500$ ('Very abundant/Exceptional'). Identifications of the charred and mineralised plant remains were undertaken through comparison with Wessex Archaeology's reference collection and other sources (e.g., Cappers et al. 2006; Carruthers and Smith 2020).
7.2.3 Nomenclature follows Zohary et al. (2012) for cultivated species (using traditional names), and Stace (1997) for wild taxa. Broad habitat information for wild taxa is obtained from Hall et al. (2004), although consideration is given to each species' ecological tolerances/preferences.

## Charcoal

7.2.4 Up to 25 wood charcoal fragments were examined from each sample where possible, focusing primarily on fragments in $\geq 4 \mathrm{~mm}$ sieve fractions. However, material within the $2-$ 4 mm fractions was also scanned. Identifications were undertaken through examination of
the transverse, tangential longitudinal, and radial longitudinal sections at up to 400 x magnification. Wood charcoal identifications were compared with Wessex Archaeology's charcoal reference collection and identification keys (Gale and Cutler 2000; Hather 2000; Schweingruber 1990). Additional notes were made on growth ring curvature and other features (e.g., radial cracking, vitrification, reaction wood, etc.), where present. The term 'roundwood' is applied to fragments with strong to moderate growth ring curvature, whilst 'stemwood' is used for fragments with weak growth ring curvature. Nomenclature follows Stace (1997).

### 7.3 Results

7.3.1 Most of the samples contain small to moderate quantities of wood charcoal and charred plant remains. Occasional mineralised plant remains and insects/invertebrates are recorded in the sample from pit 1034. Other material recorded comprises low numbers of terrestrial molluscs and animal bones, together with frequent small fragments ( $<10 \mathrm{~mm}$ ) of coal and clinker/cinder. There are indicators of bioturbation in most of the samples, including modern roots, modern seeds, and shells of burrowing blind snails, which suggests that there has been some mixing of more recent material into the features and layers sampled. This should be considered when interpreting the results below, although radiocarbon dating has confirmed the Romano-British date of the assemblage.
7.3.2 The results are given in Appendix 2. Table 5 presents the results of the charred plant and mineralised plant remain analysis, whilst Table 6 presents the results of the wood charcoal analysis. Updated results from the assessment are provided in Table 7.

## Charred plant remains

7.3.3 Mixtures of remains from cereals (grains, chaff) and other taxa are present in most samples, with particularly low concentrations of material recorded in the samples from the ditches (1059, 1061, 1062), gully (1062), and layers (1014, 1015). In comparison, samples taken from the pits $(1004,1034,1043)$ are richer in both cereals and other taxa, although the density of charred plant remains (items/litre) is still relatively low. For example, pit 1004 contains approximately 12 items/litre, whilst pits 1034 and 1043 contain 2.5 items/litre and 2 items/litre respectively. Overall, the level of preservation is generally poor to moderate, and this is reflected in the relatively high number of indeterminate cereal (Triticeae) grain identifications.
7.3.4 Cereal grains and chaff are present in most of the samples, and the main species recorded is spelt wheat (Triticum spelta). However, due to the variable preservation condition of the material, some of the cereal grain and chaff fragments have been identified either as indeterminate wheat (Triticum sp.) or emmer/spelt wheat (Triticum dicoccum/spelta). Barley forms a minor component of the assemblage, with the better-preserved grains identifiable as hulled barley (Hordeum vulgare). A single oat (Avena sp.) grain in the sample from pit 1043 could derive from a cultivated species such as common oat (A. sativa), although this could equally be from a wild/weed species such as wild oat (A. fatua). Remains of other cultivated species are restricted to a few seeds of flax (Linum usitatissimum) in pit 1004. A diverse range of wild/weed taxa are present, including species typically associated disturbance (e.g., arable fields, roadsides, trampled areas), grasslands, and wet/damp conditions.
7.3.5 The largest quantity of cereal remains and wild/weed taxa recovered from the site derive from early to mid-Romano-British stone-lined pit 1004. A charred spelt wheat grain from this feature has been radiocarbon dated to between 40 cal . BC to cal. AD 210 (UBA-49740, $1946 \pm 26$ BP). There are frequent spelt wheat and emmer/spelt wheat grains, alongside a
smaller quantity of chaff (glume bases, spikelet forks). A few indeterminate wheat and barley grains are also present; however, a high proportion of the sample consists of unidentifiable (Triticeae) grains and grain fragments. Many of the wheat, emmer/spelt wheat, and spelt wheat grains had germinated (approx. 47\%), and there are a few coleoptiles (detached cereal sprouts) and detached embryos. Wild/weed taxa are common in the sample, and the most abundant species recovered include rye-grass-type (Lolium tp.), clovers/trefoils/medicks (Trifolieae), docks (Rumex sp.), bromes (Bromus sp.), goosefoots (Chenopodium sp.) and red bartsia/eyebrights (Odontites vernus/Euphrasia sp.). A wide-range of other species are present including black bindweed (Fallopia convolvulus), common chickweed (Stellaria media), yellow-rattle (Rhinanthus minor), lady's mantles (Alchemilla sp.), vetches/wild peas (Vicia/Lathyrus sp.), and heath-grass (Danthonia decumbens) amongst others. A few seeds of sedges (Carex sp.), spike-rushes (Eleocharis sp.), and club-rushes (Schoenoplectus sp.) suggest wet/damp conditions. Some club-rush species growing in wet pastures, although they are generally characteristic of standing or slow-moving water (e.g., ponds, stream edges, ditches). Other remains include trace quantities of rhizomes/tubers.
7.3.6 Samples from early to mid-Romano-British pit 1043 and late Romano-British pit 1034 contain considerably lower numbers of cereal remains, with additional evidence for spelt wheat and hulled barley. In comparison, to the sample from pit 1004, there is only a single germinated hulled barley grain. A broadly similar range of wild/weed taxa are present (e.g., bromes, rye-grass type, docks, trefoils/medicks/clovers, vetches/wild peas, goosefoots). However, there are also several new additions, including opium poppy (Papaver somniferum), henbane (Hyosycamus niger), chickweeds (Stellaria sp.), campions (Silene sp.), buttercups (Ranunculus subg. Ranunculus), wild radish (Raphanus raphanistrum), field madder (Sherardia arvensis), fumitories (Fumaria sp.), scarlet pimpernel (Anagallis arvensis), tubers of false oat-grass/onion couch (Arrhenatherum elatius subsp. bulbosum), and hazel (Corylus avellana) nutshell. A wheat grain from pit 1034 has been radiocarbon dated to cal. AD 250-420 (UBA-49742, $1700 \pm 22$ BP).
7.3.7 The assessed samples from ditches 1059, 1061, and 1062, and gully 1060 contain occasional cereal remains, with evidence for wheat, spelt wheat, and barley. In comparison, samples from layers 1014 and 1015 produced trace quantities of charred plant remains, including a few poorly preserved cereal grains.

## Mineralised plant remains

7.3.8 The sample from late Romano-British pit 1034 produced a small assemblage of mineralised plant remains and insects/invertebrates. Amongst the plant remains, seeds of opium poppy are common, and these occur alongside lower numbers of seeds from other species. These comprise nettles (Urtica sp.) - including common nettle (U. dioica) - fairy flax (Linum catharticum), docks, daisy species (Asteraceae), sedge species (Cyperaceae), and pepperwort-type (Lepidium tp.). The category of pepperwort-type can include similar-sized seeds from other genus in the cabbage family (Brassicaceae) species. A single seed of a carrot family species (Apiaceae) is comparable in size and gross morphology to dill (Anethum graveolens), although it was not possible to confirm this identification. Other mineralised remains consist of insect puparia, earthworm cocoons, amorphous plant/faecal material, herbaceous stems, and 'nodules' (cf. Carruthers and Smith 2020).

## Wood charcoal

7.3.9 The assemblage of wood charcoal was generally well-preserved, with little mineral-coating on the fragments. However, some samples contained high proportions of quite fragmented material. Consequently, it was not possible to identify 25 fragments from the material above 2 mm in all cases.
7.3.10 The main species recorded in terms of fragment count is oak (Quercus sp.), although apple sub-family species (Maloideae) and cherries (Prunus sp.) are also well-represented. The cherries have not been identified beyond genus level; although the wood anatomy (ray height, width) of some fragments was consistent with blackthorn/plum ( $P$. spinosa/domestica). A wide range of other species are present, but these are often only represented by a few fragments (i.e., <5). These include field maple (Acer campestre), heather-type (Calluna vulgaris tp.), gorse-type (Ulex tp.), hazel (Corylus avellana), willow family (Salicaceae), ash (Fraxinus excelsior), elms (Ulmus sp.), and Scots pine-type (Pinus sylvestris tp.). Evidence for Scots pine was restricted to a single small fragment ( $<4 \mathrm{~mm}$ ) in ditch slot 104 (1059).
7.3.11 The assemblage is diverse in its composition, and all the samples contain three or more species; the sample from pit 1034 produced at least seven species. These reflect mixtures of trees (e.g., oak, ash, elm), shrubs (e.g., hazel, blackthorn, gorse), and dwarf-shrubs (e.g., heather). Most of species present are associated with open growing conditions, whilst stems of heather-type and gorse-type in pit 1034 are indicative of heathland vegetation. A few fragments of willow family species, deriving either from willows (Salix spp.) or poplars (Populus spp.), are likely to indicate damp/wet soils in the local area. Most of the fragments of cherries/blackthorn, field maple, hazel, and apple sub-family species derive from small diameter roundwood. In comparison, the oak fragments typically derive from mixtures of mature stemwood/heartwood and roundwood.
7.3.12 In general, there appears to be little patterning in the range of species found between the different samples. However, the sample from early to mid-Romano-British layer 1014 is markedly different in composition. The sample produced a comparatively large quantity of wood charcoal consisting almost entirely of mature oak heartwood (i.e., weak growth ring curvature, tyloses). Radial cracking is abundant in the fragments, and low levels of vitrification were observed. A fragment of cherry roundwood from the layer was radiocarbon dated to cal. AD 1-160 (UBA-49741, $1977 \pm 21 \mathrm{BP}$ ).

### 7.4 Discussion

7.4.1 The assemblage of mineralised plant and insect/invertebrate remains, charred plant remains, and wood charcoal recovered from the site reflects typical 'debris' generated by a Romano-British settlement (cf. Lodwick 2017). However, the value of small and well-dated assemblages such as these lies in their potential to contribute to wider regional syntheses (e.g., Lodwick 2017; Rippon et al. 2015).

## Charred and mineralised plant remains

7.4.2 All of the features and layers likely contain secondary and tertiary depositions of refuse (van der Veen 2007; Fuller et al. 2014). Much of this 'refuse' is likely to have accumulated as background settlement 'noise' after a period of mixing and trampling, or as a result of the deliberate dumping of waste, including crop-processing by-products, fuel debris, and organic-rich material. Overall, this is consistent with the interpretation that the site is situated on the periphery of a settlement.
7.4.3 The small assemblage of mineralised plant and insect/invertebrate remains from late Romano-British pit 1034 is notable. Mineralisation occurs in specific burial environments such as cesspits or middens which are rich in material such as human faeces, animal dung, and other organic material, notably bones and shell (McCobb et al. 2003). Consequently, the feature is likely to contain mixtures of cess, stable manure and other organic-rich refuse, and similar evidence has been recovered from other sites in the midlands (Carruthers and Hunter-Dowse 2019). Some of the species represented, such as nettles and docks, are
typically associated with disturbed and nutrient-rich conditions, and they may have been growing on the surface of a midden. Similarly, the herbaceous stems could reflect plants growing on a midden, although plant stems are also known to have been added to cesspits to absorb foul liquids and aid decomposition (Carruthers and Smith 2020). Seeds of opium poppies were particularly frequent in the sample, although they may be over-represented since a single seedhead can potentially contain thousands of seeds. Opium poppy is characteristic of arable habitats, although this species can also be used as a food source for oils and/or flavouring (Campbell 2017). Taken together, this range of mineralised remains is likely to reflect the accumulation of refuse within a midden.
7.4.4 The sample from early to mid-Romano-British stone-lined pit 1004 produced the highest densities of charred plant remains on the site, including evidence for germinated spelt wheat. Low levels of germination within cereal crops may be due to poor storage conditions or the harvesting of a spoilt crop. However, it is generally accepted that if over $20 \%$ of the grains recovered from crop-dryers are germinated, the drying of germinated grain for malt production is likely (van der Veen 1989). The relatively high percentage of germinated grain (approx. $47 \%$ ) suggests that this sample could be associated with the production of spelt wheat malt for brewing ale. Romano-British sites routinely produce evidence of malting, and charred plant remain assemblages containing mixtures of germinated spelt wheat grains, chaff (glume bases, spikelet forks), and coleoptiles are often associated with crop-drying ovens (Lodwick 2017). Spelt wheat is thought to have been germinated within the spikelet (two grains tightly enclosed in chaff), and then dried in crop-drying ovens. Any weeds associated with the crop could also have germinated during this process, probably explaining the presence of a few germinated brome caryopses in the assemblage. Once dry, the germinated spikelets would be de-husked (removal of the chaff), and the resulting debris was then often (re-)used as a fuel within the crop-drying oven. Therefore, it seems likely that pit 1004 contains discarded fuel debris. Notably, investigations at the adjacent site of Great Casterton Primary School uncovered two late 3rd to 4th-century crop-dryers (Archaeological Solutions 2005).
7.4.5 Spelt wheat was the main focus of arable production in the Romano-British period, whilst barley appears to have been a relatively minor crop (Lodwick 2017). However, the poor representation of barley in archaeobotanical assemblages may be due to a preservation bias, particularly if it was primarily cultivated as a fodder crop (cf. Jones 1998). One further cultivated crop recorded at the site is flax, which may have been used as a source of food, cloth fibre, and/or for its oil-rich seeds (Smith 2017; Lodwick 2017). Flax seeds are likely to be significantly underrepresented in archaeobotanical assemblages because the seeds burn quickly when charred (Märkle and Rösch 2008).
7.4.6 Many of the wild taxa identified in the assemblage likely represent weeds of cultivation. These species include black bindweed, cleavers, bromes, and wild radish, amongst others (cf. Lodwick 2017). Many of these wild taxa are likely to have been arable weeds which were removed during the final stages of crop-processing because they are difficult to separate from the harvested crop (Stevens 2003).

## Wood charcoal

7.4.7 The wood charcoal assemblage is likely to reflect accumulations of fuel debris generated from domestic hearths and industrial/craft-based processes. Samples from secondary and tertiary deposits such as these are well-suited to reconstructing the nature of the local environment around the site since they provide a composite picture of fuel use (cf. Asouti and Austin 2005; Kabukcu 2018).
7.4.8 The presence of heathland species (e.g., gorse, heather) and other light-demanding trees/shrubs (e.g., field maple, cherries/blackthorn, apple sub-family, ash) indicates that the local environment would have been relatively open. Evidence for the exploitation of heathland habitats is routinely identified in Romano-British sites across central and northern England (Carruthers and Hunter-Dowse 2019; Hall and Huntley 2007). Heathlands have traditionally been exploited through systems of common land-use as areas for livestock grazing and, crucially, as sources of fuel (Chatters 2021). In particular, turves cut from heathlands were a major fuel source, and this could account for the presence of small quantities of charred heather-type stems, gorse-type stems, rhizomes/tubers, false oatgrass tubers, heath-grass caryopses, and sedge nutlets (cf. Hall 2003). Aside from turves, the high proportion of small calibre roundwood within the samples suggests the exploitation of scrub habitats, or perhaps pruned material from hedges (cf. Rackham 1986). It is unclear if the single small fragment of Scots pine type charcoal recovered from ditch slot 104 (1059) is a residual/intrusive contaminant since this species had largely disappeared from woodlands in England by the Romano-British period.
7.4.9 The origin of the charcoal-rich deposit in layer 1014 is unclear, although the presence of abundant mature oak heartwood could indicate that this material reflects re-deposited waste associated with industrial/craft activities. Oak has traditionally been highly valued as a fuel for its use in a range of industrial/craft activities (Gale and Cutler 2000), and mature oak heartwood has been identified as the dominant fuel in some Romano-British pottery kilns (e.g., Gale 2008). It is therefore notable that a pottery kiln has been identified immediately to the east of the site at Great Casterton Primary School (Hunt 2012).
7.4.10 A further potential fuel exploited at the site is coal. Most of the samples produced fragmented coal and clinker/cinder, and some of the flots are dominated by this material. Coal was exploited on a small-scale as a fuel in the Romano-British period, although given the evidence for bioturbation within the samples it is possible some of this material reflects later intrusive fuel waste (cf. Claughton et al. 2016).

## 8 RADIOCARBON DATING

### 8.1 Introduction

8.1.1 Three single-entity, short-life samples of charred plant remains and wood charcoal were submitted for radiocarbon dating to the 14CHRONO Centre, Queen's University, Belfast (UBA). The primary aim of the radiocarbon dating was to support the analysis of the environmental remains (charred plant remains, wood charcoal), and to confirm the phasing of the features.
8.1.2 The samples were pre-treated and measured following standard procedures, with full details of analytical methods provided in 14Chrono (2019). The results are presented as conventional radiocarbon ages (Stuiver and Polach 1977) together with calibrated date ranges which have been calculated using the probability method (Stuiver and Reimer 1993) in OxCal 4.4 (Bronk Ramsey 2009) with the atmospheric calibration curve for the northern hemisphere, IntCal 2020 (Reimer et al. 2020). Calibrated dates are reported at the 95\% probability level, with end points rounded outwards to 10 years.

### 8.2 Results and Discussion

8.2.1 Table 4 summarises the radiocarbon dating results. The results are consistent with the stratigraphic and artefactual dating evidence, indicating activity at the site between the early to mid-Romano-British and late Romano-British period.

Table 4 Radiocarbon dating results

| Lab. Ref | Sample details | Radiocarbon <br> age (BP) | Calibrated date <br> (95.4\% probability) |
| :--- | :--- | :--- | :--- |
| UBA-49740 Pit 1004, fill 1006 (sample 1001) |  |  |  |
| Charred spelt wheat (Triticum spelta) grain x 1 | $1946 \pm 26$ | 40 cal. BC - cal. AD 210 |  |
| UBA-49741Layer 1014 (sample 1003) <br> Cherries (Prunus sp.) charcoal - strong growth ring <br> curvature, 3 growth rings | $1977 \pm 21$ | cal. AD 1-160 |  |
| UBA-49742Pit 1034, fill 1036 (sample 1005) <br> Charred wheat (Triticum sp.) grain x 1 | $1700 \pm 22$ | cal. AD 250-420 |  |

## 9 DISCUSSION

### 9.1 General

9.1.1 The initial phase of archaeological remains showed evidence of an initial enclosure/field system on an ESE-WNW orientation. A large potential clay extraction pit was also present in this phase, along with a drainage ditch, possible crop drying pit and two deposits of burnt material. Dateable material recovered from the ditch fills and pits suggest this phase ended in the late 2nd century AD.
9.1.2 At some point in the late Romano-British period a ditch was dug across an earlier ditch, on a north-west to south-east alignment. A rubbish pit was also present during this phase of activity. Artefacts recovered and radiocarbon dating suggest a continuation of activity up to the 4th century AD but not beyond this date.
9.1.3 A single gully was recorded and dated to the late post-medieval/modern period.

### 9.2 Early/mid-Romano-British features

9.2.1 The earliest feature on site was the large pit in the north-west corner of the site; its primary function is unknown, though it is unlikely to be refuse disposal. One possibility is that it was a clay extraction- or clay puddling pit, due to its size, shallow profile and depth. If this is so, it could relate to the local pottery-making industry. Five Romano-British pottery kilns have been uncovered around Great Casterton primary school, just to the east and north-east of the site (Hunt 2011; Archaeological Solutions 2005), while two further kilns were uncovered on the north side of Ryhall Road in the 1950's and 1960's (Whitwell 1967). It is tempting to suggest that the pit could be an extension of that activity; at least two of the kilns found north of Great Casterton primary school dated to the early-mid 2nd century, which is just within its time frame. Only one sherd of Great Casterton ware was found on the site however, and there were no wasters, kiln material or seconds within the pottery assemblage, indicating that this pit may be the only feature associated with the local pottery industry.
9.2.2 The pit was the source of most of the finds recovered from site, with the earliest artefacts (late 1st to early 2nd century) recovered from its fill. The amount of material heavily suggests that once the primary use of the pit had ended, it was then used to dispose of rubbish. The finds include coins, animal bone and domestic pottery evidencing that it was used by the nearby settlement.
9.2.3 Ecofact evidence from the small pit suggests the site was also associated with agricultural activity during this phase. Burnt bone and charred germinated spelt wheat was recovered from the charcoal rich fill, presumably the remnants of last use. Germinated spelt wheat in the proportions recovered from this feature is indicative of malt production for brewing ale. It is probable that the pit was used for drying grain as part of this process. A similar pit was recorded during the excavation at the kiln site at Great Casterton primary school (Hunt 2011), which also had a stone lining at the base, though no finds were recovered to date the feature. During excavations to the north of Great Casterton primary school 3rd to 4thcentury corn dryers were identified and interpreted as evidence of a decline in pottery production and increase in agricultural activity. However, the potential presence of a 2ndcentury drier at this site and a 3rd-century pottery kiln at Great Casterton primary school (Hunt 2011), suggests that pottery production and agricultural activity more likely occurred simultaneously, and possibly symbiotically, with pottery production perhaps providing income during quiet times of the agricultural calendar (Esmonde Cleary 1999, 172).
9.2.4 The two parallel ditches were possibly the boundary divisions of an early field system, or a demarcation of the Romano-British 'industrial zone' (Archaeological Solutions 2005), just outside the main civilian town. The shallowness of the ditches was likely due to truncation and/or soil erosion and may explain why no extensions of the northern ditch, or the north/south returns of the boundaries were seen. Though the pottery from the fills date to the 2nd century, ditches can have long lives, and therefore these boundaries could have been in use alongside the large pit.
9.2.5 The function of the north-west to south-east aligned gully is unclear, it was potentially for drainage, as the base of the ditch sloped down towards the north of the excavation area. The gully cut through the upper fill of the large pit, therefore when the pit was out of use, probably towards the end of the 2nd century AD, though there are no datable finds to confirm this. The path of the gully around the pit, however, suggests that there was some evidence of it still in the landscape, perhaps as a hollow or sunken ground, which was used to collect excess water.
9.2.6 The two incidences of burning on top of the large pit and the later drainage gully were possible deposits of debris from a nearby fire, which were still hot when deposited, thus burning the ground below. Analysis of the wood charcoal from one of the deposits show that it was predominantly composed of oak, a high value fuel source for the Romano-British craft industry, including the pottery industry. A radiocarbon date from one of the burnt deposits dates it to the mid-/late 2nd century, providing a terminus post quem date for the infilling of the large pit.

### 9.3 Late Romano-British features

9.3.1 Rubbish pit 1034 evidences that the site was still in use into the 4th century, with pottery dating from this period recovered from its primary fill, as well as a radiocarbon date of the mid-3rd to early 5th century AD. The pit cuts through ditch 1061 (the Phase 1 southern boundary ditch), indicating it had gone out of use by this period. This, along with the digging of a north-west to south-east aligned ditch could indicate a change in boundaries during the mid-to late Roman period, possibly due to a change in ownership or change in use of the site. The presence of mineralised remains indicate that the pit was used for cess and/or organic rich refuse like animal bone, while wild plant taxa recovered from the pit fill indicates it was once part of a midden. This is supported by the pottery, as the majority dated to the 2nd century, suggesting it was a secondary, or tertiary deposition site for midden rubbish, potentially evidencing attempts at land clearance nearby.

### 9.4 Summary

9.4.1 The archaeological features, artefacts and environmental remains recorded and recovered from the site suggests it was associated with agricultural and/or industrial activity. The site is located close to a known area of pottery production and agricultural activity (Hunt 2011; Archaeological Solutions 2005; Whitwell 1967) and it is probable that this site is the western extent of this industrial 'suburb', initially as a source of clay, then as a site of agricultural activity, before then being used as a handy refuse dump for the local population. The large clay extraction or clay puddling pit and potential crop drier attest to the site's industrial links, along with the presence of cereal grains used in the malting process and wood charcoal used in pottery production. The refuse from both phases was deliberately deposited and was probably the deposition of by-products from the industrial activity, as well as domestic refuse from the nearby settlement.
9.4.2 Unsurprisingly the pit deposits were the richest source of artefact and ecofact evidence, particularly pits 1043 and 1034 which were used for rubbish disposal. The pottery recovered from the site was mainly Romano-British, dating from the 2nd to 4th century AD and comprising local and imported coarsewares and finewares. The condition of the pottery was good, with few abrasions, indicating primary deposition and therefore a good indicator of the date of features. Personal items such as coins, a toilet implement, a glass bead and a spindle whorl were recovered, indicating the site was used by the Romano-British settlement to the south. This is supported by the animal bone assemblage, which was dominated by domestic livestock, particularly sheep/goat and cattle, and showed evidence of butchery and burning, suggesting it was domestic refuse from meat consumption.
9.4.3 The environmental evidence revealed charred plant remains consistent with cultivated crops dating to the Romano-British period in southern Britain. The mix of cereal grain, chaff and wild taxa were indicative of crop processing occurring in the vicinity of the site. The species of plant remains indicate they were grown in wet, damp soil conditions, potentially in standing or slow-moving water, in an open environment, probably heathland, which was routinely exploited in the Romano-British period for industrial purposes.
9.4.4 There was no evidence of activity between the 4th century and the late postmedieval/modern period. It is probable that the site became part of the agricultural hinterland after the Roman period until its development in the 19th century.

10 STORAGE AND CURATION

### 10.1 Museum

10.1.1 The archive resulting from the excavation is currently held at the offices of Wessex Archaeology in Sheffield. Rutland County Museum has agreed in principle to accept the archive on completion of the project, under the accession code OAKRM:2021.7. Deposition of any finds with the museum will only be carried out with the full written agreement of the landowner to transfer title of all finds to the museum.

### 10.2 Preparation of the archive

## Physical archive

10.2.1 The physical archive, which includes paper records, graphics, artefacts and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Rutland County Museum, and in general following nationally recommended guidelines (Brown 2011; ClfA 2014c; SMA 1995).
10.2.2 All archive elements will be marked with the OAKRM:2021.7, and a full index will be prepared. The physical archive currently comprises the following:

- Three cardboard boxes or airtight plastic boxes of artefacts and ecofacts, ordered by material type
- One file of paper records and A3/A4 graphics


## Digital archive

10.2.3 The digital archive generated by the project, which comprises born-digital data (e.g., site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata. Full details of the collection, processing and documentation of digital data are given in the project Data Management Plan (available on request).

### 10.3 Selection strategy

10.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of both future researchers and the receiving Museum.
10.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy: available on request) and follows CIfA's Toolkit for Selecting Archaeological Archives. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.
10.3.3 Detailed selection proposals for the complete project archive (combining evaluation and excavation), comprising finds, environmental material and site records (analogue and digital), are made in the site-specific Selection Strategy (Appendix 4).

### 10.4 Security copy

10.4.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

### 10.5 OASIS

10.5.1 An OASIS (online access to the index of archaeological investigations) record (http://oasis.ac.uk) has been initiated, with key fields completed (Appendix 4). A .pdf version of the final report will be submitted following approval by the SPA on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

## 11 COPYRIGHT

### 11.1 Archive and report copyright

11.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the Copyright, Designs and Patents Act 1988 with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the Copyright and Related Rights Regulations 2003.

### 11.2 Third party data copyright

11.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of such material.

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## APPENDICES

## Appendix 1 Context Index

| Context Number | Type | Category | Fill of/Filled With |
| :---: | :---: | :---: | :---: |
| 104 | Cut | Ditch | 105 |
| Linear ditch aligned north-west to south-east. with irregular, irregular sides and a flat base. Length: >10.00 m. Width: 1.15 m . Depth: 0.45 m . |  |  |  |
| 105 | Fill | Ditch | 104 |
| Dark yellowish brown sandy silt with frequent sub-rounded and sub-angular stones no larger than 0.04 m . |  |  |  |
| 106 | Fill | Fill | 107 |
| Mid-yellowish brown sandy silt with frequent sub-rounded and sub-angular stones no larger than 0.04 m . |  |  |  |
| 107 | Cut | Ditch | 106 |

m. Width: 1.60 m . Depth: 0.40 m .
108 Cut Gully 109

Linear gully aligned north-west to south-east with steep, stepped sides and a flat base. Length: $>10.00 \mathrm{~m}$. Width: 0.70 m . Depth: 0.47 m .

| 109 | Fill | Secondary fill | 108 |
| :---: | :---: | :---: | :---: |
| Dark yellowish brown sandy silt with frequent sub-rounded and sub-angular stones no larger than 0.04 m . |  |  |  |
| 204 | Cut | Ditch | 205 |
| Linear ditch with moderate, straight sides and a flat base. Length: >2.00 m. Width: 1.20 m . Depth: 0.07 m . |  |  |  |
| 205 | Fill | Secondary fill | 204 |
| Dark yellowish brown silty sand with $25 \%$ common subangular stones and $<120 \mathrm{~mm}$ charcoal flecking. |  |  |  |
| 1001 | Lay | Topsoil | n/a |

Dark brown with a grey hue silty clay with frequent small rooting from overlying grass. Occasional small subangular stone $<6 \mathrm{~cm}$.
 m . Width: 0.43 m . Depth: 0.10 m .

| 1011 | Fill | Secondary fill | 1010 |
| :---: | :---: | :---: | :---: |
| Mid-brown silty clay with occasional small sub-angular stone $<18 \mathrm{~cm}$ |  |  |  |
| 1012 | Cut | Ditch |  |
| Linear ditch aligned ESE to WNW with steep, irregular sides and a concave base. Length: >8.00 m. Width: 1.18 m . Depth: 0.43 m . |  |  |  |
| 1013 | Fill | Deliberate backfill | 1012 |
| Mid-orangish brown silty clay with smaller components include fine \& medium sand, common (20\%) and subangular; coarse sand, moderate ( $10 \%$ ) and angular. larger components include fine, medium \& coarse gravel, moderate (15\%) and angular. poorly sorted |  |  |  |
| 1014 | Lay | In-situ burnt deposit | n/a |


| Context Number | Type | Category | Fill of/Filled With |
| :---: | :---: | :---: | :---: |
| Dark grey/black silty clay with charcoal rich deposit 80\% |  |  |  |
| 1015 | Layer | In-situ burnt deposit | n/a |
| Dark grey/black silty clay with occasional sub-angular stones $<9 \mathrm{~cm}$ |  |  |  |
| 1016 | Fill | Primary fill | 1012 |
| Mid-greenish brown silty clay with smaller components includes common ( $20 \%$ ) fine \& medium sand. very well sorted |  |  |  |
| $\begin{array}{lcl}1017 & \text { Cut } & \text { Ditch terminal } \\ \text { Linear ditch terminal aligned east to west with moderate, irregular sides and a sloping base. Length: >2.00 m. }\end{array}$ Width: 0.77 m . Depth: 0.10 m . |  |  |  |
|  |  |  |  |
| 1018 Fill Secondary fill <br> Mid-brown with very slight orange hue silty clay with regular small sub-angular stone $<6 \mathrm{~cm}$   |  |  |  |
|  |  |  |  |
| $1019 \quad$ Cut $\quad$ DitchLinear ditch aligned east to west with moderate, concave sides and a concave base. Length: $>5.00 \mathrm{~m}$. Width:0.70 m . Depth: 0.25 m . |  |  |  |
|  |  |  |  |
| 1020 Fill Secondary fill <br> Mid-brown silty clay with regular small sub-angular stone $<15 \mathrm{~cm}$ 1019  |  |  |  |
|  |  |  |  |
| $\begin{array}{lccc}1021 & \text { Cut } & \text { Gully } \\ \text { Linear gully aligned north-west to south-east with moderate, concave sides and a concave base. Width: } 0.36\end{array}$ m. Depth: 0.25 m . |  |  |  |
|  |  |  |  |
| $\mathbf{1 0 2 2}$ Fill Secondary fill <br> Mid-brown silty clay with regular small sub-angular stone $<2 \mathrm{~cm}$ $\mathbf{1 0 2 1}$  <br> 1023   |  |  |  |
|  |  |  |  |
| Cut $1023 \quad$ DitchLinear ditch aligned north-west to south-east with moderate, concave sides and a concave base. Length:$>20.00 \mathrm{~m}$. Width: 0.50 m . Depth: 0.19 m . |  |  |  |
|  |  |  |  |
| 1024 Fill Secondary fill 1023 |  |  |  |
| Mid-brown with a slight orange hue fairly compact silty clay with occasional small sub-angular sandstone $<3 \mathrm{~cm}$ |  |  |  |
| $\begin{array}{lcl}1025 & \text { Cut } & \text { Ditch } \\ \text { Linear ditch aligned east to west with shallow, concave sides and a flat base. Length: }>15.00 \mathrm{~m} \text {. Width: }>1.16\end{array}$ m . Depth: 0.19 m . |  |  |  |
|  |  |  |  |
| 1026 Fill Secondary fill <br> Mid-brown with a slight orange hue silty clay with regular small sub-angular stone $<5 \mathrm{~cm}$   |  |  |  |
|  |  |  |  |
|  |  |  | 1025 |
| Light blue grey silty clay with occasional small sub-angular stone $<2 \mathrm{~cm}$ |  |  |  |
| 1028 Cut Ditch 1029, 1030 <br> Linear ditch aligned east to west with shallow, concave sides and a flat base. Length: $>15.00 \mathrm{~m}$. Width: $>0.53$ m. Depth: 0.94 m . |  |  |  |
|  |  |  |  |
|  Fill Primary fill 1028 <br> 1029    <br> Light yellow brown silty clay with regular small sub-angular stone $<4 \mathrm{~cm}$    |  |  |  |
|  |  |  |  |
| 1030 | Fill | Secondary fill | 1028 |
| Mid- orange brown silty clay with occasional small sub-angular stone $<1 \mathrm{~cm}$ |  |  |  |
| $\begin{array}{lccc}1031 & \text { Cut } & \text { Gully } & \text { 1032, } 1033 \\ \text { Linear gully aligned north-west to south-east with shallow, concave sides and a flat base. Length: }>0.78 \mathrm{~m} .\end{array}$ Width: $>0.72 \mathrm{~m}$. Depth: 0.94 m . |  |  |  |
|  |  |  |  |
| 1032 | Fill | Secondary fill | 1031 |
| Mid-brown silty clay with regular small sub-angular stone $<4 \mathrm{~cm}$ |  |  |  |
| 1033 | Fill | Deliberate backfill | 1031 |
| Dark brown with a purple hue silty clay |  |  |  |
| 1034 | Cut | Pit | 1035, 1036, 103 |
| Sub-circular pit with steep, straight sides and a flat base. Length: $>1.22 \mathrm{~m}$. Width: 0.79 m . Depth: 0.94 m . |  |  |  |
| 1035 | Fill | Deliberate backfill | 1034 |
| Dark orange brown silty clay with rare small sub-angular stone $<18 \mathrm{~cm}$ |  |  |  |
| 1036 | Fill | Deliberate backfill | 1034 |
| Mid-grey brown silty clay with frequent small-medium sub-angular stone $<30 \mathrm{~cm}$ |  |  |  |
| 1037 | Fill | Secondary fill | 1034 |
| Light/mid-yellow brown silty clay with regular small sub-angular stone $<6 \mathrm{~cm}$ |  |  |  |
| 1038 | Fill | Deliberate backfill | 1034 |


| Context Number | Type | Category | Fill of/Filled With |
| :---: | :---: | :---: | :---: |
| Mid-grey brown silty clay with regular small sub-angular stone $<11 \mathrm{~cm}$ |  |  |  |
| Linear ditch aligned north-west to south-east with shallow, concave sides and a sloping base. Length: $>0.70 \mathrm{~m}$. Width: $>0.46 \mathrm{~m}$. Depth: 0.25 m . |  |  |  |
| Light orange brown silty clay with occasional small sub-angular stone $<4 \mathrm{~cm}$ |  |  |  |
| Linear gully aligned north-west to south-east with moderate, concave sides and a flat base. Length: $>0.68 \mathrm{~m}$. Width: >0.32 m. Depth: 0.25 m . |  |  |  |
| Mid-orange brown silty clay with regular small sub-angular stone $<4 \mathrm{~cm}$ |  |  |  |
| Sub-circular pit with shallow, concave sides and a flat base. Length: >6.10 m. Width: >5.16 m. Depth: 0.50 m |  |  |  |
| 1044 <br> Dark grey silty clay | Fill <br> with regu | Deliberate backfill -angular stone $<6 \mathrm{~cm}$ | 1043 |
| 1045 <br> Mid-orange brown | Fill <br> Ity clay | Redeposited natural small sub-angular stone | $1043$ |
| 1046 <br> Linear ditch aligne Depth: 0.09 m . | Cut east to | Ditch <br> low, straight sides and a fla | $1047$ <br> ength: >10.00 m. |
| Mid-grey brown silty clay with regular small sub-angular stone 15 cm |  |  |  |
| 1048 <br> Linear ditch aligne m. Width: 0.78 m . | Cut north-w epth: 0.1 | Ditch <br> ast with shallow, concave | $1049$ <br> a concave base. |
| 1049 <br> Mid-brown with a | Fill <br> ght yello | Secondary fill ay with regular small sub-a | $\begin{gathered} 1048 \\ \text { one }<5 \mathrm{~cm} \\ \hline \end{gathered}$ |
| 1050 <br> Linear ditch aligne <br> Width: 1.42 m. De | Cut WNW to h: 0.12 | Ditch <br> derate, concave sides and | $1051$ <br> ve base. Length: > |
| Mid-grey brown silty clay with regular small sub-angular stone $<5 \mathrm{~cm}$ |  |  |  |
| 1052 <br> Linear ditch aligne m. Width: 2.30 m . | Cut <br> north-we <br> epth: 0.27 | Ditch <br> ast with shallow, straight sid | 1053 <br> concave base. Len |
| $1053$ <br> Mid-grey brown si | Fill clay with | Secondary fill small sub-angular stone | $1052$ |
| 1054 <br> Mid-orange brown | Fill | Redeposited natural mall sub-angular stone <2 | $1058$ |
| 1055 <br> Curvilinear gully a $>7.50 \mathrm{~m}$. Width: 0 | Cut <br> ned north <br> m. Dep | Gully <br> th-east with shallow, conc | $1056$ <br> and a concave base |
| $1056$ <br> Mid brown silty clay | Fill | Secondary fill -angular stone <2cm | $1055$ |
| $1057$ <br> Mid-reddish brown | Fill | Primary fill mall sub-angular stone |  |
| 1058 <br> Sub-circular pit wit m. | Cut <br> shallow, | Pit <br> es and a sloping base. Len | 1054 <br> m. Width: >0.30 m. |
| $1059$ <br> Ditch that runs <br> Group component | Group E acros $\text { 1023, } 10$ | Ditch <br> 8, 1052 | n/a |
| 1060 | Group | Gully | n/a |



## Appendix 2 Environmental data

Table 5 Analysis of charred and mineralised plant remains

| Feature Type |  | Pit | Pit | Pit |
| :---: | :---: | :---: | :---: | :---: |
| Feature |  | 1004 | 1034 | 1043 |
| Context |  | 1006 | 1036 | 1044 |
| Sample |  | 1001 | 1005 | 1009 |
| Vol (I) |  | 38 | 32 | 67 |
| Flot (ml) |  | 130 | 40 | 170 |
| Preservation |  | H | H | H |
| MNI |  | 461 | 80 | 148 |
| Density (MNI/Vol (I)) |  | 12 | 2.5 | 2 |
| Latin name (Common name) | Plant part |  |  |  |
| Charred remains |  |  |  |  |
| Cereal grains |  |  |  |  |
| Hordeum sp. (Barley) | grain | 4 | 3 | 4 |
| Hordeum vulgare (Hulled barley) | grain | - | - | 3 |
| Hordeum vulgare (Hulled barley) | germinated grain | - | - | 1 |
| Triticum spelta (Spelt wheat) | grain | 9 | - | 4 |
| Triticum spelta (Spelt wheat) | germinated grain | 7 | - | 1 |
| Triticum spelta/dicoccum (Spelt/Emmer wheat) | grain | - | 2 | - |
| Triticum spelta/dicoccum (Spelt/Emmer wheat) | germinated grain | 21 | - | - |
| Triticum sp. (Wheat) | grain | 26 | 6 | 5 |
| Triticum sp. (Wheat) | germinated grain | 4 | - | - |
| Triticeae (Cereal) | grain | 200 | 31 | 67 |
| Triticeae (Cereal) | ruined/immature grain | 1 | - | - |
| Triticeae (Cereal) | detached embryo | 4 | - | - |
| Triticeae (Cereal) | coleoptile | 4 | - | - |
| Cereal chaff |  |  |  |  |
| Triticum spelta (Spelt wheat) | glume base | 12 | 6 | 7 |
| Triticum spelta/dicoccum (Spelt/Emmer) | glume base | 17 | 7 | 2 |
| Triticum spelta/dicoccum (Spelt/Emmer wheat) | spikelet fork | 3 | 1 | - |
| Cereal-sized Poaceae (Grasses) | culm node | - | - | 1 |
| Other Taxa |  |  |  |  |
| Poaceae (Grasses) | grain | 19 | - | - |
| Poaceae (Grasses) | germinated grain | - | 1 | - |
| Arrhen' elatius subsp. bulbosum (False oat-grass) | tuber | - | - | 1 |
| Avena sp. (Oats) | grain | - | - | 1 |
| Bromus sp. (Bromes) | grain | 11 | 1 | 3 |
| Bromus sp. (Bromes) | germinated grain | 5 | - | - |
| Cynosurus cristatus (Crested dog's tail) | grain | 2 | - | - |
| Danthonia decumbens (Heath-grass) | grain | 1 | - | - |
| Lolium tp. (Rye-grass-type) | grain | 24 | 1 | 3 |
| Lolium tp. (Rye-grass-type) | germinated grain | 2 | - | - |
| Small Poaceae 0.5-1mm (Grasses) | grain | 3 | 5 | 4 |
| Linum usitatissimum (Flax) | seed | 3 | - | - |
| Corylus avellana (Hazel) | nutshell frag. ( $<4 \mathrm{~mm}^{2}$ ) | - | - | 18* |
| Corylus avellana (Hazel) | nutshell frag. (<16mm²) | - | - | 3* |
| Trifolieae (Medicks/clovers/trefoils) | seed | 22 | 5 | 12 |
| Vicia/Lathyrus sp. (Vetch/wild pea) | seed | 1 | 2 | 5 |
| Ranunculus subg. Ranunculus (Buttercup) | seed | - | 1 | - |
| Anagallis arvensis (Scarlet pimpernel) | seed | - | 1 | - |
| Alchemilla sp. (Lady's mantle) | seed | 1 | - | - |
| Chenopodium sp. (Goosefoots) | seed | 6 | 1 | 3 |
| Stellaria media (Common chickweed) | seed | 1 | - | - |
| Stellaria sp. (Chickweed) | seed | - | - | 1 |
| Silene sp. (Champions) | seed | - | - | 1 |
| Fallopia convolvulus (Black-bindweed) | seed | 2 | - | 1 |
| Rumex sp. (Docks) | seed | 17 | - | 6 |
| Rumex sp. (Docks) | tepals | 2 | - |  |
| Raphanus raphanistrum (Wild radish) | seed capsule | - | - | 1 |
| Rhinanthus minor (Yellow-rattle) | seed | 1 | - | - |
| Solanaceae (Nightshade family) | seed | 1 | - | - |


| Feature Type |  | Pit | Pit | Pit |
| :---: | :---: | :---: | :---: | :---: |
| Feature |  | 1004 | 1034 | 1043 |
| Context |  | 1006 | 1036 | 1044 |
| Sample |  | 1001 | 1005 | 1009 |
| Hyoscyamus niger (Henbane) | seed | - | 1 | - |
| Apiaceae (Carrot family) | seed | 4 | - | - |
| Odontites vernus/Euphrasia sp. (Red bartsia/Eyebrights) | seed | 5 | - | 2 |
| Papaver somniferum (Opium poppy) | seed | - | 1 | - |
| Galium aparine (Cleavers) | seed | 1 | - | 2 |
| Sherardia arvensis (Field madder) | seed | - | - | 1 |
| Fumaria sp. (Fumitory) | seed | - | 1 | - |
| Carex sp. (Sedges) | seed | , | - | 2 |
| Eleocharis sp. (Spike-rushes) | seed | 1 | - | - |
| Schoenoplectus sp. (Club-rushes) | seed | 1 | - | - |
| Indeterminata | seed | 8 | 2 | 2 |
| Indeterminata | tubers/rhizomes | 2 | - | - |
| Indeterminata | thorn | - | - | 1 |
| Indeterminata | ?seed capsule frag. | 1 | - | - |
| Indeterminata | ?tree bud | 1 | 1 | - |
| Mineralised remains |  |  |  |  |
| Papaver somniferum (Opium poppy) | seed | - | A* | - |
| Urtica sp. incl. U. dioica (Nettles) | seed | - | B | - |
| Linum catharticum (Fairy flax) | seed | - | C | - |
| Apiaceae (Carrot family) | seed | - | C | - |
| Rumex sp. (Dock) | seed | - | C | - |
| Lepidium tp. (Pepperwort type) | seed | - | C | - |
| Viola sp. (Violets) | seed | - | C | - |
| Asteraceae (Daisy family) | seed | - | C | - |
| Cyperaceae (Sedge family) | seed | - | C | - |
| Diptera (Flies) | insect puparia | - | B | - |
| Earthworm cocoons | insect eggs | - | B | - |
| Indeterminata | invertebrates ? worms | - | A | - |
| Indeterminata | ?insect eggs | - | $A^{* *}$ | - |
| Indeterminata | ?rodent droppings | - | C | - |
| Indeterminata | seed | - | A | - |
| Indeterminata | seed capsule | - | C | - |
| Indeterminata | Plant/faecal frag. | - | A* | - |
| Indeterminata | "nodules" | - | B | - |
| Indeterminata | herbaceous stems | - | $A^{* *}$ | - |
| Bioturbation proxies |  |  |  |  |
| Modern roots |  | 20\% | 25\% | 30\% |
| Modern seeds |  | C | B | A |
| Modern insects |  | C | C | - |
| Cecilioides acicula |  | A** | A** | A** |

Table 6 Analysis of wood charcoal

| Feature Type | Ditch | Gully | Pit | Layer | Pit | Pit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Feature | 104 | 108 | 1004 | - | 1034 | 1043 |
| Context | 105 | 109 | 1006 | 1014 | 1036 | 1044 |
| Group | 1059 | 1060 | - | - | - | - |
| Sample | 101 | 102 | 1001 | 1003 | 1005 | 1009 |
| Vol (I) | 40 | 36 | 38 | 5 | 32 | 67 |
| Flot (ml) | 10 | 80 | 130 | 300 | 40 | 170 |
| Charcoal volume > 2mm (ml) | 3 | 2 | 70 | 230 | 13 | 50 |
| Latin name (Common name) |  |  |  |  |  |  |
| Acer campestre (Field maple) | - | - | - | - | 3 | 2 |
| Calluna vulgaris tp. (Heather-type) | - | - | - | - | 1 | - |
| Corylus avellana (Hazel) | 2 | 1 | - | - | 1 | 1 |
| Fraxinus excelsior (Ash) | - | - | - | - | 1 | - |
| Maloideae (Apple sub-family) | - | - | 14 | 1 | - | 1 |
| Pinus sylvestris tp. (Scots pine-type) | - | 1 | - | - | - | - |
| Prunus sp. (Cherries) | 6 | 4 | 7 | 1 | 6 | 4 |
| Quercus sp. (Deciduous oaks) | 8 | 3 | 3 | 23 | 11 | 16 |
| Salicaceae (Willow family) | - | 2 | - | - | - | - |
| Ulex tp. (Gorse-type) | - | - | - | - | 2 | - |
| Ulmus sp. (Elms) | - | - | - | - | - | 1 |
| Indet - twigs | 2 | - | - | - | - | - |
| Indet - bark | - | - | - | - | 2 | - |
| Indet | 4 | 2 | 1 | - | - | - |
| Total no. of fragments analysed | 22 | 13 | 25 | 25 | 27 | 25 |
| Bioturbation proxies |  |  |  |  |  |  |
| Modern roots | 80\% | 40\% | 20\% | < $5 \%$ | 25\% | 30\% |
| Modern seeds | C | B | C | - | B | A |
| Modern insects | - | + | + | - | + | - |
| Cecilioides acicula | $A^{* *}$ | $\mathrm{A}^{* *}$ | $\mathrm{A}^{* *}$ | $\mathrm{A}^{* * *}$ | A** | $\mathrm{A}^{* *}$ |

Table 7 Environmental assessment (updated results)

|  |  | $\begin{aligned} & \stackrel{\rightharpoonup}{x} \\ & \text { © } \\ & \text { O} \\ & \text { OU } \end{aligned}$ | 을 은 |  |  |  |  |  |  | ¢ <br> $\stackrel{\square}{\square}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ditch | 104 | 105 | 1059 | 101 | 40 | 112 | 80\% roots, modern seeds C, earthworm eggs, Cecilioides acicula | Grain: A - Triticum spelta grain, Triticeae grain fragments. Chaff: C-T. spelta glume base, cerealsized culm node. Other: C Avena sp. grain. Heterogeneous preservation. | 3 | Burnt bone, fragmented (C), Moll-t (A**), Coal, clinker/cind er, fragmented ( $\mathrm{A}^{*}$ ) |
| Gully | 108 | 109 | 1060 | 102 | 36 | 74 | $40 \%$ roots, modern seeds $B$, insects, Cecilioides acicula | Grain: B - Triticum sp. and Hordeum vulgare. Chaff: cereal-sized culm node. Heterogeneous preservation. | 2 | Moll-t ( $\mathrm{A}^{* *}$ ), bone, fragmented (C), Coal, clinker/cind er, fragmented (A*) |
| Ditch | 1012 | 1013 | 1062 | 1002 | 31 | 175 | 80\% roots, modern seeds C, insects | Grain: B - Hordeum vulgare, Triticum sp., Triticeae. Chaff: $\mathrm{C}-\mathrm{T}$. spelta glume base. Heterogeneous preservation. | <1 | Moll-t (A***), Coal, fragmented (A), Clinker/cind er (B) |
| Layer | - | 1014 | - | 1003 | 5 | 300 | $<5 \%$ roots, Cecilioides acicula ( $\mathrm{A}^{* * *}$ ) | Grain: C - Hordeum vulgare, Triticeae. Heterogeneous preservation. | 230 | Moll-t <br> (A***), <br> Coal, fragmented (A) |
| Layer | - | 1015 | - | 1004 | 3 | 30 | 5\% roots, modern seeds C, Cecilioides acicula (A*) | Grain: C - Triticeae. Heterogeneous preservation. | 15 | Moll-t (A) |
| Ditch | 1046 | 1047 | 1061 | 1006 | 34 | 100 | $70 \%$ roots, modern seeds $A^{*}$, insects, Cecilioides acicula ( $\mathrm{A}^{* *}$ ) | Grain: C - Hordeum vulgare, Triticum sp., Triticeae. Chaff: C - Triticum spelta glume bases. Other: C - Corylus avellana nutshell fragment, Rumex sp. Heterogeneous preservation. | 2 | Moll-t (A), Coal, fragmented ( $\mathrm{A}^{* *}$ ), Clinker/cind er (A), SAB (C), bone, fragmented (B) |
| Ditch | 1050 | 1051 | 1061 | 1008 | 34 | 23 | $30 \%$ roots, modern seeds A, Cecilioides acicula ( ${ }^{* *}$ ) | Grain: C - Triticum sp., Triticeae. Other: C Poaceae (Poa/Phleum sp.type), monocot stems. Heterogeneous preservation. | 1 | Moll-t (A), <br> Coal, <br> fragmented ( ${ }^{* *}$ ), <br> Clinker/cind er (A) |

Abundance scale: $\mathrm{C}=<5$ ('Trace'), $\mathrm{B}=5-10$ ('Rare'), $\mathrm{A}=10-30$ ('Occasional'), $\mathrm{A}^{*}=30-100$ ('Common'), $\mathrm{A}^{* *}=100-500$ ('Abundant'), $\mathrm{A}^{* * *}=>500$ ('Very abundant/Exceptional'

## Appendix 3 OASIS summary

OASIS ID (UID): wessexar1-502991
Project Name: Main Street, Great Casterton
Activity type: Open Area Excavation
Project Identifier(s): 247881
Planning Id: 2020/0706/FUL
Reason for Investigation: Planning requirement
Organisation Responsible for work: Wessex Archaeology
Project Dates: 04-Nov-2021-17-Nov-2021
HER: Leicestershire HER
Project Methodology: Archaeological mitigation works comprising a strip, map and sample excavation on a parcel of land measuring approximately covering $600 \mathrm{~m}^{2}$ located on Main Street, Great Casterton, Rutland, PE9 4AU.

Project Results: The majority of the archaeological remains was Romano-British in date and comprised ditches and pits. The period was divided into two phases of activity, through pottery dating, scientific dating, and stratigraphic relationships. The first phase of activity comprised two parallel ditches, probably boundary ditches, with a small drainage offshoot from the northern ditch. A large pit, which was cut by a drainage gully, was also present in this phase along with a smaller pit. Two small areas of burning were also dated to this phase. Finds from these features date the phase to the early Roman period, up to the 2nd century AD, while two samples, one from the small pit and one from a burnt area, were radiocarbon dated to the 2nd century AD (UBA-49740, $1946 \pm 26$ and UBA-49741, $1977 \pm 21$ BP). The second phase of activity comprised a further ditch, on a different alignment, and a rubbish pit, both cutting into or across the earlier features. Finds from these features provide a late Romano-British date, up to the 4th century AD, while a sample from the rubbish pit was radiocarbon dated to the mid-3rd-4th century (UBA-49742, $1700 \pm 22$ ). Other remains include two ditches dating to the post-medieval/modern period. The finds assemblage is modest but provides good dating for most features. The pottery and animal bone assemblages provide evidence of domestic activity, whilst the environmental remains provide evidence of local industry, particularly crop processing. Interesting artefacts recovered from the Roman features include two coins, a copper toilet implement and a glass bead.

## Keywords:

Subject/Period: Coin: ROMAN
FISH Archaeological Objects Thesaurus
Subject/Period: Toilet Article: ROMAN
FISH Archaeological Objects Thesaurus
Subject/Period: Bead: ROMAN
FISH Archaeological Objects Thesaurus

## Archive:

Physical Archive, Documentary Archive, Digital Archive - to be deposited with Rutland County Museum

## Reports in OASIS:

Jackson-Slater, C., (2023). Main Street, Great Casterton, Rutland: Final Report. Sheffield: Wessex Archaeology. 247881.3.

## Appendix 4 Selection Strategy

## 247880-1 <br> Main Street, Great Casterton version 1, January 2022

## Selection Strategy

## Project Information

Project Management

| Project Manager | John Winfer |  |
| ---: | :--- | :--- |
| Archaeological Archive <br> Manager | Lorraine Mepham |  |
| Organisation | Wessex Archaeology (WA) | Date Contacted |
| Stakeholders |  | 09/04/2021 |
| Collecting Institution(s) | Rutland Museum, Oakham (curator contact <br> Lorraine Cornwell) <br> Archaeology Data Service | N/A |
| Project Lead / Project | Lead: Clare Jackson-Slater <br> Assurance | Assurance: John Winfer |
| Landowner / Developer | Mr James Tusting <br> Burghley Estate Preservation Trust, <br> Burghley Estate Office, Stamford |  |
| Other (external) | Senior Planning Archaeologist, <br> Leicestershire County Council (LCC) |  |
| Other (internal) | WA Finds Manager (Rachael Seager Smith) <br> WA Environmental Manager (Sander Aerts) <br> WA Geomatics \& BIM Manager (Chris | N/A; briefed as part <br> of standard project <br> process |
|  | Breeden) <br> WA internal finds \& environmental specialists <br> (see WSI) |  |

## Resources

Resources required
WA Finds and Environmental specialists; WA archives team

## Context

This overarching selection strategy document is based on the CIfA Archives Selection Toolkit (2022) and relates to archaeological project work being undertaken by Wessex Archaeology as defined in
the WSIs. It covers all stages of fieldwork on the site (evaluation and mitigation); an abbreviated selection strategy was provided at evaluation reporting stage, but this is now superseded.

Relevant standards, policies and guidelines consulted include:

## General

- Selection, Retention and Dispersal of Archaeological Collections (Society of Museum Archaeologists, 1993)
- Archaeological archives: a guide to best practice in creation, compilation, transfer and curation (AAF, revised edition 2011, section 4)
- Rutland County Museum Archaeological Archives Standard (December 2017)


## Relevant research agendas

- Knight, D, Vyner, B and Allen, C 2012 East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands. The University of Nottingham and York Archaeological Trust


## Finds

- Standard Guidance for the collection, documentation, conservation \& research of archaeological materials (CIFA, 2014)
- A Standard for Pottery Studies in Archaeology (Prehistoric Ceramics Research Group, Study Group for Roman Pottery, Medieval Pottery Research Group 2016)


## Environmental

- Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation (English Heritage 2011)
- Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (Historic England 2015)
- Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains (English Heritage 2008)


## Research objectives of the project

Following consideration of the archaeological potential of the site and the regional research framework, the research objectives of the excavation were to:

- Determine what processes drove the growth of secondary urban centres;
- Determine if we can chart more closely the processes of agricultural intensification and expansion and the development of field systems.


## REVIEW POINTS

Consultation with all Stakeholders regarding project-specific selection decisions will be undertaken at a maximum of two project review points:

1. End of data gathering (assessment stage)
2. Archive compilation

## 1 - Digital Data

## Stakeholders

WA Project Manager; WA Archives Manager; WA Geomatics \& BIM Manager; LCC Senior Planning Archaeologist; ADS

## Selection

## Location of Data Management Plan (DMP)

This document is designed to link to the project Data Management Plan (DMP), which can be supplied on request.

To promote long-term future reuse deposition file formats will be of archival standard, open source and accessible in nature following national guidance from ADS 2013, CIfA 2014c and the requirements of the digital repository.

Any sensitive data to be handled according to Wessex Archaeology data policy to ensure it is stored and transferred securely. The identity of individuals will be protected in line with GDPR. If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligation.

| Document type | Selection Strategy | Review Points |
| :---: | :---: | :---: |
| Site records | Most records will be completed digitally on site (with the exception of registers). All will be selected for deposition. | 2 |
| Reports | To include WSIs, Interim reports, post-excavation assessment reports, publication reports. Final versions only will be selected for deposition. | 1, 2 |
| Specialist reports | Specialist reports will generally be incorporated in other documents with only minimal editing (reformatting, etc), and will be selected only if the original differs significantly from the incorporated version. | 1, 2 |
| Photographic media (site recording) | Substandard and duplicate images will be eliminated; pre-excavation images may not be selected where duplicated by post-excavation shots; working shots will be very rigorously selected to include only good quality images with potential for reuse and those integral to understanding features, their inter-relationships and location on site; site condition and reinstatement photos will not be selected. | 1, 2 |
| Photographic media (objects) | Images of individual or groups of objects, to include those of significance selected for publication and reporting. Substandard and duplicate images will be eliminated; all others will be selected. | 2 |
| Survey data | Site survey data will be used to generate CAD/GIS files for use in post-excavation activities. Shapefiles of both the original tidied survey data, and the final phased drawings will be selected. | 1, 2 |
| Databases and spreadsheets | Context, finds and environmental data in linked databases. Final versions will be selected. Any specialist data submitted separately will also be selected. | 1, 2 |

Administrative records

Includes invoices, receipts, timesheets, financial
selected, with the exception of any correspondence relating directly to the archaeology.

## De-Selected Digital Data

De-selected data will be stored on WA secured servers on offsite storage locations. The WA IT department has a backup strategy and policies that involves daily, weekly and monthly and annual backups of data as stated in the DMP. This strategy is non-migratory, and original files will be held at WA under their unique project identifier, as long as they remain useful and usable in their final version format. This data may also be used for teaching or reference collections by the museum, or by WA unless otherwise required by contractual or copyright obligations.

Amendments

| Date | Amendment | Rationale | Stakeholders |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |

## 2 - Documents

## Stakeholders

WA Project Manager; WA Archives Manager; Rutland Museum; LCC Senior Planning Archaeologist

## Selection

A security copy of all paper/drawn records is a requirement of CIfA guidelines. This will be prepared on completion of the project, in the form of a digital PDF/A file. If the security copy is not required for deposition by Stakeholders, it will be retained on backed-up servers belonging to Wessex Archaeology.

Note that some information may be redacted to comply with GDPR legislation (personal data).

| Document type | Selection Strategy | Review <br> Points |
| :--- | :--- | :--- | :--- |
| Site records | Selected records only will be completed in hard copy on <br> site (registers, some graphics). All will be selected for <br> deposition. | 2 |
| Reports | Hard copies of all reports (SSWSIs, Interim reports, post- <br> excavation assessment reports, publication reports). All <br> will be selected for deposition, with the exception of <br> earlier versions of reports which have been clearly <br> superseded. | 1,2 |
|  | Specialist reports will generally be incorporated in other | 1,2 |
|  <br> data | documents with no significant editing. Supporting data is <br> more likely to be included in the digital archive, but if <br> supplied in hard copy and not incorporated elsewhere, <br> this will be selected. |  |


| Photographic media | X-radiographic plates: all will be selected. | 2 |
| :--- | :--- | :--- |
| Secondary sources | Hard copies of secondary sources will not be selected. | 2 |
| Working notes | Rough working notes, annotated plans, preliminary <br> versions of matrices etc, will not be selected. | 2 |
| Administrative records | Invoices, receipts, timesheets, financial information, hard <br> copy correspondence. None will be selected, with the <br> exception of any hard copy correspondence relating <br> directly to the archaeology. | 2 |
|  |  |  |

## De-Selected Documents

De-selected sensitive analogue data will be destroyed (shredded) subject to final checking by the WA Archives team with the remainder recycled. Possible exceptions include records retained for business purposes, including promotional material, teaching and internal WA library copies of reports.

## Amendments

| Date | Amendment | Rationale | Stakeholders |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |

## 3 - Materials

Material type
Artefacts (bulk and registered finds)
Section 3. 3.1

## Stakeholders

WA Archives Manager; WA Finds Manager; WA internal specialists; Rutland Museum; LCC Senior Planning Archaeologist; landowner

## Selection

Proposals have been made by WA internal specialists based on observations made during assessment; they may be modified (although probably not significantly) following analysis.

| Find Type | Selection Strategy | Review <br> Points |
| :--- | :--- | :--- |
| Animal bone (190 <br> frags) | Most fragments came from securely stratified and dated <br> Romano-British contexts but offer limited potential for <br> further analysis, although there is some potential for <br> radiocarbon dating. Retain all identified fragments from <br> secure contexts and discard those from undated features | 1,2 |
|  | Negligible quantity (all frags from one tile); very limited <br> archaeological significance; no further research potential. <br> Retain none. | 1,2 |
| Ceramic building |  |  |
| material (7 frags) |  |  |


| Clay tobacco pipes (6 frags) | Negligible quantity; no archaeological significance; no further research potential. Retain none. | 1, 2 |
| :---: | :---: | :---: |
| Fired clay (1 frag) | Negligible quantity; no archaeological significance; no further research potential. Retain none. | 1, 2 |
| Glass (1 object and 2 frags) | Negligible quantity; modern vessel glass has no archaeological significance; no further research potential. Retain none. Romano-British bead is item of intrinsic interest; retain. | 1, 2 |
| Marine shell (3 frags) | Negligible quantity; little or no archaeological significance; no further research potential. Retain none. | 1, 2 |
| Metalwork (17 objects) | Minimal quantity but includes objects of intrinsic interest (2 Roman coins, one toilet implement). Lead (waste fragment) and iron (nails and hobnails) are of lesser significance and the iron is vulnerable to continued deterioration (X-ray will act as basic record). Retain only coins and toilet implement | 1, 2 |
| Metalworking residues $(240 \mathrm{~g})$ | Negligible quantity; little or no archaeological significance; no further research potential. Retain none. | 1, 2 |
| Pottery (521 sherds) | Relatively small assemblage, mostly from single features; includes elements of intrinsic interest (eg stamped samian, graffito) as well as diagnostic vessel forms from a number of features. Archaeological significance through provision of dating evidence and information on sources of supply; some research potential beyond the immediate remit of the current project. Retain all | 1, 2 |
| Stone (1 frag) | Negligible quantity; little or no archaeological significance; no further research potential. Retain none. | 1, 2 |
| Worked bone (2 objects) | Negligible quantity, but these are items of intrinsic interest (spindlewhorl and whistle). Retain both. | 1, 2 |
| De-Selected Material |  |  |

Consideration will be given to the suitability for use for handling or teaching collections by the museum or Wessex Archaeology, or whether they are of particular interest to the local community. De-selected material will either be returned to the landowner or disposed of. All will be adequately recorded to the appropriate level before de-selection.

Amendments

| Date | Amendment | Rationale | Stakeholders |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
|  |  |  |  |

## 3 - Materials

| Material type | Palaeoenvironmental material | Section 3. | 3.2 |
| :--- | :--- | :--- | :--- |
| Stakeholders |  |  |  |
| WA Archives Manager; WA Environmental Officer; WA internal specialists; Rutland Museum; LCC <br> Senior Planning Archaeologist |  |  |  |

## Selection

All environmental sampling has been undertaken following a site-specific sampling strategy or Wessex Archaeology's in-house guidance, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015a) and as stated in the relevant WSI (Wessex Archaeology 2021b). All environmental samples collected and suitable to address project aims and research objectives, as deemed by Wessex Archaeology's Environmental team, have been processed and assessed.

| Env Material Type | Selection Strategy | Review <br> Points |
| :--- | :--- | :--- |
| Unprocessed samples | In the event of any samples being eliminated from <br> processing due to lack of archaeological significance, <br> these will not be retained. | 1,2 |
| Unsorted residues | Residues from samples not proposed for further analysis <br> will be de-selected, with the possible exception of any <br> taken for the recovery of human remains. | 1,2 |
| Assessed flots with no <br> extracted materials | Assessed flots with no extracted materials are <br> considered to be devoid of any significant environmental <br> evidence and will be de-selected. | 1,2 |
| Assessed or analysed <br> flots with extracted <br> materials | All flots will be retained. The residues were discarded <br> after sorting. | 1,2 |
| Charred \& waterlogged <br> plant remains | All extracted plant remains will be selected | 2 |
| Mollusca | All extracted mollusca will be selected | 2 |

## De-Selected Material

De-selected material from samples will be disposed of after processing and post-excavation recording. All processed material will be adequately recorded to the appropriate level before deselection.

| Amendments |  |  |  |
| :--- | :--- | :--- | :--- |
| Date | Amendment | Rationale | Stakeholders |
|  |  |  |  |
|  |  |  |  |




Phased site plan
A. North-east facing section of pits 1004 and 1008
B. North-west facing section of ditch 1012 (group 1062)

C. Wrap-around section of ditch 1019 (group 1062) and gully 1021


## E. North-west facing section of ditch 1048

## D. Wrap-around section of ditch 1028 (group 1061), gully 1031, and pit 1034



## G. South-east and north-west facing reverse section of rubbish pit 1043

## H. South-east facing section of ditch 1052 and pit 1058

F. Wrap-around section of ditch 1039 (group 1059) and gully 1041 (group 1060)

$\pi^{s w}$


| Date: | $22 / 03 / 2023$ | Revision Number: | 0 |
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| Scale: | $1: 20$ @ A3 | Illustrator: | ND |
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A. Pottery at $1: 4$

B. Bead at 2:1

C. Copper alloy at 1:1


0
D. Worked bone at 1:2


$$
\sqrt{11}-8
$$

0
50 mm


Plate 1: Fire pit 1004, view from north-east. 1 m scale


Plate 2: Ditch 1012 (group 1062), view from north-west



Plate 3: Relationship slot in ditch 1019 (group 1062) and gully 1021, view from northwest. 0.3 m scale


Plate 4: Relationship slot in ditches 1023 (group 1059) and 1025 (group 1061), view from west. 1 m scale

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Plate 5: Overview of ditch 1028 (group 1061), gully 1031 and pit 1034, view from south-east. 0.3 m scale


Plate 6: Overview of quadrants within pit 1043, view from west. $2 \times 1 \mathrm{~m}$ scale

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Plate 7: Ditch 1048 (group 1059), view from north-west. 0.5 m scale


Plate 8: Ditch 1050, view from south-east. 1 m scale

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## Wessex archaeology

