Cranford Business Park, Kettering

Post-Excavation Assessment and Updated Project Design

June 2018

Client: CgMs on behalf of Roxhill

Issue No: Final
OA East Report No: 2062
NGR: SP 9008 7592

oxfordarchaeology
eastwesteast

Client Name:	CgMs on behalf of Roxhill
Document Title:	Cranford Business Park, Kettering
Document Type:	Post-Excavation Assessment and Updated Project Design
Report No.:	2062
Grid Reference:	SP 9008 7592
Planning Reference:	KET/2013/0661
Site Code:	XNNCAB16
Invoice Code:	XNNCAB16
Receiving Body:	Northamptonshire County Council
HER No.:	ENN108298
OA Document File Location:	X:\Active Projects_Use KT\Northants\XNNCAB15\XNNCAB16 Excavation\reports
OA Graphics File Location:	X:\Active Projects_Use KT\Northants\XNNCAB15\XNNCAB16 Excavation\Project Data\Graphics
Issue No:	Final
Date:	August 2017 (updated June 2018)
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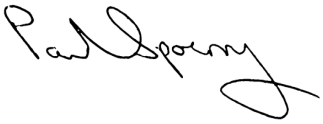
Signature:	

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Summary

During 2016, Oxford Archaeology East carried out a series of excavations across a large area to the south-east of Kettering, Northamptonshire in advance of the construction of the Cranford Business Park development.

Seven areas were excavated, comprising a total of 6.70ha, which revealed a broad range of features spanning the prehistoric to Roman periods. Iron Age ditches and a pit alignment were identified in Areas A and B in the eastern part of the development area, while a Late Neolithic-Early Bronze Age ring-ditch and a number of cremation burials were encountered nearby in Area C. This area also contained a probable Iron Age shrine along with evidence for contemporary activity in the form of ditches and pits. To the west of this, in Areas D and E, were the remains of Iron Age enclosures and fields surrounding several roundhouse gullies and associated settlement-related features. An extensive Iron Age and Romano-British site was revealed in Areas F1 and F2, extending on either side of the A6. Here a series of ditched enclosures were found, within which were the remains of structures, including two roundhouses, in addition to several wells, stone-lined tanks and corn driers. A single infant skeleton of Roman date was also found in a pit in Area F2.

A moderately large artefactual and ecofactual assemblage was recovered, with pottery, worked stone, structural fired clay, animal bone and charred plant remains having the greatest potential for elucidating the range and chronology of activities being undertaken across the various sites. Of at least regional importance is the evidence for crop-processing and possible malting/brewing focused on Area F2, which appears to have been on a large scale. This, and the broader evidence for landscape use during the later prehistoric and Roman periods, would be further enhanced if combined with the results from the adjacent excavations undertaken to the east of Kettering - with which there appear to be some notable similarities.

Acknowledgements

The author would like to extend thanks to Steve Weaver of CgMs Consulting for commissioning the archaeological works and to Roxhill Developments Ltd for funding it. The fieldwork was directed by the author (Nick Gilmour) and Lazlo Lichtensein, with the assistance of Dave Browne, Zoe Clarke, Edmond Cole, Lexi Dawson, Devin Johnson, Toby Knight, Paddy Lambert, Rebecca Pridmore, Denis Sami and Chris Swain and Daria Tsybaeva. The site survey was carried out by Daria Tsybaeva and Dave Brown. Machine excavation was undertaken by Anthill Plant Hire and Lattenbury Plant. The site was monitored by Lesley-Ann Mather of NCC and the project managed by James Drummond-Murray.

1 INTRODUCTION

1.1 Background

1.1.1 An open area excavation was carried out by Oxford Archaeology East on land north and south of the A14 at Junction 10, Kettering (site centred on SP 9008 7592, Fig. 1). The excavation was commissioned by CgMs on behalf of Roxhill as a subject of planning condition (App Ref KET/2013/0661) prior to industrial estate development with associated infrastructure.

1.1.2 The excavation comprised a total of 6.68ha over seven areas and was conducted in two phases. Phase 1 comprised Areas D, E, F1 and F2 and took place between March and August 2016. Phase 2 (Areas A, B and C) was completed between October and November 2016.

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

1.2 Geology and topography

1.2.1 The site geology comprises ooidal ironstone of the Northamptonshire Sand Formation, with sandstone and mudstone of the Stamford Member along the western periphery (BGS 2015).

1.2.2 Located to the south-east of Kettering, the site comprises mixed agricultural land located on a south-west facing slope, that rises from 78.5m OD (in the west) up to 90.6m OD (to the east).

1.3 Archaeological background

1.3.1 A thorough archaeological and historical background study for the site has been previously conducted and will not be described here (Pugh 2012). A number of preceding archaeological works have been carried out on the site and within its vicinity. This section is based on the summary produced by Bush (2016).

Geophysical survey

1.3.2 A geophysical survey has previously been undertaken on the site (Richardson 2015). The survey identified two areas of probable Iron Age/Roman settlement activity, along with several other enclosures. A number of other possible anomalies may also relate to settlement activity. A series of former field boundaries, areas of ridge and furrow, and modern ploughing suggest that the area has been used for agricultural activity since the medieval period. A number of modern anomalies relating to the former quarrying on the site were also identified.

Previous fieldwork (Fig. 2)

1.3.3 An evaluation was carried out on the site in 2016, which identified a number of archaeological remains that broadly confirmed the results of the geophysical survey (Bush 2016). The earliest feature was a single Early Bronze Age collared urn cremation.

Later Iron Age activity (350-100BC) in the form of pits and enclosure ditches was concentrated across the north and eastern portions of the site. A former early 20th century ironstone quarry and a network of associated tramways extended across the south-eastern part of the site. South of the A6 a substantial amount of Roman archaeology was uncovered represented predominantly by a series of farmstead enclosures.

1.3.4 A number of archaeological investigations have been undertaken within the surrounding environs of the site. Fieldwork carried out to the immediate north of the development area, ahead of the construction of the A14 (Soden & Dix 1994), revealed a series of pits and gullies. In excess of 200 sherds of Middle Iron Age pottery were recovered from these features.

1.3.5 To the north of the A14 is the 350ha Kettering East Urban Extension. Archaeological mitigation for this development is still in the process of being undertaken, however thus far the archaeological works have identified eight distinct areas of activity, most of which date to the later Iron Age and earlier Roman periods. Early Saxon remains have also been identified on the site (Gilmour 2012; 2013 & 2014). Iron Age remains at the southern limit of this development (referred to as Area 6) have the potential to be associated with those identified during the A14 fieldwork (see above), extending into the present site and correlating with the findings from the geophysical survey.

1.3.6 A series of archaeological works have been undertaken to the immediate west of the present development at the Latimer Business Park. Here evidence of Neolithic agricultural activity was identified along with assemblages of struck flint and animal bone (Foundations Archaeology 2000). A number of undated and post-medieval features were also uncovered.

1.3.7 An evaluation on land off Higham Road, Burton Latimer (approximately 1.5km south of the site), identified a number of pits containing 2nd to 3rd century AD pottery assemblages; along with a circular building of limestone construction. The character of the building suggests it may be the remains of a Romano-British temple (Moan 2014).

1.4 Original research aims and objectives

1.4.1 The main aim of this excavation is to preserve the archaeological remains on the site by record in order to attempt to understand past use of the site. Some more specific aims are given below.

Regional research aims

1.4.2 Assess the evidence for the evolution of settlement hierarchies (Knight *et al.* 2012, 64).

1.4.3 Investigate intra-regional variations in the development of fields and linear boundary systems (*ibid*, 65).

1.4.4 Characterise placed deposits and sites of shrines or temples (*ibid*, 67). A geophysical anomaly located in Area C bears a striking resemblance to a feature excavated *c*. 2.2km to the north, which has been identified as a Middle Iron Age Shrine (Gilmour 2014).

Site specific research aims

1.4.5 Characterise the form and development history of the sites.

1.4.6 Determine the role of each of the areas of Iron Age and Roman activity. If remains of any occupational evidence or domestic buildings survive, their form and associated artefacts will help to define their function, date and use and any subsequent modifications in form and usage. If evidence of crop or food processing survives (*e.g.* burnt grain, butchered animal bone) conclusions can be drawn on the type(s) of agricultural regimes that may have been in operation (both domestic and wild).

Research frameworks

1.4.7 This excavation takes place within, and will contribute to the objectives of the Regional Research Framework relevant to this area:

East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands (Knight *et al.* 2012)

1.5 Fieldwork methodology

1.5.1 The excavation, targeted on the geophysical and evaluation results, was undertaken in accordance with the Chartered Institute for Archaeologists (2014a) *Standard and guidance for archaeological excavation*, with the local and national planning policies, and the Written Scheme of Investigation (WSI; Gilmour 2016).

1.5.2 Prior to excavation, service plans were checked to ensure that access and groundworks could be conducted safely. Access to site, locations for welfare units and spoil storage were agreed with the Client.

1.5.3 The stripping was carried out by 20 tonne mechanical excavators using toothless ditching buckets to the depth of geological horizons, or to the upper interface of archaeological features or deposits, whichever was encountered first. Several 30 tonne dumper trucks were used to move spoil. All machine excavation took place under the supervision of a suitably qualified and experienced archaeologist.

1.5.4 Topsoil and subsoil were kept separate during excavation to allow for sequential backfilling of excavations.

1.5.5 All archaeological features and deposits were excavated by hand, unless agreed otherwise with the County Archaeologist, in slots of at least 1m in width. The method of excavation was decided by the senior project archaeologist. Excavation aimed to characterise the full archaeological sequence down to undisturbed natural deposits. Apparently natural features (such as tree throws) were excavated sufficiently to establish their character.

1.5.6 When human remains were encountered, the Client, County Coroner, and the County Archaeologist were notified immediately. Human remains were excavated in accordance with appropriate legislation and Environmental Health regulations after a Home Office burials licence was obtained.

1.5.7 Metal detector searches took place at all stages of the excavation by an experienced metal detector user. Both excavated areas and spoil heaps were checked.

1.5.8 A register of all features, photographs, survey levels, small finds, and human remains was kept. Each feature, layer and deposit was documented on pro-forma context sheets under a unique number, and hand-drawn in section and plan. Where stratified deposits were encountered, a Harris Matrix was compiled during the course of the excavation.

1.5.9 Site survey, including digital planning, was carried out using a survey-grade differential GPS (Leica CS10/GS08 or Leica 1200) fitted with "smartnet" technology with an accuracy of 5mm horizontal and 10mm vertical.

1.5.10 Detailed plans of individual features or groups were drawn at an appropriate scale (1:10 or 1:20). Sections of features were drawn at 1:20 or 1:10. All sections were tied in to Ordnance Datum. All site drawings include the following information: site name, site code, scale, plan or section number, orientation, date and the name or initials of the archaeologist who prepared the drawing.

1.5.11 Plans and sections were supplemented with photogrammetric recording of some of the excavation areas, including aerial shots obtained using a polecam.

1.5.12 The photographic record comprises high resolution digital photographs. Photographs included both general site shots and photographs of specific features. Every feature was photographed at least once. Photographs include a scale, north arrow, site code, and feature number (where relevant). The photograph register contains these details, and photograph numbers were listed on corresponding context sheets.

1.5.13 Artefacts were collected by hand and metal detector, bagged and labelled according to the individual deposit from which they were recovered. Locations of ‘small finds' were recorded more accurately by GPS. All artefacts were retained for post excavation processing and assessment, except:

- those which are obviously modern in date
- where very large volumes are recovered (typically ceramic building material)
- where directed to discard on site by the County Archaeologist.

Features with good potential for palaeo-environmental remains or absolute dating had bulk samples taken of up to 40 litres. Samples were labelled with the site code, context number and sample number.

1.6 Project scope

1.6.1 This Post-Excavation Assessment and Updated Project Design deals solely with the results of two phases of excavation of land at A14 Junction 10, Cranford Business Park, Kettering. It does not include the results of the evaluation (Bush 2016).

2 FACTUAL DATA

2.1 Stratigraphy

General

2.1.1 The following stratigraphic records were created:

Record type	Number
Context records Area Context range A-C 10400-1813 D 5000-5441 E 3500-3879 F1 2200-2234 F2 2500-3270	1992
Plans	c.250
Section drawings	630
Digital photographs	3003

Table 1. Quantification of site records

2.1.2 A broad range of features and deposits was revealed, including ditches, postholes, pits, tanks, wells and burials. These represent settlement and agricultural/industrial-related activities spanning the Bronze Age, Iron Age and Roman periods.

Area A *(Fig. 3)*

2.1.3 Area A was located at the eastern edge of the development area and was the smallest excavation, with a total size of just 0.03ha. Two ditches, of probable Iron Age date, were located within this area.

Area B *(Fig. 4)*

2.1.5 Area B was located directly to the south of the A14 and comprised an area of 0.12ha. An Iron Age pit alignment was located in this area, which was parallel and adjacent to the edge of at least two enclosures of similar date.

Area C *(Fig. 5)*

2.1.6 Area C was 1.70ha in size. Within this area a large ring-ditch, of probable Late Neolithic or Early Bronze Age date, was revealed. Some distance to the west of this a small group of cremations was found, which appear to be of Early Bronze Age date. A sub-rectangular ditched feature revealed close to the southern limit of the area may represent the remains of an Iron Age shrine, while further Iron Age ditches and pits were also recorded across the site. Some of the Iron Age pits may have been related to ironworking.

Area D *(Fig. 6)*

2.1.7 Area D was located immediately to the south of the A14 and covered a total area of 1.22ha. Several Iron Age ditches, which appear to have defined enclosures, were

recorded, within which were a number of roundhouse eaves-drip gullies, along with several pits.

***Area E** (Fig. 7)*

2.1.8 Area E encompassed a total area of just under 0.60ha. An Iron Age enclosure containing several roundhouse eaves-drip gullies, along with pits was excavated in this area. Further ditches and a pit of Iron Age date were located outside of the enclosure.

***Area F1** (Fig. 8)*

2.1.9 Area F1 (0.60ha) was located directly to the north of the present route of the A6. It was split into three smaller areas, due to the need to retain access for plant and to avoid disrupting a public right of way. The archaeology revealed in this area was not extensive and appears to represent the periphery of the Roman activity identified in Area F2. Features include enclosure ditches and a scatter of possible pits.

***Area F2** (Fig. 8)*

2.1.10 Area F2 (2.42ha) was located directly to the south of the present route of the A6. A series of enclosures (formed by ditches) was identified across this area. In addition, two roundhouses were recorded, along with several wells, a number of stone built corn driers, two stone-lined tanks and numerous pits and postholes. The majority of these were of Romano-British date.

2.2 Artefacts

General

2.2.1 The following finds were recovered:

Material	Number	Weight (kg)
Worked/unworked flint	82/13	-
Pottery	9462	146.519
Fired clay (including loomweight and oven/kiln furniture)	328	8.251
Glass	12	0.081
Iron slag	208	3.33
Worked bone	2	-
Copper alloy objects	17	-
Ceramic spindle whorl	2-3	-
Iron objects	37	-
Stone	57	126.15

Table 2. Quantification of artefacts

Lithics

2.2.2 A total of 82 worked flints was recovered, together with 13 fragments of unworked burnt flint (22g). The worked flint was thinly distributed across the site, with the

majority being residual material found in later features. The major exception to this is a small amount of material from the Late Neolithic or Early Bronze Age ring-ditch in Area C, which produced five pieces including a small end scraper.

Small finds

2.2.3 Seventeen fragments of copper alloy, probably representing 16 items were recovered, in variable state of preservation. Most come from Area F2, with single items from Areas D, E, and F1. The group consists mainly of items of personal adornment, principally brooches and buckles, but other objects include a needle and a late thimble. The group ranges in date from pre-Conquest Iron Age to the post-medieval period.

2.2.4 Two worked bone objects were recovered: a possible awl or borer from Area F1 and a broken fragment of a buckle or toggle from Area F2. Neither are closely datable.

2.2.5 Two ceramic objects were recovered: a largely complete beehive-shaped spindle whorl probably of Iron Age date from Area C and a second spindlewhorl probably of Roman date from Area F2.

2.2.6 There is a small assemblage of poorly-preserved ironwork – 37 fragments, probably representing a similar number of objects. The majority derive from Area F2, with nine fragments from Area D. Most are nails (30, c. 81 %), with the rest being featureless and unidentifiable fragments.

Prehistoric pottery

2.2.7 The assemblage comprises 4374 sherds (51kg) including 101 sherds of Bronze Age pottery, two flint-tempered earlier Iron Age sherds, 3190 later Iron Age sherds dating from *c.* 250BC to *c.*100/50BC and 1081 Late Iron Age sherds (50BC – AD50). The Late Iron Age pottery is almost all handmade but includes some wheel thrown sherds and is contemporary / contiguous with the earliest pottery in the Roman pottery assemblage. The pottery is in moderate condition and includes several complete vessel profiles, although no complete vessels were recovered.

Roman pottery

2.2.8 A total of 5088 Roman pottery sherds, weighing 95.162kg, were recovered representing a minimum of 1052 vessels primarily recovered from ditches, a variety of pits, tanks and other features. The bulk of this ceramic group is distinctive as it mostly comprises Early to Mid-Roman coarse utilitarian jars and storage jars, with very small numbers of finer domestic wares. The pottery is characteristic of a group of wares not used within the home but rather in an agrarian industrial setting.

Stone

2.2.9 A total of 126.15kg (x57 pieces) of worked stone, burnt stone and building stone was recovered. Of this at least 103.6kg is composed of worked stone, comprising quernstone (minimum 16 individual querns), whetstone, hammerstone/anvil stone, and miscellaneous stone (included in which is part of a stone basin and a door pivot). The great majority of the assemblage is Roman in date, with a smaller number being Late Iron Age, a few Middle Iron Age, and more rarely Bronze Age (most likely Middle Bronze Age).

Iron slag

2.2.10 A total of 3.33kg (x208 pieces) of iron smithing slag was retrieved, of which at least 3kg consists of vitrified hearth lining and 0.24kg of denser iron slag. Almost all of the excavated material came from the Romano-British site at Area F2 (with a very small amount from Area F1), although some trace remains of smithing were also recovered from the Middle Iron Age sites at Areas C and D.

Fired clay

2.2.11 In total the archaeological work produced 328 fragments, 8.251kg, of fired clay from contexts in Areas C, D, E, F1 and F2. The assemblage comprises both amorphous and structural fragments (142 (731g) and 186 (7520g) respectively. The structural assemblage is mostly made up of low fired material, from Area F1, that was probably oven (or kiln) furniture; including thick clay plate-like objects, some of which are perforated, and fragments of lining. There are also fragments of kiln plate, triangular loomweights and a spindlewhorl.

Glass

2.2.12 A small assemblage of Roman vessel glass was recovered from Area F2, consisting of just 12 fragments and representing a maximum of six vessels. Of these three vessels (nine fragments) are sufficiently diagnostic to allow identification. In addition, a complete annular glass bead was also recovered.

2.3 Environmental and osteological evidence

Human bone

2.3.1 Eight cremation burials of probable Early Bronze Age date (seven unurned and one in an inverted collared urn) were recovered, along with an infant skeleton; the latter dated to the Roman period. All cremated remains are estimated to be adult based on the size and robusticity of the bone. A minimum of one individual is estimated for each deposit, although sex could not be determined and no pathological changes were observed.

Animal bone

2.3.2 A moderately large animal bone assemblage (41.40kg) was recovered, with the number of recordable fragments totalling 641. Animal bone was recovered from Areas D and E (Iron Age) and F1 and F2 (Roman). The species represented includes cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), sheep (*Ovis aries*), horse (*Equus cabullus*), pig (*Sus domesticus*), dog (*Canis familiaris*), house mouse (*Mus musculus*) and hare (*Lepus sp*.). A fish vertebra, an unidentified micromammal and the remains of a bird (possible corvid) are also present. Both the Iron Age and Roman assemblages are dominated by cattle, followed by sheep.

Charred plant remains

2.3.3 A total of 265 bulk samples were taken during the excavation of six areas (A, B, C, D, E, F2). Sub-samples of each of the bulk samples were processed and briefly examined. Preservation of plant remains by carbonisation is good but there is no evidence of preservation by waterlogging or mineralisation. The types of remains that have been

preserved include cereal grains (evidence of food), chaff (remains of the cereal stem which indicates crop processing), occasional legumes (such as peas and vetches), occasional charred tubers (indicating de-turfing of grassland) and weed seeds (relating to plants that may have specific habitats).

Wood

2.3.4 Five wooden stakes of similar size were retrieved (not *in situ*) from the backfill of a Roman well in Area F2. Due to the moderate anaerobic conditions, moisture based decay is present in all pieces, which are in fairly poor condition. Both rectangular and square sections are evident and one stake has been axe-fashioned diagonally to create a tapered point.

3 STATEMENT OF POTENTIAL

3.1 Stratigraphy

3.1.1 Very few deeply stratified deposits were recorded, although stratigraphic and spatial relationships will inform the phasing of activity on the site. Bronze Age remains relate largely to funerary activity, while Iron Age features represent both ceremonial or religious (in relation to the possible shrine) and domestic / agricultural activities. Several of the roundhouse gullies appear to have been recut on more than one occasion, suggesting some longevity of settlement. Combining this evidence with the results of other investigations in the vicinity will enable a fuller picture of the extent of Iron Age settlement in this area, the inter-relationship of farming communities, development of field systems and the impact of Romanisation. The Roman archaeology is of particular interest as it relates to more industrial or large scale agricultural use of the site, possibly associated with brewing.

3.2 Lithics

3.2.1 The relatively small worked flint assemblage is largely residual and chronologically mixed, rendering its interpretative potential somewhat limited. It does, however, provide evidence for episodic prehistoric activity at the site from the Mesolithic through to at least the Early Bronze Age and certain elements of the assemblage are of some significance, notably the small but coherent assemblage from the ring-ditch in Area C which might be closely associated with the use of this feature. Equally notable is the recovery of the possible dagger fragment – which potentially adds to the small number of these artefacts known from the Nene valley.

3.3 Small finds

3.3.1 The brooches and the 4th-century material have good potential to contribute to site dating. The presence of medieval material (buckles), will contribute to the dating of later activity, albeit presumably related to agricultural activity and/or casual loss.

3.3.2 Worked bone and ceramic spindle whorls have almost no potential to further inform the dating and interpretation of the site.

3.3.3 The ironwork, largely comprising nails, has very limited potential to inform the dating and nature of activity on the site.

3.4 Prehistoric pottery

3.4.1 The prehistoric pottery has potential to inform on several aspects of activity on the site. The Early Bronze Age pottery is largely related to funerary activity and has the potential to add to knowledge of this aspect of settlement in this area. The later and Late Iron Age pottery can aid in understanding the economy of the site, in terms of the activities being carried out on the site, trade in pottery and any social hierarchy across the settlements, in addition to evidence for the continuity of settlement into the Early Roman period.

3.5 Roman pottery

3.5.1 This is a large stratified assemblage of mostly locally produced utilitarian jars and storage jars found in fabrics that are typical of the East Midlands in the Early to Mid-Roman era (Timby 2007, 117; Marney 1989). This assemblage is of particular interest, however, as the pottery is not domestic in character, but rather reflects Early Roman agrarian use whereby pottery was used to aid the processing of crops, including malting and/or brewing.

3.5.2 Further research of both the fabric and forms in the context of both the site and wider region in association with the results of any residues analysis will potentially make a significant contribution to the understanding of ceramics in agrarian processes during the Early to Mid-Roman rural economy.

3.6 Post-Roman pottery

3.6.1 The low levels of pottery recovered, alongside the plain and fragmentary nature of the assemblage, means it is of little significance in terms of the project's research aims.

3.7 Stone

3.7.1 The assemblage has good potential to inform on the production, distribution and significance of quern in the Iron Age-Roman period. The presence of querns of Lodsworth Greensand and Folkestone Greensand from south-east England, Millstone Grit from the Southern Pennines, and Old Red Sandstone from the Mendip – Forest of Dean area of south-west England provides interesting evidence for a convergence of different trade networks particularly in respect of the occurrence of Lodsworth quern, which may represent one of the most northerly distributions recorded. On a more local level, there is good potential to compare this assemblage with querns and other worked stone from the other nearby sites excavated to the east of Kettering.

3.8 Iron slag

3.8.1 There is no evidence for any primary iron production at either the Iron Age or the Roman sites. The very small level of ironworking activity here is probably the result of forging and re-sharpening of tools at a small smithy in purely agricultural settlement(s). As such this small assemblage of iron slag has low research potential.

3.9 Fired clay

3.9.1 The amorphous fired clay has little potential to add to the understanding of the site. However, the shelly perforated plates and oven furniture warrant further study and could provide valuable information on the nature of agricultural/industrial processes taking place on site.

3.10 Glass

3.10.1 The small and fragmentary assemblage of vessel glass and a single bead has little potential to address the project research aims or add to the understanding of glass manufacture, use, trade and exchange in this area during the Romano-British era.

3.11 Animal bone

3.11.1 The assemblage offers some insightful information with regard to the type(s) of agricultural regimes that may have been in operation, particularly for the Roman phase of occupation. Collecting full biometric data would allow for comparisons to be made with other sites in the area and to determine if there were any changes in size of all of the main species represented. Identifying the fish, bird and micromammal remains to species with the aid of a reference collection would also add some further detail in terms of the exploitation of other food sources and the natural environment.

3.12 Human bone

3.12.1 The majority of the human bone recovered came from Early Bronze Age cremation burials. This data, underpinned by radiocarbon dating, will add to the understanding of burial practice during the Early Bronze Age, especially in relation to nearby contemporary monuments and the local landscape. The single infant inhumation is a relatively common find and is of little research value, other than adding to the corpus of burials of this type and date in the region.

3.13 Charred plant remains

3.13.1 Areas C, D, E and F2 produced significant charred plant assemblages. The preservation of charred plant remains is good and many of the assemblages have archaeobotanical potential. A full assessment will determine whether the preserved plant remains are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal. This potential would be enhanced when considered alongside the analysis (including distribution) of the stratigraphic and ceramic evidence, and in particular the results of any residue analysis.

3.14 Wood

3.14.1 This poorly-preserved and small assemblage is of little value in terms of assessing woodland management practices and the items do not display enough growth rings for dendrochronology. The stakes were not found *in-situ* and their provenance is unknown, rendering them of little research value.

4 UPDATED PROJECT DESIGN

4.1 Revised research aims

Regional Research Objectives

4.1.1 *Recover and analyse human remains of Neolithic to Middle Bronze Age date (Knight et al. 2012, 55):* Several cremations, of probable Early Bronze Age date, were recovered during the excavations. Scientific dating, along with further analysis of the cremation burials in relation to the nearby monument(s) and any contemporary settlement would add to the corpus of material from the East Midlands and the broader understanding of the ceremonial use of this landscape in this period.

4.1.2 *Assess the evidence for the evolution of settlement hierarchies (Knight et al 2012, 64):* With different areas of Iron Age settlement excavated during the Cranford Business Park development, it is possible to compare these and the material retrieved from them. This could allow for a comparison of the socio-economic status of these settlements, which could be further explored by comparison with sites excavated on the East Kettering development (Gilmour 2012) and in the wider area.

4.1.3 *Investigate intra-regional variations in the development of fields and linear boundary systems (Knight et al 2012, 65):* Analysis of the series of Iron Age enclosures and the contemporary pit alignment should enable a more precise chronology and developmental sequence to be established. This in turn would inform the study of function, morphology and evolution of enclosures, boundaries and fields within the region and beyond.

4.1.4 *Characterise placed deposits and sites of shrines or temples (Knight et al 2012, 67):* The presence of a possible Middle Iron Age shrine located in Area C is of interest. Comparison of this example with other similar features in the locality (including another probable Iron Age shrine found *c*.2km to the north (Gilmour 2013)) and wider region will help to develop a fuller understanding of the morphology, chronology and distribution of these structures/monuments and their relationship to the contemporary landscape and settlement pattern.

4.1.5 *Investigate the landscape context of rural Romano-British settlements (Knight et al 2012, 79):* The current site has identified both Iron Age and Roman sites, providing the opportunity to investigate any evidence for continuity and/or re-organisation of the landscape between these periods.

Additional Regional Research Objectives

4.1.6 *Investigate evidence for Early-Mid Roman industrial/agricultural processes:* The presence of numerous tanks, wells, corn driers, enclosures and other features in Area F2 is of particular interest, especially when combined with the non-domestic nature of the associated Early Roman pottery assemblage. Further analysis of this complex of features along with related finds assemblages and evidence from the environmental samples has very good potential to elucidate the processes involved and compare them with any similar results from nearby sites. Associated finds include pottery (mostly large storage vessels found in nearby ditches, many with residues surviving),

possible kiln/oven furniture and worked stone (querns *etc*). Initial indications suggest that the site was focused on crop-processing and possibly brewing.

4.1.7 *Investigation of the role of pottery in industrial or agrarian processes.* Further research of both the fabric and forms in the context of both the site and wider region in association with any residues will potentially make a significant contribution to the understanding of ceramics in agrarian processes during the Early to Mid-Roman rural economy and in terms of how the Romans stored and transported alcoholic beverages.

Site-specific Research Objectives

4.1.8 *How does the site (Area F2 in particular) relate to the known Roman infrastructure (waterways, roads, tracks) and major settlements/markets?:* Research into evidence held in the HER and the results of nearby excavations will help to place the site within the broader contemporary settlement hierarchy and transport network.

4.1.9 *What evidence is there for trade and exchange?:* Analysis of the pottery and worked stone in particular has good potential to elucidate this area of research.

4.1.10 *How extensive was settlement on this area during the Iron Age and Roman periods?* There is good potential to investigate settlement density and shifting patterns over these two periods. This ideally would need to incorporate the results from other projects, including geophysical survey, cropmarks, trenching and open area excavations undertaken across this broad swathe of land to the east and south-east of Kettering over recent years (see Fig. 2).

4.1.11 *What was the economy of the site and did this change over time?* The animal bone assemblage combined with any archaeobotanical remains have good potential to reconstruct the type(s) of agricultural regimes that may have been in operation during the Iron Age and Roman periods.

4.1.12 *What evidence is there for domestic buildings and other structures*? Clear settlement remains, probably representing a farmstead(s) or agglomerated settlement dating to the Iron Age, were revealed, including evidence of domestic buildings (roundhouses and 'four-post' structures), enclosures and possible droveways. Some of the roundhouse gullies appear to have been recut more than once – was this a common occurrence (rather than relocating the building within the same enclosure)? Analysis will establish whether the Iron Age settlement remains are typical for the area, while investigation of the Roman site will determine if this was largely a 'working' area, with the settlement focus lying elsewhere.

4.2 Interfaces

4.2.1 This project has clear links with the East Kettering development, immediately to the north, undertaken by OA East. The archaeology identified in Area D is almost certainly part of the same site as that recorded as Area 6 during the Phase A evaluation of the East Kettering development to the north of the A14 (Gilmour 2012; Fig. 2). In addition, the archaeological activity identified on the Cranford Business Park site is also similar in character (notably the more industrial/crop-processing aspects) to some of that recorded within the East Kettering development area.

4.3 Methods statement

4.3.1 This section sets out the methods proposed to achieve the research aims set out above.

Stratigraphy

4.3.2 The environmental, finds and context data will be analysed within the *MS Access* database in conjunction with the CAD plan and GIS project where appropriate. Contexts have been inputted into the database and will be assigned phase and group numbers during analysis and utilising dating evidence where present in combination with stratigraphic and spatial relationships. Following this, phase plans will be produced and the updated information will be distributed to the relevant specialists. The group and phase text will be compiled which will form the basis of the grey literature report.

Photogrammetry

4.3.3 A series of individual and aerial (polecam) photographs were taken of some of the structural features on site, which include markers to allow them to be accurately located. These photographs will be processed using the Agisoft Photosoft (Professional Edition) software to produce 3D models of the features. Static images can then be produced from these detailed models to illustrate the final report and the models can be digitised to produce accurate plans of specific structures or feature complexes. It is proposed to make models of all of the features for which photographs were taken. The 3D models produced are of use for interpretation and recording of the features, along with providing an opportunity for public engagement. These models are more easily understood then archaeological drawings and can be manipulated by school students.

Scientific dating

4.3.4 The majority of the Iron Age and Roman features on the site are likely to be datable by the finds they contained. However, two small groups of cremation burials (one in Area C and the other in Area F2) appear to be Bronze Age. Cremated bone from a selection of these features (a minimum of two) will be radiocarbon dated to provide an accurate age for them.

Artefactual analysis

4.3.5 Where appropriate, finds will be sent to the relevant specialist for further work. Detailed assessments of the artefacts are given in Appendix A. Several of the artefact assemblages do not require further work, other than updating phasing information where relevant (post-Roman pottery, iron slag and the undiagnostic fired clay).

Lithics

4.3.6 The assemblage has been fully recorded and no further metric or technological analysis is recommended. Any publication of the site should include a brief summary of the flint assemblage and it is recommended that the possible dagger fragment is illustrated and described in detail.

Small finds

4.3.7 No further work is required, other than updating of archival catalogue entries with any phasing information (and animal bone identifications) and a brief comment should be prepared for inclusion into any proposed publication. Eight small finds require conservation, in addition, all 37 iron finds should be x-rayed for final identification. Eight small finds also require illustration.

Worked Bone

4.3.8 Archival catalogue entries should be updated with any phasing information and animal bone identifications and a brief comment should be prepared for inclusion into any proposed publication. Both worked bone objects should be illustrated.

Prehistoric pottery

4.3.9 Further analysis of the pottery fabrics and forms will be undertaken in relation to the stratified features (once phased). Comparison of the Kettering assemblage to other nearby sites and regional data sets will also be carried out. A full report and publication text will be prepared and sherds will be selected for illustration and a catalogue produced.

Roman pottery (including samian)

4.3.10 Further analysis of the pottery fabrics and forms will be undertaken in relation to the stratified features (once phased). Comparison of the Kettering assemblage to other nearby sites and regional data sets (such as the Stanwick archive) will also be carried out. This will facilitate progress with the East Midlands research agenda to create regional pottery corpora and publish key production centres. A contribution will also be made to the East Midlands Research Framework Wiki (http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/Main).

4.3.11 Residues present on some pottery sherds and a selection of these will be analysed, to inform on the use of these vessels, in accordance with Historic England's (2017) guidance document. Comparison of the residue analysis results with the London amphora residue project will be undertaken. A full report and publication text will be prepared and sherds will be selected for illustration and a catalogue produced. The samian will be fully catalogued and integrated with the other Roman pottery. Rubbings will be taken for the archive, some of which can form the basis for publication drawings if appropriate.

Worked stone

4.3.12 The current assemblage has been fully recorded, any publication would need to include updated phasing and contextual data and refer to any specific recommendations relating to the study of Late Iron Age – Roman quern production and distribution. Eight querns are recommended for illustration.

Iron slag

4.3.13 No further work is required other than possibly the illustration of just one of the hearth rims and a single piece of smithing hearth base.

Fired clay

4.3.14 The assemblage has been fully assessed and described. This will provide the basis for the full grey literature report, once phasing and distribution data has been incorporated, with the catalogue forming part of the archive.

4.3.15 The spindlewhorl should be photographed and illustrated along with the loomweight and the structural clay objects. The shelly perforated plates and oven furniture should be analysed by a specialist (A. Lyons) and will need to be compared and/or linked to other similar examples and discussed in relation to the related stratigraphic and ceramic evidence.

Glass

4.3.16 The glass assemblage has been fully recorded. Two objects require illustration.

Ecofactual analysis

4.3.17 Where appropriate, finds will be sent to the relevant specialist for further work. Detailed assessments of the ecofactual assemblages are given in Appendix B.

Human bone

4.3.18 No further work is required on the human bone, beyond updating any phasing information and obtaining radiocarbon dates from at least two of the deposits of cremated bone.

Animal bone

4.3.19 Collecting full biometric data would allow for comparison to be made with other sites in the area and to determine if there were any changes in size of all of the main species recovered. Identifying the fish, bird and micromammal remains to species with the aid of a reference collection should also be undertaken.

Environmental samples

4.3.20 It is recommended that selected samples (Table 38) have the remaining soil processed and are quantified. 25 samples have been selected. Additional processing of remaining soil of other samples may be required for artefact retrieval as the post-excavation study proceeds

Wood

4.3.21 If appropriate, species identification will be undertaken using a light microscope.

4.4 Publication and dissemination of results

4.4.1 A 'grey literature' report will be collated which, once approved, will be uploaded to the OA Library (which is linked to ADS) at https://library.thehumanjourney.net/. The preferred option for publication is that the results of this project should appear as a monograph in the Oxford Archaeology series, which would combine all work relating to the East Kettering development (directly to the north of the current site). This would form an important landscape study, covering a large area of Northamptonshire. However, if the time-scale of the East Kettering development becomes very extended, then a more targeted publication article may be more appropriate, possibly in

Northants Archaeology. The task list below is based on the second option. A copy of the report and publication will be lodged with Northamptonshire HER.

4.5 Retention, dispersal and display of finds and environmental evidence

4.5.1 Some of the material recovered has little potential for further study and could be considered for deselection from the archive. This includes the miscellaneous stone (including the basin and socket stone), the building stone and tile, and all of the non-worked burnt stone and post-Roman pottery. In addition, slag samples from each of the four sites (Areas F1, F2, C and D) should be retained, but the remainder of the slag assemblage can be deselected. Other finds and ecofacts (including bulk samples) will be further assessed in terms of retention during the analysis stage.

4.6 Ownership and archive

4.6.1 OA will retain copyright of all reports and the documentary and digital archive produced in this project. OA will maintain the archive to the standards recommended by the Chartered Institute for Archaeologists (CIfA 2014b), the Archaeological Archives Forum (Brown 2011), and any standards specific to Northamptonshire Archaeological Archives. The finds and documentary archive (estimated to be a maximum of 100 boxes) will be deposited with Northampton Museums and Archaeology Service (see note in task table), and the digital archive will be deposited with ADS. The landowner's permission to donate the finds to this repository will be obtained (TOT) when this report is issued.

5 RESOURCES AND PROGRAMMING

5.1 Project team structure

5.1.1 The project team is set out in Table 3 below.

Name	Organisation	Role
James Drummond-Murray	OA	Project management
Nick Gilmour	OA	Project Officer
Severine Bezie	OA	Graphics
James Fairbairn	OA	Photographer
Alice Lyons	OA	Roman Pottery specialist
Sarah Percival	External	Prehistoric Pottery specialist
Gareth Rees	OA	Geomatics (photogrammetry)
Gillian Greer	OA	Graphics
Simon Timberlake	External	Worked stone specialist
Ted Levermore	OA	Fired clay specialist
Rachel Fosberry	OA	Environmental remains specialist
Hayley Foster	OA	Faunal remains specialist
Lawrence Billington	OA	Struck flint specialist
Elizabeth Popescu	OA	Editor/publications manager
Kat Hamilton	OA	Archive
Chris Howard-Davis	OA	Small find specialist
Karen Barker	External	Conservator
Rachel Clarke	OA	Post-excavation editor
Finds Assistant	OA	Finds admin/preparation
Zoë Uí Choileáin	OA	Human skeletal remains specialist
Steve Wadeson	OA	Samian specialist

Table 3. Project team structure

5.2 Task list and programme

5.2.1 The programme of work will commence after approval of this document and end with the issue of the report.

5.2.2 A task list is presented below.

Task no.	Description	Performed by	Days
1	Project management	James Drummond-Murray	5
2	Production of photogrammetry models	Gareth Rees	4
3	Digitising of geo-rectified photographs and photogrammetry models; selected sections	Gillian Greer	20
4	Stratigraphic analysis (Phasing/grouping)	Nick Gilmour	20
5	Update database with phasing and group data and produce draft phase plans	Nick Gilmour	8
6	Disseminate updated phasing information to specialists	Nick Gilmour	1
7	Phase plans and report figures, plates	Gillian Greer	20
8	Finds booking/preparation/admin	Finds assistant	2
9	Collate group text/write report including background research	Nick Gilmour	30
10	Select sections for digitising and plates for inclusion in report. Produce mock-up figures	Nick Gilmour	2
11	Roman pottery analysis and full report (inc results of residue analysis)	Alice Lyons	23
12	Samian catalogue, rubbings and report	Steve Wadeson	2
13	Residue analysis (£85 per sample)	TBC	TBC
14	Prehistoric pottery analysis and report	Sarah Percival	8
15	Stone report (update phasing, distribution research etc)	Simon Timberlake	1
16	Fired clay objects report	Alice Lyons/Ted Levermore	2
17	Complete small find catalogues and update reports	Chris Howard-Davis	3.25
18	Process additional soil samples	Rachel Fosberry	15
19	Full assessment, analysis and report on environmental remains	Rachel Fosberry	25
20	Sample cremated bone for C14 and update HSR report	Zoë Uí Choileáin	0.5
21	Radiocarbon dates x 2	SUERC	£700
22	Faunal remains report	Hayley Foster	8
23	Lithic report (update)	Lawrence Billington	1
24	Wood report/archive: species id	TBC	0.5
25	Internal edit of grey lit report	Rachel Clarke	5
26	Conservation and x-ray	Karen Barker	TBC

Task no.	Description	Performed by	Days
27	Publication text (article)	Nick Gilmour	15
28	Artist's reconstruction	TBC	TBC
29	Artefact illustration (2 copper alloy object, 8 querns, 3 stone objects, 1 x flint, 2 x iron slag SHB and rim; 1 iron object; 2 x glass objects; c. 45 Roman pot sherds; c.25 prehistoric pot sherds)	Gillian Greer/ Severine Bezie/James Fairbairn	30
30	Collate/edit captions, bibliography, appendices	Nick Gilmour + Elizabeth Popescu	5
31	Internal edit	Elizabeth Popescu + James Drummond-Murray	6
34	Post-refereeing revisions	Nick Gilmour + Elizabeth Popescu	3
36	Marking of finds	Kat Hamilton	TBC
37	Prepare Archive for deposition, following agreed retention and dispersal policy. Including delivery and deposition of the archive with NARC	Nick Gilmour and Kat Hamilton	11
38	Box deposition cost (NB no retrospective charge for current projects; L-A Mather pers. comm. 6.9.17). Box cost c. £4 (c. 100 boxes)	-	

Table 4. Task List

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APPENDIX A DETAILED ARTEFACT ASSESSMENTS AND REPORTS

A.1 Lithics

by Lawrence Billington MA PhD

Introduction

A.1.1 A total of 82 worked flints were recovered from the excavations, together with 13 fragments of unworked burnt flint (22g). The assemblage is quantified by type and context in Table 5. The worked flint was thinly distributed across the site, with the assemblage originating from a total of 62 individual contexts, most of which contained single worked flints. Only three individual contexts produced three or more struck flints, with a maximum of five from fill 2871 of pit 2870.

A.1.2 At this stage of analysis, given the low densities of flint from individual contexts/features and a dearth of demonstrable earlier prehistoric contexts, the overwhelming majority of the assemblage is thought to represent residual material inadvertently caught up in the fills of later features. The one major exception to this is a small amount of material from ring-ditch 10401, which is discussed separately below.

Factual data

Raw materials

A.1.3 The assemblage is dominated by fine grained and translucent flint. One exception to this is a relatively large block (216g) of what appears to be a matt black chert from hearth/oven 5333, from which a few flake removals have been made. Very small numbers of chert artefacts have been recovered as part of large multi-period assemblages from elsewhere along the Nene valley (e.g. Ballin 2011a, 471) and chert may have been available in small quantities as 'exotic' clasts within local glacio-fluvial deposits but the size of this piece is unusual, and given its context within a potentially recent/modern feature it seems unlikely to be prehistoric and has probably been imported onto the site in recent years.

A.1.4 Where the original form and character of nodules can be assessed, the flint appears to derive almost exclusively from small (>150mm) rounded/sub-rounded cobbles of flint with thin abraded and hard cortical surfaces characteristic of material collected from glacio-fluvial gravels. A smaller number of pieces with somewhat less abraded cortex and/or recorticated thermal surfaces may derive from glacial till deposits. This material is likely to have been available relatively locally, from terrace/floodplain gravels and boulder clays, both of which outcrop within a few kilometres of the site.

A.1.5 There is no clear evidence for any flint derived from sources closely related to the parent chalk and the only potentially material imported from some distance away is a flake, struck from a polished flint axe, made of an opaque cream coloured flint with coarser grey cherty inclusions from ditch 3621. The presence of small quantities of this distinctive raw material, often referred to in the literature as 'Lincolnshire flint', is a recurrent feature of Neolithic assemblages from the East Midlands (and elsewhere in Southern and Eastern England) and appears to have been specially selected for axe

manufacture (see Bayliss et al 2011, 783-8), with flakes from polished axes of this kind of material having been recovered from major assemblages in the region such as those from Briar Hill (Bamford 1985, 60) and Raunds (Humble 2006, 51; Ballin 2011a, 435).

Context	Cut	Context type	Chip	Irregular waste	Flake	Narrow flake	Blade	Bladelet	Blade-like flake	Flake from polished axe	Retouched flake	End scraper	Side scraper	Sub-circular scraper	Other scraper	Knife	Retouched flake	Dagger/foliate knife fragment?	Core fragment	Minimally worked block	**Total worked**	Unworked burnt count	Unworked burnt (g)
10403	**10401**	ring ditch															1				1		
10412	**10401**	ring ditch															1				1		
10418	**10401**	ring ditch	1		1							1									3		
10423	**10401**	ring ditch																				1	1.4
2219	**2217**	ditch			1				1												2		
2234	**2233**	ditch			1																1		
2550	**2551**	ditch					1														1		
2559	**2560**	ditch			1																1		
2651	**2655**	ditch			1																1		
2652	**2655**	ditch			1																1		
2687	**2686**	ditch													1						1		
2698	**2701**	pit			1		1														2		
2717	**2713**	ditch			1																1		
2724	**2723**	ditch			1																1		
2778	**2780**	ditch			1																1		
2817	**2816**	tree throw							1												1		
2847	**2846**	tree throw			1																1		
2856	**2852**	ditch						1													1		
2871	**2870**	pit			3			1	1												5		
2975	**2793**	ditch			1																1		
3008	**3007**	ditch											1								1		
3010	**3009**	ditch			1																1		
3014		?			1												1				2		
3037	**3035**	pit			1																1		
3043	**3041**	pit			3	1															4		
3048	**3046**	ditch			1										1						2		
3070	**3067**	ditch			2																2		
3080		?			1																1	1	7
3081		?			2																2		
3152	**2870**	pit			1																1		
3156	**3155**	ditch			1																1		
3173		?			1																1		
3184	**3183**	gully					1														1		
3220	**3222**	ditch			1																1		
3522	**3521**	pit		1																	1		
3524	**3523**	natural																	1		1		
3532	**3531**	ditch			1																1		
3543	**3544**	pit			1				1												2		
3549	**3547**	pit																				1	7.3
3568	**3567**	pit															1				1		
3579	**3577**	ditch																1			1		
3623	**3621**	ditch								1											1		
3676	**3675**	pit									1										1		
3696	**3693**	pit			1																1		

Context	Cut	Context type	Chip	Irregular waste	Flake	Narrow flake	Blade	Bladelet	Blade-like flake	Flake from polished axe	Retouched flake	End scraper	Side scraper	Sub-circular scraper	Other scraper	Knife	Retouched flake	Dagger/foliate knife fragment?	Core fragment	Minimally worked block	**Total worked**	Unworked burnt count	Unworked burnt (g)
3790		?			1																1		
3834		?												1							1		
3844		?			1																1		
5024	**5022**	ditch			1																1		
5031	**5030**	ditch																				1	4.1
5042	**5041**	ditch					1								1						2		
5044	**5043**	pit			2																2		
5075		layer			1																1		
5076		layer			1																1		
5268	**5267**	pit			1																1		
5335	**5333**	hearth/oven																		1	1		
10447	**10476**	pit					1														1		
10490	**10491**	tree throw			2																2		
10521	**10519**	pit			1																1		
10525	**10524**	pit							1												1		
10526	**10524**	pit														1					1		
10554	**10552**	pit			2																2		
10573	**10572**	pit		1																	1		
10624	**10622**	ditch					1														1		
10647	**10646**	cremation																				2	0.8
10663	**10661**	ditch			1																1		
10708	**10707**	pit			1																1		
10711	**10710**	cremation																				7	0.9
Totals			1	2	49	1	6	2	5	1	1	1	1	1	3	1	4	1	1	1	82	13	22

Table 5. Lithics catalogue

Condition

A.1.6 The condition of the assemblage is varied but many pieces display a degree of edge damage/rounding consistent with re-deposition/disturbance. A small proportion of the assemblage (9 pieces, 11%) display recortication, varying from a blue sheen to heavy opaque white. It seems possible that this has chronological significance with a relatively high proportion of the recorticated pieces displaying traits suggestive of a Mesolithic/earlier Neolithic date.

*Ring-Ditch **10401***

A.1.7 A total of five worked flints were recovered from the fills of ring-ditch **10401** (see Table 5). This small assemblage is coherent in terms of technology and is in good condition-suggesting it has seen minimal disturbance and it seems likely to represent a chronologically unmixed assemblage, potentially broadly contemporary with the construction/use of the ring-ditch. The material consists of a single chip, a secondary flake and three retouched pieces. Technologically the flintwork reflects a simple and relatively expedient flake based technology, with the removal of broad and thick flakes

from simple single or multiple platform cores via direct hard hammer percussion. The retouched pieces include a small end scraper with a regular semi-abruptly retouched convex distal end and two less easily classified, expedient tools. One of these is an irregular and thick flake which appears to have had its proximal end flaked away and bears traces of utilisation along one unretouched lateral edge. The other is a broad and relatively thin flake with some slight edge retouch and which has had its distal end intentionally broken off.

A.1.8 Although small the technological traits of the assemblage and character of the retouched pieces indicate a broad Late Neolithic/Early Bronze Age date, with the size and form of the scraper and expediency of the other tools finding their best parallels with assemblages from Early Bronze Age contexts.

Other contexts

A.1.9 As noted above, the overwhelming majority of the remainder of the assemblage is thought to represent residual material. One possible exception to this is an assemblage of four flints from pit 2870. This small assemblage comprises three flakes, a blade like flake and a bladelet and is in fresh condition. The blade based pieces and the presence of careful platform edge trimming and regular dorsal scar patterns on the flakes suggests a Mesolithic, or more likely, earlier Neolithic date for some or all of this material.

A.1.10 Taken as a whole, the remainder of the flintwork from the site is clearly chronologically mixed and reflects activity from the Mesolithic until at least the Early Bronze Age. Blade based material of Mesolithic/earlier Neolithic date is relatively well represented, accounting for around 16% of the entire assemblage. There is a degree of technological variability in the blade based pieces which is probably of some chronological significance – there are a very small number of regular prismatic blades and bladelets which are likely to be of Mesolithic date, whilst the majority are somewhat more irregular and are more characteristic of earlier Neolithic technologies. Although edge damage will have obscured traces of use in some instances traces, of utilisation appear to be present on several of the blades. There are no retouched pieces which can be attributed to the Mesolithic or earlier Neolithic, although the flake struck from a polished axe from ditch 3621 could date to any time within the Neolithic.

A.1.11 The remainder of the assemblage consists largely of flake based material. This consists largely of unretouched removals and a relatively high proportion of retouched pieces which account for 13% of the assemblage (excluding the material from the ring-ditch discussed above). In contrast, there is a marked dearth of cores – with only a single fragment of a core recovered from 3524. A proportion of the unretouched flake based material is likely to represent the less diagnostic element of blade based reduction sequences but the majority of the assemblage clearly derives from a very different set of reduction strategies, based around production of flakes from simple unprepared cores via hard hammer percussion with knapping errors in the form of incipient cones of percussion and hinged terminations being common. This material is not strongly diagnostic but is characteristic of assemblages from the Later Neolithic into later prehistory. Alongside this generalised material are some pieces which display evidence for more specialised/controlled reduction strategies – notably two flakes (from pit

10519 and ditch 2780) which appear to have been struck from Levallois-like cores of the kind characteristic of Later Neolithic technologies (Ballin 2011b).

A.1.12 Retouched forms are dominated by scrapers and informally/minimally retouched flakes. These are expediently produced tools and are not strongly diagnostic but are most consistent with a generalised Late Neolithic or Early Bronze Age date. Two more formal tools were also recovered. One of these (classified here as a knife) is the broken medial portion of a broad flake with bifacial invasive edge retouch along one lateral edge from pit 10524. The edge bears traces of heavy use, including a polish/gloss which suggest the tool had seen heavy use prior to discard/deposition.

A.1.13 The second more formal tool (from ditch 3577, small find 600) is the broken medial section of a symmetrical, fully bifacially flaked piece which has been classified here as a probable fragment of a flint dagger or foliate knife. With maximum dimensions of 36mm long, 40mm wide and 8mm thick, this piece has straight transverse breaks at both ends and a very regular planform with very slightly convex lateral edges which taper outwards from the narrower of the two transverse breaks to its widest point a few millimetres from the broader transverse break, where there appears to be a distinct shoulder, now partly truncated by the break. The piece has been carefully shaped by complete bifacial covering retouch and no traces of the original surface of the blank are visible. The wider break has wedge shaped fracture lines on one surface – possibly suggesting intentional breakage (Bergman et al 1987; Anderson-Whymark 2011) – and a number of small invasive removals have been made from the break onto one surface of the piece, attesting to modification of the piece after its initial breakage. In typological terms the piece almost probably derives from either a flint dagger or 'foliate knife' (Grimes; Friedman 2014). The shoulder immediately above the broader break on this piece suggests that it may originally have had a clear 'tang'/'handle' of the kind characteristic of true daggers – as opposed to the more longitudinally symmetrical foliate knives (see Ballin 2011, 450-451; Frieman 2014, 52). This elaborately artefact is almost certainly of Early Bronze Age date. More specifically it has been noted that flint daggers found in association with pottery are strongly, if not exclusively, associated with Needham's Long-necked Beakers (Needham 2005; Frieman 2014), which according to Healy's recent modelling of Beaker dates from England would place the production and use for flint daggers between c. 2300 and 1750 cal BC (Healy 2012).

Statement of potential

A.1.14 Given the scale of the excavation, the flint assemblage can be characterised as relatively small and as it derives mostly as a residual element within later features its interpretative potential is somewhat limited. This said, it does provide evidence for episodic prehistoric activity at the site from the Mesolithic through to at least the Early Bronze Age and certain elements of the assemblage are some significance, notably the small but coherent assemblage from ring-ditch 10401 which might be closely associated with the use of this feature. Equally notable is the recovery of the possible dagger fragment – which potentially adds to the small number of these artefacts known from the Nene valley (see Frieman 2014, fig. 1).

Recommendations for further work and method statement

A.1.15 The assemblage has been fully recorded and no further metric or technological analysis is recommended.

A.1.16 Further work on the assemblage should establish whether any more of the flintwork derives from features with which the flint is potentially contemporary, based on the site phasing and it would be useful to plot/examine the overall distribution of flint across the site to establish any intra-site patterning etc.

A.1.17 Any publication of the site should include a brief summary of the flint assemblage and it is recommended that the possible dagger fragment is illustrated and described in detail.

A.1.18 Carrying out these recommendations would require 0.5 days of further work, in addition to any time for illustration.

A.2 Copper alloy, iron and worked bone objects

by Chris Howard-Davis BA (Hons) MCIfA

Methodology

A.2.1 The same methodology was used for all four of the classes of find detailed below. Each fragment was examined, assigned a preliminary identification and, where possible, a date range. Outline database entries were created, using Microsoft Access 2000 format, and the data recorded (context, small find number, material, category, type, quantity, condition, completeness, maximum dimensions, outline identification, brief description, and broad date) serve as the basis for the comments below. The state of preservation (condition) was assessed on a broad four point system (namely poor, fair, good, excellent).

Copper alloy objects

Factual data

A.2.2 There are, in all, 17 fragments of copper alloy, probably representing 16 items. Condition varies considerably, from excellent patinated surfaces to extensive corrosion. Most come from Area F2, with single items from Areas D, E, and F1.

A.2.3 The group consists mainly of items of personal adornment, principally brooches and buckles, but other objects include a needle and a late thimble. The group ranges in date from the immediately pre-Conquest Iron Age to the post-medieval period.

A.2.4 There are three brooches, all from Area F2. Sf 142, recovered unstratified, is possibly the earliest, being a simple one-piece or Nauheim derivative bow brooch, dated broadly to the 1st century AD, with the 'rod bow' perhaps placing it in the second half of the century (Bayley and Butcher 2004, 147). The remaining two (Sf 101, Sf 107 from contexts 2565 (ditch 2567) and 2596 (ditch 2698) respectively) are both two-piece Colchester types, originating in the mid-1st century AD (*op cit*, 156).

A.2.5 A single heart-shaped strap end (Sf 126), again from Area F2 (context 2871, pit 2870) is of Late Roman date, and can probably be assigned to the 4th or even the 5th century (Appels and Laycock 2007). A fragment of wire (sf 144; context 3037 pit 3035), one end of which has a decorative twist, can be tentatively identified as part of a bracelet, a form of jewellery most common in the 3rd and 4rth centuries, although earlier examples are not uncommon. Possible parallels can be seen amongst the material from Lankhills, Winchester (Clarke 1979, fig 69, grave 40, nos 30 and 38; fig 81, grave 238, no 219; fig 85, grave 323, no 442), suggesting a 4th-century date.

A.2.6 There are three buckles and a buckle plate, three from Area F2 and one from Area E. Sf 601, from context 3881 in Area E, is a plain elongated oval, single-looped buckle, a type that appeared in the Late Roman period, but remained current well into the medieval period (Whitehead 2003), and without the belt plate, which is missing from this example, there is no way of refining the date. A small and poorly preserved buckle (Sf 118) came from context 2798 (fill of ditch 2777). Also a single looped buckle, its small size suggests a shoe or spur buckle, but, again, it cannot be dated with any precision. Sf 100, from Area F2, context 3271, is a small trapezoidal buckle, again likely to be from a shoe or spur, that can be dated between the mid-14th and the end of the 15th centuries. There is, in addition, a thin and largely undiagnostic buckle-plate fragment (Sf 155).

A.2.7 The only other identifiable objects are both from Area F2, Sf 143 from context 3027 (pit 2991) is a complete needle, again a long-lived type, well-known from Roman (see, for instance Jackson 1996, fig 108) and later contexts. Sf 117, found unstratified, is a post-medieval thimble. The remainder of the copper alloy objects are tabulated below (Table 6). All are undiagnostic fragments.

Area	Context	Sf no	Description
D	5075	661	Small loop of thick strip
F1	2220	31	Thin sheet folded over to form a reinforced edge
F2	153	157	Small fragment of wire
F2	2501	102	Cast ring with flattened oval section
F2	3001	132	Small amorphous fragment

Table 6. Undiagnostic copper alloy fragments

Statement of potential

A.2.8 The brooches and the 4th-century material have good potential to contribute to site dating. The buckles, less so, although the presence of medieval material contributes to the dating of later activity, albeit probably associated with post-Roman agricultural use of the site.

Recommendations for further work and method statement

A.2.9 The finds are well packed and stable, but many of the objects require cleaning before identification can be completed.

A.2.10 Archival catalogue entries should be completed, incorporating phasing. An illustrated report should be prepared for inclusion into any proposed publication, and some contribution be made to the incorporation of comment on the finds into the main stratigraphic text.

Complete archive catalogue entries copper alloy finds	1 day	CHD
Write brief report for inclusion in publication	1 day	CHD
Conservation (8 items)	Sfs 100, 101, 107, 118, 142, 144, 155, 601	KB
Illustrate 8 items	Sfs 100, 101, 107, 118, 142, 144, 155, 601	GG

Worked bone

Factual data

A.2.11 Two worked bone objects were recovered, one from Area F1 and one from Area F2. Whilst both are clearly of antiquity, neither is particularly chronologically diagnostic, and their identification and dating thus remains broad. Sf 106, from Area F1 (context 2574, fill of ditch 2573) is a chisel-ended point made on a splinter of long bone. Wear suggests its use as an awl or borer. Sf 169, from Area F2 (kiln 2901) is a broken fragment of a perforated object, perhaps a buckle or a toggle.

Statement of potential

A.2.12 These items intrinsically have low potential to further inform the dating or interpretation of this site, or contribute to the identified research objectives.

Recommendations for further work and method statement

A.2.13 The objects are stable and require no cleaning or conservation.

A.2.14 Archival catalogue entries should be updated with any phasing information and animal bone identifications and a brief comment should be prepared for inclusion into any proposed publication.

Complete archive catalogue entry and write brief report for inclusion in publication	0.25 days	CHD
Illustrate 2 items	Sf 106, Sf 169	

Ironwork

Quantification

A.2.15 There is a small assemblage of 37 iron fragments, probably representing a similar number of objects. The majority derive from Area F2, with nine fragments from Area D. Overall, the largest group comprises nails (30, c 81 %) and several of the remaining items are featureless and unidentifiable fragments. Overall the ironwork is in poor condition, with appreciable corrosion products on all objects, but, in most cases, the objects could be identified with moderate confidence, and thus have not yet been subject to x-ray. Their distribution is shown below in Table 7.

Area	Context	Cut	Nail	Latch-lifter	Blade	Other	*Total*
D	5002	Pit 5000	7		1		*8*
	5156	Pit 5153	1				*1*
F2	2575	Ditch 2588	1				*1*
	2703	Tank/pit 2702	14			3	*17*
	2817	Tree throw 2816	1				*1*
	3063	Pit 3100	1				*1*
	3146	Pit 2991	1				*1*
	3159	Ditch 3157	2				*2*
	3103	Pit 3100		1			*1*

Area	Context	Cut	Nail	Latch-lifter	Blade	Other	*Total*
	3102	Pit 3100	2				*2*
	3143					1	*1*
	3516	Pit 3515				1	*1*
	Totals		*30*	*1*	*1*	*5*	**37**

Table 7. Distribution of the iron objects by context

Factual data

A.2.16 The one object that can be dated and identified with any certainty is a latch-lifter from fill 3103 (Sf 161) in finds-rich pit/waterhole 3100 in Area F2. These appeared in the Late Iron Age (Manning 1985, 88) and continued in use throughout the Roman period and beyond, see, for example a late example from grave 316 in the Lankhills cemetery (Clarke 1979, fig 84). Sf 167, from context 3143 (ditch 3145), is a fragment of perforated strip, perhaps retaining nails, which is probably from a hinge. The fragment from context 5002 (pit 5000) in Area D, is a mid-blade fragment, recognised by its triangular cross-section, and as it lacks evidence of the former shape of the blade, its date is unlikely to be established.

A.2.17 Nails were recovered from both Area D and Area F2, they range considerably in length, from *c.* 36mm to *c.* 110mm, but all appear, from available evidence, to be hand-forged. Nails are a long-lived type and effectively impossible to date with any precision.

Statement of potential

A.2.18 The ironwork has only very limited potential to inform the dating and nature of activity on the site.

Recommendations for further work and method statement

A.2.19 The assemblage should be x-rayed for final identification, and archival catalogue entries including phasing should be completed. A brief report should be prepared for inclusion into any proposed publication.

X-ray	?3 plates	Karen Barker
Complete archive catalogue entries	0.5 days	CHD
Write brief report for inclusion in publication	0.5 day	CHD
Illustrate 1 item	Sf 161	

A.3 Prehistoric Pottery

by Sarah Percival BA MA MCIfA

A.3.1 This assessment discusses the earlier prehistoric and Iron Age pottery recovered from excavations on the site of Cranford Business Park. The assemblage comprises 4374 sherds (51kg) including 101 sherds of Bronze Age pottery, two flint-tempered earlier Iron Age sherds, 3190 later Iron Age sherds dating from *c.*250BC to *c.*100/50BC and 1081 Late Iron Age sherds (50BC–AD50). The Late Iron Age pottery is almost all handmade but includes some wheel thrown sherds and is contemporary / contiguous with the earliest pottery considered in the Roman pottery report (App. A.4). The pottery is in moderate condition and includes several complete vessel profiles, although no complete vessels were recovered.

Ceramic Period	Quantity	Weight (g)
Early Prehistoric	101	356
Earlier Iron Age	2	37
Later Iron Age	3190	35652
Latest Iron Age to early Roman (hand-made)	1081	15639
Total	**4374**	**51684**

Table 8. Prehistoric pottery by ceramic period

Methodology

A.3.2 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gramme. Decoration and abrasion were also noted. The pottery and archive are curated by OA East.

Factual data

Early prehistoric

A.3.3 Two contexts produced burnt sherds consistent with possible pyre debris. Twenty-one sherds of grog-tempered Early to Mid-Bronze Age urn with stabbed decoration on an applied shoulder cordon were recovered from cremation 3021 in Area F2. The vessel is similar to a small cremation urn found at Grendon to the south of Kettering (Gibson and McCormick 1985, fig.17, vessel 3) dated to *c*.1640 ±150bc (Gibson and McCormick 1985, 64). Heavily burnt sherds from at least two small Collared Urns in grog-tempered fabric were recovered from pit 10723 in Area C. The rim and upper body of these sherds are decorated with cord impressed lines forming a hurdle motif and stabbed dots and incised geometric lines which is again similar to a cremation vessel from Grendon (Gibson and McCormick 1985, fig.17, vessel 1). An undecorated body sherd in possible Early Bronze Age sand and grog-tempered fabric came from tree throw 10491.

Feature	Context	Feature type	vessel type	Quantity	Weight (g)	Rim count
3021	3022	Cremation	Urn	21	202	
10491	10490	Tree throw		1	59	
10723	10730	Pit	Collared Urn	5	20	2
				74	75	1
Total				**101**	**356**	**3**

Table 9. Early prehistoric pottery by feature

Earlier Iron Age

A.3.4 Two flint-tempered sherds from Area A are probably earlier Iron Age. An undecorated body sherd was recovered from pit 10537 and a direct flattened rim with fingernail impressions to the rim top came from ditch 10796. The rim is similar to earlier Iron Age

pottery found at Gretton to the north of Kettering (Jackson and Knight 1985, 81) dating to *c.* 700-450/400BC.

Feature	Context	Quantity	Weight (g)	Rim count
10537	10540	1	9	1
10796	10797	1	28	1
Total		**2**	**37**	**2**

Table 10. Early Iron Age pottery by feature

Later Iron Age

A.3.5 The substantial later Iron Age assemblage includes rims from 114 vessels in a range of globular, ovoid and slack-shouldered forms, the range of forms being similar to those recovered from Iron Age settlements at Crick (Hughes and Woodward 2015, fig.CER2 to CER4). The majority of the assemblage is shell tempered with shelly fabrics forming 88% of the total assemblage by weight. A further 11% of the sherds are made of sandy fabrics including around 1% which have granitic or igneous inclusions suggesting that they are imports deriving from Leicestershire. A small percentage of the assemblage is made of fabrics with grog inclusions.

Fabric type	Quantity	Weight (g)	% weight	Rim count
Shell	2711	31544	88.48%	83
Sand	447	3682	10.33%	29
Grog	29	377	1.06%	2
Igneous	3	49	0.14%	
Total	**3190**	**35652**	**100.00%**	**114**

Table 11. Later Iron Age pottery by fabric

A.3.6 The range of vessels includes plain and scored globular jars and bowls with short or no necks and direct rounded and flattened rims and including large, coarse sherds from storage vessels. A number of globular jars with applied handles are similar to examples found at Twywell (Jackson 1975 fig.22, 31 & 35). Scoring appears on 12% of the assemblage and is both incised and roughly wiped (Jackson 1975, fig. 21, 8 and 9). Decoration is present on around 10% of the body sherds, nine vessels have fingertip impressions or slashes to the rim top though none have finger tipping to the shoulder. Three globular burnished bowls have La Tène style decoration featuring impressed dots and incised swirls similar to examples found locally from Moulton Park and Blackthorne (Williams 1975, fig.14, 33-40 and 35, 28) and dot filled geometric designs also found at Aldwincle, Moulton Park, Weekley and Hardingstone (Elsdon 1993) and dating to *c.*100BC (A. Chapman pers. comm.).

Feature type	Quantity	Weight (g)	Rim count
Pit	1634	20775	57
Ditch	858	9481	31
Gully	185	2047	6

Layer	224	1455	9
Unknown	143	849	3
Ring Gully	55	412	1
Posthole	55	402	4
Kiln	27	207	3
Ring Ditch	5	14	
Cremation	4	10	
	3190	35652	114

Table 12. Later Iron Age pottery by feature-type

A.3.7 The majority of the later Iron Age pottery came from pits which contributed 58% of the total assemblage by weight. Pottery from ditches formed a further 27% with smaller numbers of sherds deriving from gullies and other features associated with structures (Table 12).

Late Iron Age

A.3.8 The Late Iron Age assemblage forms a contiguous group with the later Iron Age assemblage and spans the mid-1st century BC to the 1st century AD. The assemblage is characterised by the extensive use of grog-tempered fabrics and wheel finished cordoned and necked jars. A little less than 47% of the assemblage is made of grog-tempered fabrics, 43% is shell-tempered and 10% is sandy. A very small quantity of igneous fabric is also present (Table 13).

Fabric type	Quantity	Weight (g)	Rim count	% weight
Grog	385	7296	38	46.65%
Shell	582	6739	33	43.09%
Sand	112	1579	10	10.10%
Igneous	2	25		0.16%
	1081	**15639**	**81**	**100.00%**

Table 13. Late Iron Age pottery by fabric

A.3.9 The assemblage includes well finished cordoned and bead rimmed jars and bowls (Thompson 1982 form B1-1 and D1) similar to examples from numerous local sites, for example Moulton Park (Williams 1974, fig.19). These finer bowls and jars are found alongside numerous dumpy globular combed jars often with grooved or lid-seated rims (Thompson 1982, form C5; Williams 1974, fig. 20, 159; fig.22, 180). A higher proportion of the assemblage is composed of large coarse storage jars often with combed decoration and rolled rims but also with stabbed decoration along the shoulder (Williams 1974, fig.21, 171). The base of one vessel has drilled perforations consistent with use in brewing or cheese making.

A.3.10 In contrast with the later Iron Age pottery, which was largely recovered from pits, the bulk of the Late Iron Age sherds came from ditch fills. These contributed over 70% of the assemblage by weight with only *c*.19% deriving from pits (Table 14). The high weights for Late Iron Age pottery from the ditches reflects the presence of substantial storage jar sherds deposited in the fills.

Feature type	Quantity	Weight (g)	Rim count
Ditch	675	10849	55
Pit	262	2947	17
Gully	95	952	4
Oven	32	275	1
Unknown	5	236	1
Kiln	3	182	2
Layer	4	107	
Tank	4	58	1
Steps	1	33	
Total	**1081**	**15639**	**81**

Table 14. Late Iron Age pottery by feature

Statement of potential

A.3.11 The earlier prehistoric pottery includes fragments of probable cremation vessels which have been heavily burnt consistent with being placed on the cremation pyre. The urns are small and are of some interest having characteristic decoration very similar to local examples from Grendon (Gibson and McCormack 1985) perhaps suggesting that they belong to a fairly localised style or group.

A.3.12 The earlier Iron Age pottery assemblage is very small, perhaps indicating that it is residual, and represents minimal activity at the site during this period. It offers little potential for further study.

A.3.13 The Iron Age assemblages span the period from c.250BC to c.AD50/100 with occupation then continuing into the fully Romanised period (see App A.4) and has good potential for comparison with numerous contemporary local and regional assemblages (for example Weekley, Crick Covert Farm and Moulton).

A.3.14 The assemblage is domestic comprising food preparation and serving vessels, with almost no specialisation or adaptation, the only exception being a single Late Iron Age base sherd which has been drilled through to produce a strainer or steamer. The later Iron Age pottery includes several highly decorated La Tène or Hunsbury type bowls which often form a small proportion of local assemblages which otherwise largely comprise coarse wares, some with scored decoration and often found alongside 'Belgic' style grog-tempered carinated jars and bowls (Hughes and Woodward 2015 108). The range of vessel forms present shifts slightly between the later to Late Iron Age with an increase during the latter period of large storage jars as well as the introduction of more finely made carinated and grog-tempered 'Belgic' jars and bowls.

Recommendations for further work and method statement

Further analysis of the pottery fabrics and forms in relation to the stratified features (once phased).	2 days
Compare the Kettering assemblage to other nearby sites and regional data sets (see bibliography for list of suggested sites)	2days
Preparation of a publication text.	2 days

Select material for illustration prepare a catalogue	1 days
Total	7 days

A.4 Roman Pottery

by Alice Lyons BA MA MCIfA

Introduction

A.4.1 A total of 5088 Roman pottery sherds, weighing 95162g (89.49 EVE) were recovered during excavations at Kettering. This assemblage represents a minimum of 1052 vessels primarily recovered from ditches, a variety of pits, (?brewing) tanks and other features (Table 15).

Feature	Sherd Count	Weight (g)	EVE	Weight (%)
Ditch: *boundary and enclosure*	2868	44360	45.04	46.62
Pit: *hearth, quarry, natural, tree bowl, processing, storage, waterhole, well*	1545	34299	32.58	36.04
Tank: *brewing, production*	392	9397	7.43	9.88
Oven: *corn dryer, industrial*	81	3457	1.05	3.63
Gully: *enclosure, processing, structural*	98	1628	1.63	1.71
Unassigned	24	797	0.25	0.84
Kiln	28	666	0.50	0.70
Ring gully*: roundhouse*	15	241	0.32	0.25
Drying features: *malting oven*	20	159	0.55	0.17
External surface: *working platform*	11	123	0.14	0.13
Post-hole: *structural*	5	32	0.00	0.03
Cremation (Bronze Age)	1	3	0.00	0.00
Total	**5088**	**95162**	**89.49**	**100.00**

Table 15. The Roman pottery from features (listed in descending order of weight (%)

A.4.2 The pottery, although fragmentary, has survived in relatively large pieces due, in part, to the high number of substantial storage jars, with an average sherd weight of 19g. Surface use residues have also survive well.

Methodology

A.4.3 The Roman pottery was analysed following guidelines recorded in *A Standard for Pottery* Studies *in Archaeology* (Barclay et al 2016). The total assemblage was rapidly recorded and a summary catalogue was prepared (in archive). The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups (Table 19) defined on the basis of inclusion types present. Vessel forms (cup, dish, bowl) are also recorded. The sherds were counted and weighed to the nearest whole gramme and recorded by context. Decoration, residues and abrasion were also noted. The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

Factual data

A.4.4 A total of fourteen broad fabric families were identified, of which three fabrics (NWW; STW; SGW) comprise the majority of the assemblage (84% by weight). This ceramic group is distinctive as it mostly comprises Early to Mid-Roman coarse utilitarian jars and storage jars, with very small numbers of finer domestic wares. The pottery is characteristic of a group of wares not used within the home but rather in an agrarian industrial setting.

Fabric Family	Form	Sherd Count	Weight (g)	EVE	Weight (%)
NWW: sandy white ware with coarse grog inclusions (Timby 2007, p. 92, GR7)	Bowl, dish, flagon, jar, jug, lid, sieve, storage jar	1565	33921	27.51	35.65
STW; shelly ware (Timby 2007, 90, SH1; SH4)	Dish, jar, storage jar	833	26022	14.27	27.36
SGW: sandy grey ware (Timby 2007, 93 GREY 4, 8, 9)	Beaker, cheese press, cup, dish, flagon, jar, lid, storage jar, strainer	1757	20012	33.90	21.03
SOW: sandy oxidised wares (Timby 2007, 94, WW1)	Beaker, bowl dish, flagon, jar, mortaria, platter	342	4332	8.60	4.56
GW(GROG): reduced ware with grog inclusions (Timby 2007, 91, GR1, GR3, GR5)	Bowl, dish, jar, storage jar	261	4030	1.81	4.23
OW(GROG): oxidised ware with grog inclusions (Timby 2007, p. 91, GR1)	Bowl, jar, storage jar)	96	3565	0.05	3.75
SAM: samian (Tyers 1996, 105-116)	Bowl, cup, dish, plate	128	1491	1.67	1.57
SREDW: Sandy red ware	Beaker, bowl, flagon, jar	51	728	0.71	0.76
MANHH: Mancetter-Hartshill white ware (Tyers 1996, 123-124)	Flanged dish, mortaria	10	542	0.42	0.57
NVCC: Nene Valley colour coat (Tyers 1996, 173-175)	Beaker, dish, flagon, jar	27	185	0.19	0.20
GW(FINE): fine grey ware (Tyers 1996, 170-171)	Beaker, jar/bowl, bowl	12	165	0.28	0.17
OXWW: Oxfordshire white ware (Tyers 1996, 129)	Mortaria	2	115	0.00	0.12
HADREDW: Hadham red-slipped ware (Tyers 1996, 168-169)	Dish/lid	1	23	0.08	0.02
OXREDCC: Oxfordshire red ware (Tyers 1996, 175-178)	Bowl	1	8	0.00	0.01
Total		**5088**	**95162**	**8949**	**100.00**

Table 16. The Roman pottery fabrics and forms, listed in descending order of weight (%) (the orange shaded area shows the three most prolific fabrics)

Coarse wares

A.4.5 The most numerous Roman pottery fabric by weight (not by sherd count) are the Sandy white wares produced with distinctive coarse grog inclusions and which are most

commonly found as globular lid-seated jars with fumed and soot blackened exteriors where they have been used as cooking pots. The second most common fabric by weight are the Shelly wares, sometimes tempered with grog; these are most commonly identified as globular jars with either lid-seated or rolled rims, sometimes decorated with fine combed or rilled horizontal decoration. Some soot residues remain on external surfaces. Smaller quantities of reduced and oxidised ware, tempered with finer grog, were also found, primarily in the construction of storage jars and wide mouthed cordoned jars some of which are carinated. All these fabrics and forms (NWW, STW, GW(GROG) & OW(GROG)) are locally produced and have developed out of the indigenous Iron Age tradition (Thompson 1984).

A.4.6 The third most common fabric by weight (but most numerous by sherd count and EVE) are the Sandy reduced (grey) wares. These vessels follow the vessel shapes of the Black Burnished ware 2 tradition in vogue from the early/mid-2nd to 4th centuries AD and are commonly found as globular jars with rolled or everted rims, also straight-sided or beaded dishes (Tyers 1996, 186-188). The jars have common horizontal grooves on the neck and girth, also burnished areas and cross-hatch motifs. Use residues are occasionally present with soot sometimes found on the rims and upper parts of the vessels.

A.4.7 Oxidised (white through to red) fabrics are less common in this assemblage. Sandy oxidised wares are most commonly found in the form of globular jars (similar to the grey wares described above), also as cupped rim flagons and a single mortaria (see below). Sandy red wares are even less well represented and rarely found in diagnostic form rather as undiagnostic body sherds from beakers and jars.

Fine wares

A.4.8 Samian is the most common fine ware found within the assemblage but even so only represents 1.6% (by weight) of the total assemblage. The earliest samian is from La Graufesenque in South Gaul, the majority of vessels, however, mostly represent 2nd century production at Lezoux in Central Gaul (see App B.5).

A.4.9 Colour coated finewares made in the Nene Valley are the most common fine ware produced in Britain and here comprise a small number of undiagnostic jar/beaker body sherds, also a cupped flagon and beaded dish. Perhaps also produced in the Nene Valley are a small number of fine grey wares also found both as undiagnostic jar/beaker fragments and as copies of deep samian bowls (Dr37).

A.4.10 A very small quantity of diagnostic later Roman red wares was recovered comprising single fragments from a Hadham red ware dish or lid, also an Oxfordshire red sipped ware bowl. These wares may be intrusive.

Specialist wares

A.4.11 No amphora was found within this assemblage.

A.4.12 Several fragments of mortaria (or mixing bowls; Tyers 1996, 116-135) were recovered (Table 17). Three distinctive fabrics were identified including locally produced Sandy oxidised ware and products from regional factories in Mancetter-Hartshill and

Oxfordshire. No complete examples were found, none are stamped and all are of a bead and flange type.

Fabric family	Form	Sherd Count	Weight (g)
MANHH: Mancetter-Hartshill white ware (Tyers 1996, 123-124)	Bead and flange	10	542
OXWW: Oxfordshire white ware (Tyers 1996, 129)		2	115
SOW: sandy oxidised wares (Timby 2007, 94, WW1)	Bead and flange	2	74
Total		14	731

Table 17. The mortaria

Adapted vessels

A.4.13 Evidence for adapting vessels after manufacture is scarce within this group. Only one SGW jar base has x4 post-firing holes drilled through the base (2744; boundary ditch 2743).

Residues

A.4.14 Several of the large handmade storage jars found in various fabrics and features (Area F2) have a distinctive internal black sealing layer, while others have an external grey/taupe residue which may be a beer-stone residue. It is impossible to establish the function of these large storage jars, which may have been used as fermenting pots, without the scientific investigation of these residues.

Context	Feature	Fabric and form	Residue
2753	Kin 2750	Shell temper ware handmade storage jar	Grey residue - ?beer-stone
3063	Ditch Enclosure 3067	Shell tempered ware with grog inclusions handmade storage jar	Internal black sealing layer
3103	Waterhole 3100	Oxidised ware, with grog inclusions handmade storage jar	Internal black sealing layer

Table 18. Residues on pots

Graffiti

A.4.15 No graffiti are recorded on the pottery within this assemblage, including samian. This may suggest a low level of literacy of those who were using this pottery or that the non-domestic character of the pottery meant personal ownership or markers were not important.

Statement of potential

A.4.16 This is a large stratified assemblage of mostly locally produced utilitarian jars and storage jars found in fabrics that are typical of the East Midlands in the Early to Mid-Roman era (Timby 2007, 117; Marney 1989). This assemblage is of particular interest, however, as the pottery is not domestic in character, but rather reflects Early Roman agrarian use whereby pottery was used to aid the processing of crops, including malting and/or brewing.

A.4.17 Further research of both the fabric and forms in the context of both the site and wider region in association with any residues will potentially make a significant contribution to the understanding of ceramics in agrarian processes in the Early to Mid-Roman rural economy. It is worthy of note that ongoing research in London is finding amphora used to import wine were also sealed with a distinctive black layer that is presently being scientifically analysed. Comparison of these residues may be of interest, particularly if the Kettering examples prove to be associated with brewing, in terms of how the Romans stored and transported alcoholic beverages (Fiona Seeley pers. comm.)

Recommendations for further work and method statement

Further analysis of the pottery fabrics and forms in relation to the stratified features (once phased).	5 days
Compare the Kettering assemblage to other nearby sites and regional data sets (such as the Stanwick archive). This will allow progress with the East Midlands research agenda to create regional pottery corpora and publish key production centres (Knight *et al* 2012, 72, 5.6).	5 days
Residue analysis of selected sherds.	Quote required
Comparison of the residue analysis results with the London amphora residue project.	1 day
Preparation of a publication text.	10 days
Select material for illustration prepare a catalogue	2 days
Total	23 days (plus residue analysis)

Summary Roman pottery catalogue

KEY: B = base, B = beaker, C=century, D = decorated body sherd, Dsc = description, E=early, Eval = evaluation, Ex = excavation, FLAG = flagon, H = Handle, L=late M=mid, MORT = mortaria, PLAT = platter, R = rim, SJAR = storage jar, U=undecorated body sherd.

For full fabric names see Table 15.

Context	Cut	Feature	Fabric Family	Dsc	Form	Sherd Count	Weight (g)	Pot date
2508	2509	Pit	GW(GROG)	U	JAR/BOWL	1	4	C1
2508	2509	Pit	SGW	UDB	JAR	5	129	LC1-C4
2508	2509	Pit	SGW	UD	JAR	8	31	MC1-E/MC2
2508	2509	Pit	SGW	U	JAR	1	21	MC1-C2
2508	2509	Pit	SOW	RU	DISH	5	129	MC2-C3
2549	2548	Ditch	GW(GROG)	U	JAR/BOWL	1	4	C1
2549	2548	Ditch	NWW	U	JAR	9	147	MC1-C2
2549	2548	Ditch	NWW	R	JAR	1	15	MC1-MC2
2549	2548	Ditch	NWW	R	JAR	1	37	MC1-MC2
2549	2548	Ditch	SGW	U	JAR	12	96	M/LC1-C2
2549	2548	Ditch	SGW	R	DISH	1	34	LC1-MC2
2549	2548	Ditch	SOW	U	FLAG	1	7	MC1-C3
2550	2551	Ditch	GW(GROG)	U	SJAR	1	48	C1
2550	2551	Ditch	NWW	RU	JAR	11	71	MC1-C2
2550	2551	Ditch	NWW	RU	JAR	2	29	MC1-C2
2550	2551	Ditch	SGW	UD	JAR	13	165	M/LC1-C2
2550	2551	Ditch	SGW	R	JAR	1	18	MC1-MC2
2550	2551	Ditch	SGW	R	JAR	1	12	LC1-C2
2550	2551	Ditch	STW	RU	JAR	2	24	MC1-MC2
2550	2551	Ditch	STW(GROG)	U	JAR	1	5	C1
2576	2578	Ditch	NWW	U	JAR	1	10	MC1-C2

2576	2578	Ditch	SGW	UDB	JAR	5	37	MC1-E/MC2
2576	2578	Ditch	STW	U	SJAR	1	41	C1
2581	2584	Ditch	NWW	U	JAR	7	95	MC1-C2
2581	2584	Ditch	NWW	R	SJAR	1	89	MC1-C2
2581	2584	Ditch	NWW	R	JAR	1	45	MC1-C2
2581	2584	Ditch	NWW	R	JAR	1	96	MC1-MC2
2581	2584	Ditch	NWW	R	JAR	1	17	MC1-MC2
2581	2584	Ditch	NWW	R	JAR	1	29	MC1-MC2
2581	2584	Ditch	OX(GROG)	U	JAR	1	3	C1
2581	2584	Ditch	SGW	RUB	JAR	10	88	LC1-MC2
2581	2584	Ditch	SGW	P	DISH/PLAT	1	44	LC1-MC2
2581	2584	Ditch	SOW	UB	JAR/FLAG	1	6	MC1-C3
2581	2584	Ditch	SOW	U	JAR	6	34	MC1-C2
2581	2584	Ditch	SOW	R	DISH	1	10	E/MC2
2581	2584	Ditch	STW	U	JAR	1	8	C1-C2
2596	2598	Ditch	GW(FINE)	B	BOWL	1	10	M/LC1-E/MC2
2596	2598	Ditch	NWW	U	JAR	37	383	MC1-C2
2596	2598	Ditch	NWW	RU	JAR	1	132	M/LC1-MC2
2596	2598	Ditch	NWW	R	DISH/LID	2	44	MC1-E/MC2
2596	2598	Ditch	NWW	R	JAR	1	6	MC1-C2
2596	2598	Ditch	NWW	R	JAR	1	18	MC1-C2
2596	2598	Ditch	NWW	R	DISH	1	14	MC1-C2
2596	2598	Ditch	SGW	U	JAR	57	389	M/LC1-C2
2596	2598	Ditch	SGW	R	JAR	6	39	C/LC1-C2
2596	2598	Ditch	SGW	R	JAR	1	33	M/LC1
2596	2598	Ditch	SGW	R	JAR	2	15	LC1-C2
2596	2598	Ditch	SOW	UB	JAR	2	28	MC1-C3
2596	2598	Ditch	STW	RUB	JAR	7	75	C2-C4
2597	2598	Ditch	GW(FINE)	RUD	BOWL	5	32	M/LC1-E/MC2
2597	2598	Ditch	GW(GROG)	B	JAR	1	9	C1
2597	2598	Ditch	NWW	U	JAR	27	601	MC1-C2
2597	2598	Ditch	NWW	D	JAR	28	239	LC1-C2
2597	2598	Ditch	NWW	R	JAR	7	236	LC1-C2
2597	2598	Ditch	NWW	R	JAR	1	14	LC1-C2
2597	2598	Ditch	NWW	R	JAR	1	79	M/LC1-E/MC2
2597	2598	Ditch	NWW	R	DISH/LID	4	239	MC1-E/MC2
2597	2598	Ditch	SGW	RUDB	BEAK	17	226	M/LC1-E/MC2
2597	2598	Ditch	SGW	RD	JAR	8	67	LC1-MC2
2597	2598	Ditch	SGW	P	DISH	1	49	MC1-EMC2
2597	2598	Ditch	SGW	R	BEAK	2	14	M/LC1-MC2
2597	2598	Ditch	SGW	RU	JAR	7	123	M/LC1-EC2
2597	2598	Ditch	SGW	B	PLAT	1	22	MC1
2597	2598	Ditch	SOW	R	DISH	6	224	E/MC2
2597	2598	Ditch	SOW	R	BEAK	12	108	MC1-EC2
2597	2598	Ditch	SREDW	U	JAR	4	29	MC1-C2
2599	2601	Ditch	GW(GROG)	U	JAR/BOWL	5	77	C1
2599	2601	Ditch	GW(GROG)	RUB	JAR/SJAR	11	151	C1
2599	2601	Ditch	NWW	U	JAR	10	121	MC1-C2
2599	2601	Ditch	NWW	R	JAR	6	77	MC1-C2
2599	2601	Ditch	SGW	RUB	JAR	31	303	MLC1-C4
2599	2601	Ditch	SREDW	U	JAR	1	5	C2
2599	2601	Ditch	STW	RUB	JAR	16	87	MC1-MC2
2599	2601	Ditch	SAM	Rim	Bowl	1	4	120-200
2599	2601	Ditch	SAM	Rim	Dish/Bowl	4	38	120-150
2600	2601	Ditch	GW(GROG)	U	JAR/BOWL	1	13	C1
2600	2601	Ditch	NWW	U	JAR/SJAR	2	74	MC1-C4
2600	2601	Ditch	SGW	U	JAR/BEAK	1	1	MC1-C4
2616	2618	Ditch	GW(GROG)	D	JAR	1	9	C1
2616	2618	Ditch	NWW	U	JAR	3	7	MC1-C2
2616	2618	Ditch	SGW	U	JAR	5	10	M/LC1-C2
2616	2618	Ditch	STW	U	JAR	4	20	C1-E/MC2
2620	2619	Ditch	GW(GROG)	U	JAR	3	20	C1
2620	2619	Ditch	NWW	U	JAR	35	435	MC1-C2
2620	2619	Ditch	NWW	R	JAR	2	107	MC1-C2
2620	2619	Ditch	NWW	R	JAR	1	61	MC1-C2
2620	2619	Ditch	NWW	R	JAR	1	15	MC1-C2

2620	2619	Ditch	NWW	R	JAR	1	21	MC1-C2
2620	2619	Ditch	NWW	R	JAR	1	10	MC1-C2
2620	2619	Ditch	OXREDCC	U	BOWL	1	8	C2-C4
2620	2619	Ditch	SGW	UDB	JAR	30	186	MC1-MC2
2620	2619	Ditch	SGW	R	LID	1	20	MC1-C3
2620	2619	Ditch	SGW	R	DISH	1	6	MC1-E/MC2
2620	2619	Ditch	SGW	R	WJAR	2	11	MC1-C2
2620	2619	Ditch	SGW	R	WJAR	1	5	MC1-C2
2620	2619	Ditch	SGW	R	WJAR	1	34	M/LC1
2620	2619	Ditch	SGW	R	WJAR	2	14	M/LC1
2620	2619	Ditch	SOW	R	BOWL	1	14	M/LC1-E/MC2
2620	2619	Ditch	SOW	R	JAR	1	3	MC1-C2
2620	2619	Ditch	STW	U	JAR	2	13	MC1-C2
2624	2621	Pit	GW(GROG)	UD	JAR	3	65	C1
2624	2621	Pit	MANHH	R	MORT	1	13	C2-C4
2624	2621	Pit	NWW	U	JAR	4	46	MC1-C2
2624	2621	Pit	NWW	R	JAR	1	54	MC1-MC2
2624	2621	Pit	NWW	R	JAR	1	31	MC1-MC2
2624	2621	Pit	NWW	R	JAR	1	15	MC1-MC2
2624	2621	Pit	SGW	RUB	JAR	7	108	LC1-C4
2624	2621	Pit	SGW	RU	JAR	4	23	LC1-C2
2624	2621	Pit	STW	U	JAR	1	23	C1-C2
2624	2621	Pit	SAM		Bowl	1	52	150-200
2634	2635	Ditch	GW(GROG)	U	JAR/BOWL	1	6	C1
2634	2635	Ditch	NVCC	R	FLAG	1	2	M/LC2
2634	2635	Ditch	NWW	RU	JAR	4	27	MC1-MC2
2634	2635	Ditch	SGW	U	JAR	3	16	MC1-C2
2634	2635	Ditch	SOW	R	FLAG	1	8	M/LC1-MC2
2634	2635	Ditch	SOW	RU	JAR	2	15	C2-C3
2634	2635	Ditch	STW	R	JAR	1	29	MC1-E/MC2
2644	2646	Ditch	GW(GROG)	U	JAR/BOWL	2	29	C1
2644	2646	Ditch	NWW	RU	JAR	11	688	C2-C3
2644	2646	Ditch	NWW	U	JAR	25	443	MC1-C2
2644	2646	Ditch	NWW	R	JAR	1	168	MC1-E/MC2
2644	2646	Ditch	NWW	R	JAR	1	23	MC1-MC2
2644	2646	Ditch	NWW	R	JAR	1	18	MC1-MC2
2644	2646	Ditch	NWW	R	JAR	4	78	MC1-C2
2644	2646	Ditch	NWW	R	JAR	1	11	MC1-E/MC2
2644	2646	Ditch	NWW	R	JAR	1	8	MC1-E/MC2
2644	2646	Ditch	NWW	R	JAR	3	59	MC1-MC2
2644	2646	Ditch	SGW	UDB	JAR	21	198	LC1-C2
2644	2646	Ditch	SGW	UB	JAR	4	79	LC2-EC4
2644	2646	Ditch	SREDW	D	BEAK	1	4	MC1-E/MC2
2644	2646	Ditch	SREDW	U	JAR	3	40	M/LC1-C2
2644	2646	Ditch	STW	UB	JAR	1	134	C1-C2
2644	2646	Ditch	STW	U	SJAR	1	23	C1
2648	2647	Ditch	GW(GROG)	U	JAR/BOWL	2	10	C1
2648	2647	Ditch	NWW	U	JAR	15	150	MC1-C2
2648	2647	Ditch	SGW	UDB	JAR	17	137	LC1-MC2
2648	2647	Ditch	SOW	D	JAR/BEAK	1	7	C2-C3
2660	2662	Pit	SGW	RD	JAR	3	27	MC1-MC2
2660	2662	Pit	SREDW	D	BEAK	4	25	MC1-MC2
2660	2662	Pit	STW	U	JAR	4	25	E/MC1
2668	2667	Ditch	GW(GROG)	D	JAR	1	11	C1
2668	2667	Ditch	NWW	U	JAR	13	124	MC1-C2
2668	2667	Ditch	SGW	U	JAR	1	12	MC1-C2
2668	2667	Ditch	SGW	RU	DISH	3	12	MC1-EC2
2668	2667	Ditch	STW	U	JAR	3	1	C1-C4
2672	2671	Posthole	GW(GROG)	U	JAR/BOWL	1	7	C1
2672	2671	Posthole	SOW	U	JAR/FLAG	2	15	MC1-C2
2672	2671	Posthole	SAM		Bowl	1	6	120-200
2683	2685	Ditch	GW(GROG)	U	BOWL	1	7	C1
2683	2685	Ditch	GW(GROG)	U	JAR	3	19	C1
2683	2685	Ditch	SGW	UDB	JAR	16	186	M/LC1-E/MC2
2683	2685	Ditch	STW	RU	SJAR	3	162	MC1-E/MC2
2697	2696	Gully	GW(GROG)	RU	JAR	3	23	C1

2697	2696	Gully	NWW	RUDB	JAR	48	657	MC1-E/MC2
2697	2696	Gully	NWW	RDB	DISH	7	208	MC1-EC2
2697	2696	Gully	SGW	RUDB	JAR	7	161	M/LC1-E/MC2
2697	2696	Gully	SGW	D	JAR	2	20	E/MC2
2697	2696	Gully	SOW	U	JAR	2	1	MC1-C2
2698	2701	Pit	GW(GROG)	U	JAR/BOWL	3	43	C1
2698	2701	Pit	GW(GROG)	U	JAR	5	66	C1
2698	2701	Pit	NWW	U	JAR	4	35	MC1-C2
2698	2701	Pit	SGW	RUD	JAR	15	101	M/LC1-E/M2
2698	2701	Pit	SOW	U	JAR	2	11	MC1-C2
2698	2701	Pit	STW	RU	JAR	2	26	MC1-C2
2699	2701	Pit	GW(GROG)	U	JAR/BOWL	2	5	C1
2699	2701	Pit	NWW	U	JAR	1	24	MC1-C2
2699	2701	Pit	SGW	RUB	JAR	3	95	M/LC1-MC2
2699	2701	Pit	SGW	R	JAR	1	12	M/LC1-E/MC2
2699	2701	Pit	SGW	U	JAR/BOWL	3	19	M/LC1
2700	2701	Pit	GW(GROG)	U	JAR/BOWL	1	7	C1
2700	2701	Pit	NWW	U	JAR	4	64	MC1-C2
2700	2701	Pit	SGW	UB	JAR	3	58	MC1-E/MC2
2700	2701	Pit	SOW	U	JAR/FLAG	1	4	MC1-C2
2708	2707	Ditch	GW(GROG)	D	JAR	8	14	C1
2708	2707	Ditch	SGW	U	JAR	1	4	MC1-C2
2715	2714	Ditch	NWW	U	JAR	1	3	MC1-C2
2715	2714	Ditch	SGW	R	JAR	1	6	M/LC1-MC2
2715	2714	Ditch	STW	B	JAR	1	39	C1
2717	2713	Ditch	GW(FINE)	U	JAR/BEAK	1	6	M/LC1-E/MC2
2717	2713	Ditch	GW(GROG)	R	DISH	1	13	M/LC1
2717	2713	Ditch	GW(GROG)	RU	JAR	2	21	C1
2717	2713	Ditch	SGW	UB	JAR	2	32	MC1-C2
2717	2713	Ditch	STW	D	JAR	40	819	C1
2727	2725	Ditch	GW(GROG)	U	JAR	4	27	C1
2727	2725	Ditch	NWW	RUD	JAR	9	131	MC1-C2
2727	2725	Ditch	SGW	RUB	JAR	14	223	M/LC1-E/MC2
2727	2725	Ditch	SGW	UD	JAR	5	53	M/LC1-MC2
2727	2725	Ditch	SGW(SANDW)	U	JAR	1	20	M/LC1
2727	2725	Ditch	SOW	U	FLAG	1	4	MC1-C3
2727	2725	Ditch	SOW	R	PLAT	1	7	MC1-E/MC2
2727	2725	Ditch	SREDW	RU	BEAK	2	16	M/LC1-C2
2727	2725	Ditch	STW	RUB	JAR	8	70	MC1-E/MC2
2744	2743	Ditch	GW(GROG)	RU	DISH	5	95	MC1
2744	2743	Ditch	GW(GROG)	RUD	JAR	10	94	M/LC1
2744	2743	Ditch	NWW	U	JAR	16	220	MC1-C2
2744	2743	Ditch	SGW	R	JAR	1	6	M/LC1-E/MC2
2744	2743	Ditch	SGW	UD	JAR	20	208	M/LC1-C2
2744	2743	Ditch	SGW	RD	JAR	13	172	M/LC1
2744	2743	Ditch	SGW	UB	JAR	4	116	M/LC1-E/MC2
2744	2743	Ditch	SGW	RU	JAR	19	95	M/LC1-E/MC2
2744	2743	Ditch	STW(GROG)	RUB	JAR	13	227	MC1-E/MC2
2749	2747	Pit	NWW	U	JAR	10	239	MC1-C2
2749	2747	Pit	SGW	UDB	JAR	11	142	C2-C4
2749	2747	Pit	SOW	U	FLAG	1	12	MC1-C3
2749	2747	Pit	STW	D	JAR	1	19	C1
2749	2747	Pit	SAM	Rim	Bowl	1	3	120-200
2753	2750	Kiln	NWW	UB	JAR	1	169	MC1-C2
2753	2750	Kiln	STW	U	SJAR	1	145	C1
2778	2780	Ditch	NWW	U	JAR/SJAR	80	910	MC1-C2
2778	2780	Ditch	NWW	R	JAR	1	43	MC1-E/MC2
2778	2780	Ditch	NWW	R	JAR	1	215	M/LC1-MC2
2778	2780	Ditch	NWW	R	JAR	1	128	M/LC1-MC2
2778	2780	Ditch	NWW	R	JAR	1	42	M/LC1-MC2
2778	2780	Ditch	NWW	R	JAR	1	48	M/LC1-MC2
2778	2780	Ditch	NWW	R	JAR	1	23	M/LC1-C2
2778	2780	Ditch	NWW	R	FLAG	1	6	C2
2778	2780	Ditch	NWW	R	JAR	1	7	M/LC1-C2
2778	2780	Ditch	SGW	RUB	JAR	6	78	M/LC1-MC2
2778	2780	Ditch	SGW	RUD	JAR	7	68	MC1-EC2

2778	2780	Ditch	SGW	P	DISH	7	205	MC2-C3
2778	2780	Ditch	SOW	U	FLAG	2	8	MC1-C3
2778	2780	Ditch	SOW	U	JAR	1	21	C2-C4
2778	2780	Ditch	SOW	U	JAR	2	13	MC1-C2
2778	2780	Ditch	STW	R	JAR	1	14	MC1-MC2
2778	2780	Ditch	STW	R	JAR	1	19	MC1-C2
2778	2780	Ditch	STW	U	SJAR	2	48	C1
2778	2780	Ditch	STW	U	JAR	1	11	MC1-C4
2778	2780	Ditch	SAM		Indeterminate	1	2	70-110
2779	2780	Ditch	GW(GROG)	R	SJAR	1	86	MC1-E/MC2
2779	2780	Ditch	GW(GROG)	RU	JAR	5	28	MC1-E/MC2
2779	2780	Ditch	NWW	UB	JAR	17	206	MC1-C2
2779	2780	Ditch	NWW	R	JAR	1	32	MC1-MC2
2779	2780	Ditch	NWW	R	JAR	1	43	MC1-MC2
2779	2780	Ditch	SGW	UB	JAR	7	75	MC1-C4
2779	2780	Ditch	SGW	RUD	WJAR	25	221	M/C1-EC2
2779	2780	Ditch	SOW	U	FLAG	1	10	MC1-C3
2779	2780	Ditch	STW	U	JAR	1	3	C1
2779	2780	Ditch	SAM		Cup	1	4	70-110
2782	2781	Ditch	NWW	U	JAR	4	48	MC1-C2
2782	2781	Ditch	STW	U	JAR/BOWL	1	8	C1
2800	2769	Ditch	NVCC	D	BEAK	2	6	E/MC2
2800	2769	Ditch	GW(GROG)	B	BOWL	1	12	M/LC1-E/MC2
2800	2769	Ditch	NWW	U	JAR	1	4	MC1-C2
2800	2769	Ditch	SGW	UDB	JAR	51	360	M/LC1-C2
2800	2769	Ditch	SGW	R	JAR	2	39	M/C1-C2
2800	2769	Ditch	SGW	R	JAR	1	6	MC1-C2
2800	2769	Ditch	SGW	R	BEAK	1	3	MC1-C2
2800	2769	Ditch	SGW	R	JAR	1	14	M/LC1-MC2
2800	2769	Ditch	SGW	RD	JAR	2	7	M/LC1-MC2
2800	2769	Ditch	SGW	D	JAR	1	11	M/LC1
2800	2769	Ditch	SOW	UDH	FLAG	16	141	MC1-C3
2800	2769	Ditch	SOW	U	JAR	7	41	MC1-C2
2800	2769	Ditch	SOW	RU	FLAG	27	303	MC2-C4
2800	2769	Ditch	SAM		Plate	1	3	70-100
2805	2803	Tank	GW(GROG)	U	JAR/BOWL	1	6	C1
2805	2803	Tank	NWW	U	JAR	10	137	MC1-C2
2805	2803	Tank	NWW	U	JAR	28	566	MC1-C2
2805	2803	Tank	NWW	R	BOWL	1	124	MC1-E/MC2
2805	2803	Tank	SGW	RU	JAR	2	10	M/LC1-C2
2805	2803	Tank	SGW	R	JAR	5	27	MC1-C2
2805	2803	Tank	SGW	RU	JAR	12	88	MC1-C2
2805	2803	Tank	SGW	R	CUP	1	10	MC1-C2
2805	2803	Tank	SGW	R	JAR	12	118	E/MC2
2805	2803	Tank	SGW	R	DISH	1	25	E/MC2
2805	2803	Tank	SGW	U	JAR	8	99	E/MC2
2805	2803	Tank	SOW	U	JAR	1	4	MC1-MC2
2805	2803	Tank	STW	U	JAR	1	5	MC1-C2
2805	2803	Tank	STW	U	JAR	2	22	MC1-C2
2824	2826	Pit	GW(GROG)	R	JAR	1	8	C1
2824	2826	Pit	NWW	RU	JAR	3	52	MC1-E/MC2
2824	2826	Pit	SGW	B	JAR	1	11	MC1-C2
2825	2826	Pit	GW(GROG)	U	JAR/BOWL	2	27	C1
2825	2826	Pit	GW(GROG)	U	JAR/BOWL	8	142	M/LC1
2825	2826	Pit	NWW	U	JAR	21	332	MC1-C2
2825	2826	Pit	NWW	R	JAR	1	76	MC1-C2
2825	2826	Pit	NWW	R	JAR	1	51	MC1-C2
2825	2826	Pit	SGW	RUB	JAR	20	218	M/C1-C2
2825	2826	Pit	STW	RU	JAR	6	41	MC1-MC2
2825	2826	Pit	SAM		Bowl	1	4	150-200
2827	2829	Pit	GW(FINE)	B	BOWL	1	5	M/LC1-E/MC2
2827	2829	Pit	GW(GROG)	UD	JAR/SJAR	3	54	C1
2827	2829	Pit	GW(GROG)	R	SJAR	1	47	MC1-E/MC2
2827	2829	Pit	GW(GROG)	D	BOWL	1	13	E/MC1
2827	2829	Pit	GW(GROG)	R	JAR	1	18	E/MC1-EC2
2827	2829	Pit	GW(GROG)	UD	JAR	4	46	C1

2827	2829	Pit	NWW	UB	JAR	33	753	MC1-C2
2827	2829	Pit	NWW	R	JAR	1	133	MC1-MC2
2827	2829	Pit	NWW	R	SJAR	1	59	MC1-C2
2827	2829	Pit	NWW	R	JAR	1	48	MC1-E/MC2
2827	2829	Pit	NWW	R	JAR	3	81	MC1-E/MC2
2827	2829	Pit	NWW	R	SJAR	1	27	MC1-C2
2827	2829	Pit	NWW	R	SJAR	2	20	MC1-C2
2827	2829	Pit	OW(GROG)	U	SJAR	1	32	C1
2827	2829	Pit	SGW	UDB	JAR	35	378	LC1-C2
2827	2829	Pit	SGW	R	JAR	1	18	MC1-MC2
2827	2829	Pit	SGW	R	JAR	1	16	MC1-E/MC2
2827	2829	Pit	SGW	R	JAR	1	6	MC1-E/MC2
2827	2829	Pit	SGW	R	JAR	1	5	M/LC1-C2
2827	2829	Pit	SOW	RUB	JAR	6	87	MC1-C2
2827	2829	Pit	SOW	R	JAR	1	31	LC1-C3
2827	2829	Pit	STW	UB	JAR	10	136	MC1-C2
2827	2829	Pit	STW	R	SJAR	3	132	MC1-C2
2827	2829	Pit	STW	R	SJAR	1	43	LC1-C2
2827	2829	Pit	STW	R	LID	1	15	C1-C2
2827	2829	Pit	SAM		Indeterminate	2	1	120-200
2835	2837	Ditch	GW(GROG)	U	JAR	1	7	C1
2835	2837	Ditch	NWW	R	JAR	1	29	MC1-MC2
2835	2837	Ditch	NWW	R	JAR	1	22	MC1-C2
2835	2837	Ditch	NWW	U		13	130	MC1-C2
2835	2837	Ditch	OW(GROG)	U	SJAR	1	36	C1
2835	2837	Ditch	SGW	RUB	JAR	16	144	M/LC1-C2
2835	2837	Ditch	STW	U	JAR	1	4	C1
2835	2837	Ditch	SAM	Rim	Cup	3	7	120-200
2841	2840	Ditch	GW(GROG)	U	JAR/BOWL	6	18	C1
2841	2840	Ditch	NWW	RU	JAR	9	337	MC1-MC2
2841	2840	Ditch	SGW	UB	JAR	8	65	MC1-C4
2841	2840	Ditch	SREDW	U	JAR	1	1	MC1-C2
2841	2840	Ditch	STW	U	JAR/SJAR	5	48	C1-C2
2841	2840	Ditch	SAM		Indeterminate	1	1	120
2841	2840	Ditch	SAM		Indeterminate	1	1	120
2843	2840	Ditch	GW(GROG)	U	JAR	7	73	C1
2843	2840	Ditch	NWW	U	JAR	10	74	MC1-C2
2843	2840	Ditch	NWW	R	SJAR	1	31	MC1-C2
2843	2840	Ditch	NWW	R	JAR	1	17	LC1-C2
2843	2840	Ditch	NWW	R	JAR	1	8	MC1-MC2
2843	2840	Ditch	NWW	R	JAR	1	6	MC1-MC2
2843	2840	Ditch	NWW	R	JAR	1	8	MC1-MC2
2843	2840	Ditch	SGW	UDB	JAR	36	281	MC1-C4
2843	2840	Ditch	SGW	R	JAR	1	26	MC1-MC2
2843	2840	Ditch	SGW	R	JAR	1	8	MC1-MC2
2843	2840	Ditch	SGW	R	DISH	1	8	LC1-C4
2843	2840	Ditch	SGW	R	JAR	2	13	LC1-C4
2843	2840	Ditch	SOW	U	JAR	5	50	MC1-C2
2843	2840	Ditch	STW	RU	SJAR	9	840	M/LC1-C3
2843	2840	Ditch	STW	RU	JAR	4	51	MC1-MC2
2850	2899	Ditch	GW(GROG)	U	SJAR	1	129	C1
2850	2899	Ditch	SGW	U	JAR	1	10	MC1-C2
2856	2852	Ditch	GW(GROG)	R	JAR	1	11	C1
2856	2852	Ditch	SGW	P	DISH/PLAT	1	38	MC1-C2
2856	2852	Ditch	SGW	U	JAR	1	9	MC1-C4
2856	2852	Ditch	SAM		Bowl	1	54	150-200
2925	2926	Pit	GW(GROG)	U	JAR	1	28	M/LC1
2925	2926	Pit	NWW	R	SJAR	1	101	MC1-E/MC2
2925	2926	Pit	STW	R	JAR	1	27	MC1-E/MC2
2968	?	?	GW(GROG)	U	JAR	2	20	C1
2968	?	?	NWW	U	SJAR	1	18	MC1-C2
2968	?	?	SGW	U	JAR	1	14	M/LC1-C4
2968	?	?	STW	RU	SJAR	4	503	M/LC1-C2
2995	2995	Oven	OW(GROG)	U	BOWL	1	4	M/LC1-EC2
2995	2995	Oven	SGW	B	JAR	2	22	M/LC1-C4
2995	2995	Oven	SOW	U	JAR/FLAG	1	4	MC1-C2

2995	2995	Oven	STW	U	STW	2	24	C1
2999	2998	Ditch	GW(GROG)	U	JAR/BOWL	2	3	M/LC1
2999	2998	Ditch	NWW	UB	JAR	2	73	MC1-C2
2999	2998	Ditch	SGW	U	JAR	6	20	MC1-C4
2999	2998	Ditch	SGW	R	JAR	2	18	MC1-C2
3008	3007	Ditch	GW(GROG)	U	JAR/BOWL	2	31	C1
3008	3007	Ditch	GW(GROG)	U	JAR	2	74	M/LC1
3008	3007	Ditch	GW(GROG)	U	JAR	1	2	M/LC1
3008	3007	Ditch	GW(GROG)	U	JAR	2	11	M/LC1
3008	3007	Ditch	GW(GROG)	R	JAR	1	17	MC1
3008	3007	Ditch	NWW	U	JAR	4	41	MC1-C4
3008	3007	Ditch	SGW	UD	JAR	6	20	LC1-C2
3008	3007	Ditch	SOW	U	FLAG	3	3	MC1-C3
3008	3007	Ditch	STW	U	JAR/BOWL	1	7	C1
3008	3007	Ditch	SAM	Rim	Bowl	5	53	150-200
3027	2991	Pit	NWW	RU	JAR	6	61	LC1-C2
3027	2991	Pit	SGW	RUDB	JAR	25	205	LC1-C2
3027	2991	Pit	SGW	RU	DISH	2	77	MC2-C3
3027	2991	Pit	STW	U	JAR/BOWL	1	27	C1
3027	2991	Pit	STW	R	JAR	2	41	LC1-C2
3027	2991	Pit	STW	D	JAR	1	29	MC1-C4
3043	3041	Pit	GW(FINE)	B	BOWL	1	10	M/LC1-EMC2
3043	3041	Pit	GW(GROG)	RU	JAR/BOWL	10	87	MC1-C2
3043	3041	Pit	GW(GROG)	UDB	JAR	12	85	M/C1
3043	3041	Pit	NVCC	D	BEAK	2	7	MC2-C3
3043	3041	Pit	NWW	UDB	JAR/SJAR	44	775	LC1-C3
3043	3041	Pit	NWW	R	JAR	1	23	MC1-C2
3043	3041	Pit	NWW	R	DISH	1	4	MC1-E/MC2
3043	3041	Pit	OXWW	UB	MORT	2	115	MC2-C4
3043	3041	Pit	SGW	UDB	JAR	43	287	C2-C3
3043	3041	Pit	SGW	R	JAR	1	1	MC1-C4
3043	3041	Pit	SGW	R	JAR	1	5	LC1-C4
3043	3041	Pit	SGW	R	PLAT	1	18	MC1-E/MC2
3043	3041	Pit	SGW	R	JAR	1	22	MC1-E/MC2
3043	3041	Pit	SGW	R	BEAK	1	1	LC1-C2
3043	3041	Pit	SGW	R	DISH	1	17	MC2-C3
3043	3041	Pit	SGW	R	DISH	1	7	MC2-C3
3043	3041	Pit	SGW	R	DISH	1	7	MC2-C3
3043	3041	Pit	SOW	U	JAR/FLAG	13	53	MC1-C3
3043	3041	Pit	SOW	RH	FLAG	3	90	LC1-C3
3043	3041	Pit	SOW	R	JAR	1	16	LC1-C2
3043	3041	Pit	SREDW	RD	JAR	2	11	MC1-C2
3043	3041	Pit	STW	U	JAR	20	95	C1-C2
3043	3041	Pit	STW	R	SJAR	1	186	MC1-C2
3043	3041	Pit	STW	R	JAR	5	78	MC1-C4
3043	3041	Pit	STW	R	JAR	1	11	C2-C4
3043	3041	Pit	SAM		Cup	2	6	155-200
3043	3041	Pit	SAM	Rim	Bowl	1	15	155-200
3043	3041	Pit	SAM		Plate/Bowl	2	31	155-200
3043	3041	Pit	SAM	Rim	Bowl	1	32	155-200
3043	3041	Pit	SAM		Bowl	4	50	155-200
3063	3067	Ditch	NWW	RUHB	SJAR	10	269	MC1-MC2
3063	3067	Ditch	NWW	R	JAR	2	68	MC1-MC2
3063	3067	Ditch	SGW	R	JAR	6	69	LC1-C2
3063	3067	Ditch	SGW	R	PLAT	1	15	M/LC1-E/MC2
3063	3067	Ditch	SOW	U	JAR	2	39	MC1-C2
3063	3067	Ditch	SOW	U	JAR	1	6	C2-C3
3063	3067	Ditch	STW	UB	JAR	20	250	MC1-C2
3063	3067	Ditch	STW	R	JAR	1	37	MC1-MC2
3063	3067	Ditch	STW	R	JAR	1	22	MC1-MC2
3063	3067	Ditch	STW(GROG)	UD	SJAR	84	5232	C1
3063	3067	Ditch	STW(GROG)	R	SJAR	2	233	M/LC1
3063	3067	Ditch	STW(GROG)	R	SJAR	1	180	C1
3063	3067	Ditch	STW(GROG)	R	SJAR	1	236	C1
3063	3067	Ditch	SAM		Bowl	1	7	120-200
3063	3067	Ditch	SAM	Rim	Cup	1	7	120-200

3063	3067	Ditch	SAM		Bowl	1	41	120-200
3103	3100	Pit	GW(GROG)	U	JAR/BOWL	1	8	C1
3103	3100	Pit	GW(GROG)	R	SJAR	1	106	M/LC1-E/MC2
3103	3100	Pit	GW(GROG)	U	JAR/BOWL	1	14	M/LC1
3103	3100	Pit	NWW	UDB	JAR/SJAR	41	1085	MC1-MC2
3103	3100	Pit	NWW	R	WJAR	2	250	M/LC1-EC2
3103	3100	Pit	NWW	R	JAR	2	130	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	50	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	38	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	15	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	79	MC1-MC2
3103	3100	Pit	NWW	R	JAR	2	73	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	70	MC1-C2
3103	3100	Pit	NWW	R	JAR	1	86	MC1-C2
3103	3100	Pit	NWW	R	JAR	1	59	C2-C3
3103	3100	Pit	NWW	R	JAR	1	52	MC1-C2
3103	3100	Pit	NWW	R	JAR	1	32	MC1-C2
3103	3100	Pit	NWW	R	JAR	1	25	MC1-C2
3103	3100	Pit	NWW	U	SJAR	2	37	MC1-C2
3103	3100	Pit	NWW	UHB	JAR	22	381	MC1-C2
3103	3100	Pit	NWW	R	JAR	1	178	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	13	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	36	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	26	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	15	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	35	MC1-MC2
3103	3100	Pit	NWW	R	JAR	1	82	M/LC2
3103	3100	Pit	NWW	R	JAR	1	18	M/LC1-C2
3103	3100	Pit	OW(GROG)	UD	SJAR	10	233	C1-E/MC2
3103	3100	Pit	OW(GROG)	UD	SJAR	65	3111	C1-E/MC2
3103	3100	Pit	SGW	UDB	JAR/DISH	49	701	MC1-C2
3103	3100	Pit	SGW	R	JAR	1	62	M/LC1-MC2
3103	3100	Pit	SGW	R	DISH	2	49	MC2
3103	3100	Pit	SGW	R	DISH	1	96	MC2
3103	3100	Pit	SGW	R	DISH	2	52	C2-C4
3103	3100	Pit	SGW	R	JAR	2	48	M/LC1-E/MC2
3103	3100	Pit	SGW	R	SJAR	1	32	M/LC1-C2
3103	3100	Pit	SGW	R	JAR	1	24	C2-C3
3103	3100	Pit	SGW	R	JAR	3	62	MC1-C2
3103	3100	Pit	SGW	R	JAR	4	32	MC1-C2
3103	3100	Pit	SGW	R	DISH	1	37	LC1-C2
3103	3100	Pit	SGW	R	DISH	1	3	LC1-C2
3103	3100	Pit	SGW	R	JAR	2	23	MC1-C2
3103	3100	Pit	SGW	R	DISH	1	26	E/MC2
3103	3100	Pit	SGW	UD	BEAK	8	61	MC1-MC2
3103	3100	Pit	SGW	U	JAR	2	40	M/LC1
3103	3100	Pit	SOW	U	FLAG	1	5	MC1-C3
3103	3100	Pit	SOW	U	JAR	5	27	MC1-C2
3103	3100	Pit	SOW	UB	JAR	2	16	MC1-C2
3103	3100	Pit	SOW	R	MORT	1	56	C2
3103	3100	Pit	STW	UD	JAR	60	1275	MC1-MC2
3103	3100	Pit	STW	UD	SJAR	14	721	MC1-C2
3103	3100	Pit	STW	R	SJAR	1	315	MC1-C2
3103	3100	Pit	STW	R	SJAR	2	796	MC1-C2
3103	3100	Pit	STW	R	SJAR	1	578	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	4	154	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	1	24	MC1-C2
3103	3100	Pit	STW	R	JAR	1	20	MLC1-E/MC2
3103	3100	Pit	STW	R	JAR	1	20	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	2	56	MC1-MC2
3103	3100	Pit	STW	R	JAR	2	138	MC1-MC2
3103	3100	Pit	STW	R	JAR	2	82	MC1-MC2
3103	3100	Pit	STW	R	JAR	3	102	LC1-C2
3103	3100	Pit	STW	R	JAR	3	36	LC1-C2
3103	3100	Pit	STW	UB	SJAR	12	732	MC1-C2
3103	3100	Pit	STW	R	SJAR	2	799	M/LC1-C2

3103	3100	Pit	STW	R	SJAR	1	113	M/LC1-C2
3103	3100	Pit	STW	R	SJAR	1	106	M/LC1-C2
3103	3100	Pit	STW	R	JAR	1	34	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	1	34	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	1	69	MC1-E/MC2
3103	3100	Pit	STW	R	JAR	1	125	MC1-C2
3103	3100	Pit	STW	R	JAR	1	41	MC1-C2
3103	3100	Pit	STW	R	JAR	1	36	MC1-C2
3103	3100	Pit	SAM		Cup	1	2	160
3103	3100	Pit	SAM		Bowl	1	3	160
3103	3100	Pit	SAM	1	Bowl	1	3	160
3103	3100	Pit	SAM		Bowl	1	4	160
3103	3100	Pit	SAM	1	Cup	1	5	160
3103	3100	Pit	SAM	1	Cup	1	6	160
3103	3100	Pit	SAM		Bowl	1	8	160
3103	3100	Pit	SAM		Bowl	1	14	160
3103	3100	Pit	SAM		Bowl	1	16	160
3103	3100	Pit	SAM		Bowl	1	22	160
3103	3100	Pit	SAM		Bowl	1	25	160
3103	3100	Pit	SAM		Bowl	1	39	160
3103	3100	Pit	SAM		Bowl	1	41	160
3103	3100	Pit	SAM	4	Dish	6	147	160
3113	3110	Oven	NWW	UB	JAR	15	474	MC1-C2
3113	3110	Oven	SGW	UB	JAR	3	56	MC1-C4
3113	3110	Oven	SGW	U	JAR	1	4	LC1-C2
3113	3110	Oven	SREDW	RUB	JAR	6	317	M/LC1-C2
3113	3110	Oven	STW	UD	JAR/SJAR	6	138	C1
3143	3145	Ditch	GW(GROG)	UB	SJAR	8	170	C1-EC2
3143	3145	Ditch	NVCC	R	DISH	2	42	LC2-C3
3143	3145	Ditch	NWW	U	JAR	5	64	MC1-C2
3143	3145	Ditch	NWW	R	JAR	1	64	MC1-E/MC2
3143	3145	Ditch	NWW	R	JAR	1	29	MC1-E/MC2
3143	3145	Ditch	NWW	R	JAR	1	26	MC1-E/MC2
3143	3145	Ditch	NWW	R	JAR	1	23	MC1-E/MC2
3143	3145	Ditch	OW(GROG)	U	SJAR	1	23	C1
3143	3145	Ditch	SGW	UB	JAR	10	106	MC1-C4
3143	3145	Ditch	SGW	B	BEAK	1	66	M/LC2-C4
3143	3145	Ditch	SGW	R	DISH	1	34	MC2-C3
3143	3145	Ditch	SGW	R	JAR	1	27	C2
3143	3145	Ditch	SGW	R	JAR	1	37	C3-C4
3143	3145	Ditch	SGW	R	JAR	1	42	C2
3143	3145	Ditch	SGW	R	JAR	1	37	MC1-C4
3143	3145	Ditch	SGW	R	JAR	1	28	C2-C4
3143	3145	Ditch	SGW	R	JAR	1	18	C2-C4
3143	3145	Ditch	SOW	UDB	JAR	8	198	C2-C3
3143	3145	Ditch	SOW	R	JAR	2	117	M/LC2-C3
3143	3145	Ditch	SOW	R	JAR	1	86	MC1-MC2
3143	3145	Ditch	SOW	R	JAR	2	44	MC1-MC2
3143	3145	Ditch	SOW	R	JAR	2	45	NC1-C2
3143	3145	Ditch	STW	UB	JAR/SJAR	10	198	MC1-C2
3143	3145	Ditch	STW	R	SJAR	1	319	C2-C4
3143	3145	Ditch	STW	R	JAR	1	59	MC1-MC2
3143	3145	Ditch	STW	R	JAR	1	19	C2-C4
3148	2991	Pit	GW(GROG)	RU	SJAR	4	251	C1
3148	2991	Pit	NWW	U	JAR	1	11	MC1-C2
3148	2991	Pit	SGW	UB	JAR	1	16	MC1-C4
3156	3155	Ditch	GW(FINE)	D	BOWL	1	1	MC1-EC2
3156	3155	Ditch	NWW	UD	JAR/SJAR	14	185	MC1-C3
3156	3155	Ditch	NWW	R	JAR	2	45	C2-C3
3156	3155	Ditch	NWW	R	JAR	1	18	MC1-MC2
3156	3155	Ditch	NWW	R	JAR	1	17	MC1-MC2
3156	3155	Ditch	NWW	R	JAR	1	32	MC1-E/MC2
3156	3155	Ditch	NWW	R	JAR	1	32	M/LC1-MC2
3156	3155	Ditch	SGW	U	JAR	5	28	LC1-C4
3156	3155	Ditch	SGW	UD	JAR	5	41	MC1-E/MC2
3156	3155	Ditch	SGW	UD	BEAK	2	7	E/MC2

3156	3155	Ditch	STW(GROG)	U	JAR/BOWL	4	24	C1
3156	3155	Ditch	SAM		Bowl	1	5	70-110
3158	3157	Ditch	GW(GROG)	UD	JAR	3	15	MC1
3158	3157	Ditch	NWW	UD	JAR	17	336	MC1-C2
3158	3157	Ditch	NWW	R	JAR	1	6	MC1-MC2
3158	3157	Ditch	NWW	R	JAR	1	13	MC1-MC2
3158	3157	Ditch	NWW	R	JAR	1	4	MC1-MC2
3158	3157	Ditch	NWW	U	JAR	2	24	M/LC1
3158	3157	Ditch	OW(GROG)	R	JAR	1	17	C1-EC2
3158	3157	Ditch	SGW	U	JAR/BOWL	2	5	MC1-C2
3158	3157	Ditch	SGW	U	JAR	4	57	MC1-MC2
3158	3157	Ditch	SGW	D	BEAK	1	11	M/LC1-E/MC2
3158	3157	Ditch	SOW	U	JAR	2	4	MC1-C2
3159	3157	Ditch	GW(GROG)	U	JAR/SJAR	3	15	C1
3159	3157	Ditch	GW(GROG)	RU	JAR	9	51	MC1-E/MC2
3159	3157	Ditch	NWW	UB	JAR/SJAR	97	1261	MC1-C2
3159	3157	Ditch	NWW	R	JAR	2	45	MC1-MC2
3159	3157	Ditch	NWW	R	JAR	1	9	MC1-C2
3159	3157	Ditch	NWW	R	JAR	1	8	MC1-C2
3159	3157	Ditch	NWW	R	JAR	1	8	MC1-MC2
3159	3157	Ditch	NWW	R	JAR	1	28	LC1-C2
3159	3157	Ditch	SGW	RUD	JAR	26	148	M/LC1-C2
3159	3157	Ditch	SGW	RUB	JAR	8	57	M/LC1-E/MC2
3159	3157	Ditch	SOW	U	JAR	2	8	MC1-C2
3159	3157	Ditch	SREDW	U	BEAK	1	2	C2
3159	3157	Ditch	STW	UB	JAR/SJAR	14	118	C1
3159	3157	Ditch	SAM		Indeterminate	1	1	70-110
3175	3176	Ditch	GW(GROG)	U	SJAR	3	46	C1
3175	3176	Ditch	MANHH	RU	MORT	6	444	MC1-C2
3175	3176	Ditch	NVCC	U	BEAK	1	1	M/LC2
3175	3176	Ditch	NVCC	D	BEAK	1	4	MC2-C3
3175	3176	Ditch	NWW	UDB	JAR	40	485	MC1-C2
3175	3176	Ditch	NWW	R	JAR	1	53	MC1-MC2
3175	3176	Ditch	NWW	R	JAR	1	20	MC1-MC2
3175	3176	Ditch	NWW	R	JAR	1	19	MC1-MC2
3175	3176	Ditch	NWW	R	SJAR	1	43	LC1-C2
3175	3176	Ditch	NWW	R	SJAR	2	75	M/LC1-C2
3175	3176	Ditch	SGW	U	JAR	15	123	MC1-MC2
3175	3176	Ditch	SGW	R	LID	1	18	MC1-C3
3175	3176	Ditch	SGW	R	JAR/BEAK	1	19	MC1-C3
3175	3176	Ditch	SGW	R	JAR	1	21	MC1-C3
3175	3176	Ditch	SGW	R	DISH	1	34	MC2-C3
3175	3176	Ditch	SOW	RU	JAR	3	18	MC1-C2
3175	3176	Ditch	STW(GROG)	RU	JAR	28	349	M/LC1-C2
3175	3176	Ditch	STW(GROG)	U	SJAR	2	42	C1
3175	3176	Ditch	SAM		Cup	1	2	120-160
3219	3222	Ditch	NWW	U	JAR	1	6	MC1-C2
3219	3222	Ditch	STW(GROG)	U	SJAR	1	10	C1
3221	3222	Ditch	GW(GROG)	U	JAR	1	4	E/MC1
3221	3222	Ditch	GW(GROG)	UD	JAR	5	145	E/MC1
3221	3222	Ditch	NWW	U	JAR	1	1	MC1-C2
3221	3222	Ditch	SGW	UB	JAR	1	22	MC1-C2
3221	3222	Ditch	STW	U	JAR/BOWL	2	12	C1
3245	3241	Pit	GW(GROG)	U	JAR	6	189	E/MC1
3245	3241	Pit	STW	U	JAR	1	1	C1
3261	3255	Pit	GW(GROG)	U	JAR/BOWL	1	1	E/MC1
3261	3255	Pit	GW(GROG)	R	JAR	1	15	E/MC1
3261	3255	Pit	NWW	U	JAR	1	5	MC1-C2
5058	5057	ring gully	GW(GROG)	U	JAR/BOWL	3	20	E/MC1
5058	5057	ring gully	NWW	RUB	JAR	6	145	MC1-EC2
5058	5057	ring gully	SGW	RU	JAR	3	30	MC1-E/MC2
5058	5057	ring gully	SGW	UH	FLAG	2	16	M/LC1
5058	5057	ring gully	STW	U	?	1	30	C1
2204	2205	Ditch	NWW	RU	JAR	4	67	MC1-E/MC2
2204	2205	Ditch	NWW	UB	JAR	16	220	MC1-C2
2215	2214	Ditch	SGW	U	JAR	2	10	MC1-C2

2215	2214	Ditch	STW	U	JAR	1	15	C1
2222	2221	Ditch	SGW	U	JAR	3	16	MC1-C4
2222	2221	Ditch	STW(GROG)	U	JAR/BOWL	1	4	C1
2225	2224	Ditch	SGW	B	JAR	1	160	M/LC1-C2
2225	2224	Ditch	SGW	P	CHEESEPRESS	2	92	M/LC1
2225	2224	Ditch	SGW	RU	JAR	11	64	M/LC1-C2
2225	2224	Ditch	SAM		Indeterminate	6	13	120-200
2234	2233	Ditch	NWW	UD	JAR	17	252	MC1-C2
2234	2233	Ditch	NWW	R	JAR	1	36	MC1-MC2
2234	2233	Ditch	NWW	R	SJAR	2	66	M/LC1-C2
2234	2233	Ditch	NWW	RU	JAR	4	74	MC1-MC2
2234	2233	Ditch	SGW	U	JAR	12	72	M/LC1-C2
2234	2233	Ditch	SGW	R	JAR	3	11	LC1-C4
2234	2233	Ditch	SGW	R	JAR	2	12	M/LC1-C2
2234	2233	Ditch	SAM	Rim	Cup	1	6	50-110
2547	2546	Pit	NWW	U	SJAR	1	76	MC1-C2
2547	2546	Pit	SGW	RUD	NJAR	10	100	LC1-C2
2558	2560	Ditch	NWW	U	JAR	13	186	MC1-C2
2558	2560	Ditch	SGW	U	JAR/BOWL	12	84	M/LC1-MC2
2558	2560	Ditch	SOW	UD	JAR	2	10	MC1-C2
2558	2560	Ditch	SREDW	U	BOWL	1	7	MC1-EC2
2558	2560	Ditch	STW	RU	JAR	3	24	MC1-E/MC2
2559	2560	Ditch	NWW	RU	JAR	20	611	MC1-MC2
2559	2560	Ditch	SGW	RU	JAR	4	38	M/LC1-MC2
2559	2560	Ditch	SOW	U	JAR	1	5	MC1-C2
2559	2560	Ditch	STW	R	JAR	1	8	MC1-E/MC2
2564	2563	Ditch	NWW	U	JAR	1	16	MC1-C2
2564	2563	Ditch	SGW	U	JAR	1	3	LC1-C4
2564	2563	Ditch	SGW	UB	JAR	2	91	MC1-C4
2565	2567	Ditch	NVCC	U	JAR/BEAK	2	5	C3-C4
2565	2567	Ditch	NWW	RUB	JAR	20	440	MC1-C2
2565	2567	Ditch	SGW	UD	JAR	49	371	E/MC2-C3
2565	2567	Ditch	SGW	R	JAR	1	12	C3-C4
2565	2567	Ditch	SGW	R	JAR	1	9	MC1-E/MC2
2565	2567	Ditch	SGW	R	JAR	1	19	MC1-E/MC2
2565	2567	Ditch	SGW	R	JAR	2	26	C2-C3
2565	2567	Ditch	SGW	R	JAR	2	18	C2-C3
2565	2567	Ditch	SGW	UB	JAR/BEAK	36	409	M/LC2-C3
2565	2567	Ditch	SGW	R	DISH	2	64	MC2-C3
2565	2567	Ditch	SGW	R	DISH	2	30	C3-C4
2565	2567	Ditch	SGW	R	BEAK	1	6	LC1-C2
2565	2567	Ditch	SGW	R	JAR	5	51	C2-C3
2565	2567	Ditch	SGW	UB	JAR/BEAK	93	653	LC2-EC4
2565	2567	Ditch	SGW	R	DISH	1	24	MC2-C3
2565	2567	Ditch	SGW	R	DISH	1	24	MC2-C3
2565	2567	Ditch	SGW	R	JAR	1	19	C2-C3
2565	2567	Ditch	SGW	R	JAR	2	43	LC2-EC4
2565	2567	Ditch	SGW	R	BEAK	2	9	LC2-EC4
2565	2567	Ditch	SGW	R	JAR	1	6	LC2-EC4
2565	2567	Ditch	SGW	R	JAR	1	10	LC2-EC4
2565	2567	Ditch	SGW	R	JAR	1	25	LC2-EC4
2565	2567	Ditch	SGW	R	JAR	2	13	LC2-EC4
2565	2567	Ditch	SGW	R	JAR	3	99	MC1-MC2
2565	2567	Ditch	SGW	RU	JAR	12	91	MC1-MC2
2565	2567	Ditch	SOW	RU	JAR	8	62	M/LC2-C3
2565	2567	Ditch	SOW	UB	JAR	46	496	MC1-C2
2565	2567	Ditch	SOW	R	JAR	2	109	C2-C3
2565	2567	Ditch	SOW	R	JAR	4	70	MC1-C2
2565	2567	Ditch	SREDW	RUB	BEAK	17	179	MC2-C3
2565	2567	Ditch	STW	U	JAR/SJAR	67	633	MC1-C4
2565	2567	Ditch	STW	R	JAR	1	13	MC1-C2
2565	2567	Ditch	STW	R	JAR	1	23	LC2-C3
2565	2567	Ditch	STW	R	JAR	4	48	C2-C4
2565	2567	Ditch	STW	R	JAR	1	28	MC2-C3
2565	2567	Ditch	STW	R	JAR	1	15	MC1-MC2
2565	2567	Ditch	STW	R	JAR	1	42	C2-C4

2565	2567	Ditch	STW	R	JAR	1	22	C2-C4
2565	2567	Ditch	SAM	Rim	Cup	4	13	120-200
2566	2567	Ditch	GW(GROG)	U	JAR/BOWL	1	1	C1-EC2
2566	2567	Ditch	NWW	U	JAR	4	28	MC1-C2
2566	2567	Ditch	SOW	U	JAR	1	3	MC1-C2
2566	2567	Ditch	SOW	RU	JAR	4	40	MC1-E/MC2
2566	2567	Ditch	STW	U	JAR/SJAR	1	3	C1-C2
2566	2567	Ditch	SAM		Cup	1	3	120-200
2582	2584	Ditch	SGW	UB	DISH/PLAT	1	26	MC1-C2
2583	2584	Ditch	NWW	RUSB	JAR	4	48	MC1-E/MC2
2583	2584	Ditch	SOW	U	JAR	1	4	MC1-C2
2587	2586	Ditch	GW(GROG)	U	JAR/BOWL	3	21	C1-EC2
2587	2586	Ditch	NWW	RU	JAR	3	72	C2-C3
2587	2586	Ditch	SGW	UB	JAR	4	33	M/LC1-C2
2587	2586	Ditch	SGW	U	FLAG	1	1	MC1-C3
2587	2586	Ditch	SOW	U	JAR	1	1	MC1-C2
2587	2586	Ditch	STW	U	JAR/SJAR	3	29	C1-C2
2607	2598	Ditch	NWW	UD	JAR	4	21	MC1-MC2
2607	2598	Ditch	SGW	RU	JAR	4	25	M/LC1-C2
2623	2621	Pit	NWW	R	JAR	1	111	MC1-E/MC2
2623	2621	Pit	SGW	R	JAR	1	4	M/LC1-C2
2623	2621	Pit	SGW	R	JAR	2	40	M/LC1-MC2
2626	2625	Pit	NWW	R	JAR	3	57	MC1-E/MC2
2626	2625	Pit	SGW	RD	JAR	4	23	LC1-C2
2628	2627	Oven	NWW	B	JAR	1	182	MC1-C2
2628	2627	Oven	SGW	R	DISH	1	25	MC2-C3
2633	2635	Ditch	GW(GROG)	U	JAR	3	17	C1-EC2
2633	2635	Ditch	GW(GROG)	RU	JAR	6	37	C1-EC2
2633	2635	Ditch	NWW	UB	JAR	18	426	MC1-C2
2633	2635	Ditch	NWW	R	JAR	1	20	MC1-MC2
2633	2635	Ditch	NWW	R	LID	1	30	MC1-C2
2633	2635	Ditch	NWW	R	JAR	1	41	MC1-MC2
2633	2635	Ditch	NWW	R	JAR	1	151	MC1-MC2
2633	2635	Ditch	NWW	R	JAR	2	80	MC1-E/MC2
2633	2635	Ditch	NWW	R	LID	1	6	MC1-C2
2633	2635	Ditch	NWW	R	LID	2	14	MC1-C2
2633	2635	Ditch	SGW	R	JAR	3	20	LC1-C2
2633	2635	Ditch	SGW	U	SJAR	1	19	MC1-EC2
2633	2635	Ditch	SGW	UB	JAR	32	325	MC1-C2
2633	2635	Ditch	SOW	H	FLAG	1	33	MC1-C3
2633	2635	Ditch	SOW	UH	FLAG	1	4	MC1-C2
2633	2635	Ditch	STW	RU	DISH	2	50	MC1-E/MC2
2641	2640	Ditch	GW(FINE)	UB	BOWL	1	96	M/LC1-EC2
2641	2640	Ditch	MANHH	RU	MORT	1	38	C2-C4
2641	2640	Ditch	NVCC	UB	BEAK	1	17	MC2-C4
2641	2640	Ditch	NWW	U	JAR	14	186	MC1-C2
2641	2640	Ditch	NWW	R	JAR	1	112	C2-C3
2641	2640	Ditch	NWW	R	JAR	1	23	MC1-C2
2641	2640	Ditch	NWW	R	JAR	1	64	MC1-MC2
2641	2640	Ditch	NWW	R	JAR	1	47	C2
2641	2640	Ditch	NWW	R	JAR	1	22	MC1-MC2
2641	2640	Ditch	SGW	RUDB	JAR/BEAK	17	117	M/LC1-C2
2641	2640	Ditch	SOW	U	FLAG	2	13	MC1-C2
2641	2640	Ditch	SAM		Bowl	1	25	150
2641	2640	Ditch	SAM		Dish	5	68	150
2642	2640	Ditch	GW(GROG)	R	SJAR	1	71	C1-EC2
2642	2640	Ditch	NWW	U	JAR	1	20	MC1-C2
2642	2640	Ditch	SGW	UB	JAR	1	26	MC1-C2
2642	2640	Ditch	STW	U	JAR	1	1	C1-C2
2642	2640	Ditch	SAM		Dish/Bowl	1	5	100-120
2645	2646	Ditch	NWW	RU	JAR	2	29	MC1-E/MC2
2645	2646	Ditch	SGW	U	JAR	5	48	MC1-C2
2645	2646	Ditch	SREDW	U	JAR	1	12	M/LC1-C2
2650	2649	Treethrows	NWW	R	LID	1	126	MC1-E/MC2
2650	2649	Treethrows	SGW	UD	JAR	2	7	MC1-E/MC2
2665	2666	Pit	NWW	UDB	JAR	9	1264	MC1-E/MC2

2665	2666	Pit	SGW	RUDB	JAR	8	252	M/LC1-E/MC2
2665	2666	Pit	SGW	UB	JAR	1	75	M/LC1-C2
2686	2688	Tank	NWW	B	SIEVE	2	36	MC1-E/MC2
2686	2688	Tank	NWW	UD	JAR	7	202	MC1-E/MC2
2686	2688	Tank	SGW	U	JAR	1	10	MC1-C2
2703	2702	Tank	GW(GROG)	RUDB	SJAR	12	697	M/LC1-E/MC2
2703	2702	Tank	NVCC	D	BEAK	2	18	M/LC2
2703	2702	Tank	NWW	U	SJAR	23	1241	MC1-C2
2703	2702	Tank	NWW	UDB	JAR/SJAR	27	588	MC1-C2
2703	2702	Tank	NWW	R	JAR	1	30	MC1-MC2
2703	2702	Tank	NWW	R	JAR	1	87	MC1-MC2
2703	2702	Tank	NWW	R	DISH	1	20	MC2
2703	2702	Tank	NWW	R	JAR	1	15	C2-C3
2703	2702	Tank	NWW	R	JAR	2	59	LC1-C3
2703	2702	Tank	SGW	UDB	JAR	85	1109	MC1-C4
2703	2702	Tank	SGW	R	DISH	1	75	MC2-C3
2703	2702	Tank	SGW	R	DISH	1	22	MC2-C3
2703	2702	Tank	SGW	R	DISH	1	39	MC2-C3
2703	2702	Tank	SGW	R	DISH	1	15	MC2-C3
2703	2702	Tank	SGW	R	DISH	2	36	MC2-C3
2703	2702	Tank	SGW	R	DISH	1	7	C2-C3
2703	2702	Tank	SGW	R	DISH/LID	2	79	MC1-C3
2703	2702	Tank	SGW	R	FLASK	1	30	M/LC1-C3
2703	2702	Tank	SGW	R	JAR	5	36	M/LC1-C3
2703	2702	Tank	SGW	R	JAR	1	23	M/LC1-C2
2703	2702	Tank	SGW	R	JAR	1	10	M/LC1-C2
2703	2702	Tank	SGW	R	JAR	1	9	M/LC1-MC2
2703	2702	Tank	SGW	R	JAR	1	19	M/LC1-C2
2703	2702	Tank	SGW	R	JAR	1	8	MC1-MC2
2703	2702	Tank	SGW	R	JAR	1	4	MC1-MC2
2703	2702	Tank	SGW	R	JAR	2	9	MC1-C2
2703	2702	Tank	SGW	UB	JAR/DISH	9	162	M/LC2
2703	2702	Tank	SGW	R	DISH	1	28	C2-C3
2703	2702	Tank	SGW	B	STRIANER	1	89	E/MC2
2703	2702	Tank	SGW	R	DISH	2	77	LC2-C3
2703	2702	Tank	SGW	R	JAR	1	10	M/LC1-C2
2703	2702	Tank	SOW	UDB	FLAG/JAR	3	13	MC1-C3
2703	2702	Tank	SOW	D	BEAK	1	5	MC2-C4
2703	2702	Tank	SOW	RUH	FLAG	11	265	C2-C3
2703	2702	Tank	STW	U	SJAR	72	2265	C1-C2
2703	2702	Tank	STW	R	SJAR	4	499	C1-C4
2703	2702	Tank	STW	R	JAR	1	16	MC1-MC2
2703	2702	Tank	STW	R	JAR	1	9	MC1-E/MC2
2703	2702	Tank	STW	R	JAR	1	56	MC1-C2
2703	2702	Tank	STW	R	JAR	1	12	MC1-C2
2703	2702	Tank	SAM		Indeterminate	1	1	160-200
2703	2702	Tank	SAM		Cup	2	3	160-200
2703	2702	Tank	SAM		Bowl	1	22	160-200
2703	2702	Tank	SAM		Bowl	2	58	160-200
2704	2704	Corn Dryer/Malt Oven	NWW	RUHB	JAG	19	156	C3
2704	2704	Corn Dryer/Malt Oven	SGW	B	JAR	1	3	MC1-C4
2706	2705	Ditch	NWW	UB	JAR	2	24	MC1-C2
2706	2705	Ditch	SGW	B	JAR	1	36	M/LC1-C4
2706	2705	Ditch	SOW	D	JAR	1	4	M/LC1-MC2
2711	2710	Ditch	STW	R	JAR/SJAR	5	114	MC1-MC2
2724	2723	Ditch	NWW	U	JAR	1	9	MC1-C2
2724	2723	Ditch	SGW	U	JAR	2	3	MC1-E/MC2
2724	2723	Ditch	SREDW	B	BOWL	1	32	C2
2724	2723	Ditch	STW	RUB	JAR	26	173	MC1-E/MC2
2737	2736	Pit	SOW	U	JAR	1	5	MC1-C2
2738	2736	Pit	NWW	U	JAR/SJAR	4	181	MC1-C2
2738	2736	Pit	SGW	U	JAR	1	4	M/LC1-E/MC2

2738	2736	Pit	STW	B	JAR	1	10	C1-E/MC2
2739	2736	Pit	HADREDW	R	DISH/LID	1	23	C4
2739	2736	Pit	NVCC	UD	JAR	2	33	C3-C4
2739	2736	Pit	NWW	R	JAR	1	69	MC1-C2
2739	2736	Pit	NWW	R	JAR	1	75	MC1-MC2
2739	2736	Pit	NWW	U	JAR	3	76	MC1-C2
2739	2736	Pit	NWW	R	DISH	2	157	C2-C3
2739	2736	Pit	NWW	UHB	JAR	7	231	MC1-C2
2739	2736	Pit	NWW	R	JAR	1	12	MC1-C2
2739	2736	Pit	SGW	UB	DISH	8	90	C3
2739	2736	Pit	SGW	U	JAR	2	49	MC1-C4
2739	2736	Pit	SGW	P	DISH	8	220	C2-C4
2739	2736	Pit	SGW	UB	JAR/DISH	17	262	LC1-C4
2739	2736	Pit	SOW	U	FLAG	4	28	MC1-C3
2739	2736	Pit	SOW	U	JAR	1	27	C2-C4
2739	2736	Pit	SOW	U	JAR	1	3	MC1-C3
2739	2736	Pit	SREDW	U	JAR	1	8	C2-C4
2739	2736	Pit	STW	RU	JAR	5	121	MC1-MC2
2739	2736	Pit	STW	UB	JAR	3	118	MC1-C4
2739	2736	Pit	SAM	Rim	Bowl	13	128	150-200
2742	2741	Pit	SGW	U	JAR	8	59	M/LC1-C4
2742	2741	Pit	SOW	R	DISH/LID	1	8	MC2-C4
2742	2741	Pit	SOW	U	JAR	1	5	MC1-C3
2746	2745	Ditch	NWW	RU	JAR	2	72	MC1-MC2
2748	2747	Pit	NWW	U	JAR	1	23	MC1-C2
2748	2747	Pit	SGW	UD	JAR	3	26	M/LC1-C4
2748	2747	Pit	SGW	R	JAR	1	30	LC1-E/MC2
2748	2747	Pit	SGW	R	JAR	1	43	LC1-E/MC2
2748	2747	Pit	SGW	B	DISH	1	41	C2-C4
2748	2747	Pit	SGW	R	JAR	1	18	C2-C3
2748	2747	Pit	STW	R	SJAR	1	143	MC1-C3
2748	2747	Pit	STW	R	JAR	1	54	C2-C4
2751	2750	Kiln	NVCC	UD	JAR	7	37	M/LC2-C4
2751	2750	Kiln	NWW	U	JAR	2	27	MC1-C2
2751	2750	Kiln	SGW	P	DISH	3	97	LC2-EC4
2751	2750	Kiln	SGW	RUD	JAR	6	51	C2-C4
2751	2750	Kiln	SGW	U	JAR	4	38	MC1-C4
2751	2750	Kiln	SOW	RF	BOWL	1	57	MC3-C4
2751	2750	Kiln	STW	UB	JAR	3	45	MC1-C4
2755	2736	Pit	NVGW	P	DISH	2	24	MC2
2755	2736	Pit	NWW	U	JAR	1	19	MC1-C2
2755	2736	Pit	SGW	U	JAR	14	200	C2-C3
2755	2736	Pit	SGW	R	DISH	1	24	MC2-C3
2755	2736	Pit	SGW	R	DISH	1	21	MC2-C3
2755	2736	Pit	SGW	R	JAR	2	36	MC2-C3
2755	2736	Pit	SGW	R	DISH	1	6	C2-C4
2755	2736	Pit	SGW	R	JAR	1	15	C2-C3
2755	2736	Pit	SGW	R	JAR	4	96	C2-C4
2755	2736	Pit	SGW	RUB	JAR	8	95	C2-C3
2755	2736	Pit	STW	RU	JAR	2	42	C2-C3
2766	2702	Tank	SGW	U	JAR	1	9	MC1-C4
2785	2784	Ditch	NWW	UB	JAR	2	35	MC1-C2
2822	2820	Pit	SGW	R	JAR	1	25	M/LC1-MC2
2845	2844	Pit	NWW	RU	JAR	4	72	MC1-E/MC2
2847	2846	Pit	SOW	U	FLAG	6	41	MC1-C3
2848	2846	Pit	GW(GROG)	U	JAR/BOWL	6	29	C1-E/MC2
2848	2846	Pit	NWW	U	JAR	1	39	MC1-C2
2848	2846	Pit	STW	U	JAR/BOWL	7	13	C1-C2
2848	2846	Pit	SAM	Rim	Bowl	1	3	70-85
2851	2803	Tank	NWW	R	JAR	1	12	MC1-E/MC2
2851	2803	Tank	SOW	U	JAR/FLAG	2	12	MC2-C3
2871	2870	Pit	GW(GROG)	RUB	JAR	7	72	C1-EC2
2871	2870	Pit	NVCC	D	JAR	1	6	C3-C4
2871	2870	Pit	NWW	U	JAR	24	219	MC1-C2
2871	2870	Pit	NWW	R	DISH	1	57	MC1-C3
2871	2870	Pit	NWW	R	JAR	1	32	LC1-C3

2871	2870	Pit	SGW	U	JAR	17	95	MC1-C4
2871	2870	Pit	SGW	R	DISH	1	19	MC3-C4
2871	2870	Pit	SGW	R	DISH	1	17	MC3-C4
2871	2870	Pit	SOW	UH	FLAG	2	16	MC1-C3
2871	2870	Pit	SOW	F	MORT	1	18	MC1-C3
2871	2870	Pit	SREDW	D	BEAK	1	4	C2-C4
2871	2870	Pit	STW	U	JAR	12	23	C1-C2
2871	2870	Pit	STW	R	DISH	1	72	C2-C4
2871	2870	Pit	STW	R	DISH	1	11	MC2-C3
2871	2870	Pit	STW	R	JAR	1	20	M/LC2-C4
2871	2870	Pit	SAM		Indeterminate	1	1	150-200
2871	2870	Pit	SAM		Indeterminate	1	1	150-200
2871	2870	Pit	SAM		Bowl	1	6	150-200
2879	2877	Oven	MANHH	U	MORT	1	8	C2-C4
2879	2877	Oven	STW	U	SJAR	1	3	C1-C4
2894	2893	Gully	NWW	U	JAR/SJAR	2	83	MC1-C2
2894	2893	Gully	SGW	B	JAR	1	19	M/LC1-C4
2894	2893	Gully	STW	U	JAR	1	7	C1-C2
2906	2877	Oven	STW	RUDB	SJAR	40	2196	M/LC1-C2
2916	2915	Pit	NWW	P	DISH	1	78	E/MC2
2916	2915	Pit	STW(GROG)	U	JAR/BOWL	5	68	C1-EC2
2942	2944	Ditch	NWW	R	JAR	1	27	MC1-C2
2942	2944	Ditch	SGW	U	JAR	1	4	MC1-C2
2942	2944	Ditch	SOW	U	FLAG	2	6	MC1-C3
2942	2944	Ditch	STW	U	JAR	1	4	C1-C2
2945	2947	Ditch	SOW	U	FLAG	3	10	MC1-C3
2963	2874	Pit	SGW	D	JAR	1	4	MC1-C2
2964	2874	Pit	NWW	U	JAR	4	11	MC1-C2
2964	2874	Pit	SGW	U	JAR	1	18	MC1-C2
2983	2982	Ditch	GW(GROG)	U	JAR/BOWL	2	15	MC1-EC2
2983	2982	Ditch	NWW	RU	JAR	2	27	MC1-MC2
2983	2982	Ditch	SOW	U	JAR/FLAG	1	3	MC1-C3
2983	2982	Ditch	SREDW	U	JAR	1	6	M/LC1-C2
2983	2982	Ditch	STW	U	JAR	3	48	C1-E/MC2
2997	2996	Ditch	SGW	UD	JAR	2	11	M/LC1-C2
2997	2996	Ditch	STW	U	JAR/BOWL	2	5	C1-C2
3002	3006	Pit	NWW	U	JAR	3	48	MC1-C4
3002	3006	Pit	SGW	U	JAR/BEAK	1	3	MC1-C2
3004	3006	Pit	NWW	U	JAR	1	25	MC1-C3
3004	3006	Pit	SGW	U	JAR	1	13	MC1-C4
3004	3006	Pit	SOW	U	JAR/FLAG	1	3	MC1-C3
3005	3006	Pit	GW(GROG)	U	JAR	1	10	MC1-E/MC2
3005	3006	Pit	SGW	U	JAR/SJAR	4	43	MC1-C4
3005	3006	Pit	SGW	U	JAR	1	3	LC1-C4
3005	3006	Pit	STW	U	JAR	1	6	MC1-C4
3010	3009	Ditch	GW(GROG)	D	BOWL	1	8	C1-EC2
3010	3009	Ditch	NWW	RUB	JAR	3	79	C2-C3
3010	3009	Ditch	SGW	U	JAR	1	7	MC1-C4
3010	3009	Ditch	SGW	R	JAR	1	15	M/LC1-C2
3010	3009	Ditch	SOW	U	JAR/FLAG	3	13	MC1-C3
3020	3019	Ditch	MANHH	U	MORT	1	39	C2-C4
3020	3019	Ditch	NWW	RUB	SJAR	6	379	LC1-C2
3020	3019	Ditch	NWW	RUB	JAR	2	49	LC1-C2
3036	3035	Pit	NWW	D	JAR	1	131	MC1-E/MC2
3037	3035	Pit	NWW	U	JAR	1	26	LC1-C4
3037	3035	Pit	SGW	U	JAR/BEAK	1	3	LC1-C4
3040	3039	Ditch	SGW	R	JAR	1	28	C2-C3
3045	3044	Ditch	NWW	U	JAR	3	27	MC1-C2
3045	3044	Ditch	NWW	R	JAR	1	32	C2-C3
3045	3044	Ditch	NWW	R	JAR	1	33	LC1-C2
3045	3044	Ditch	NWW	R	DISH	1	17	M/LC1-MC2
3045	3044	Ditch	SGW	RUB	DISH	19	334	MC2-C3
3045	3044	Ditch	SGW	U	JAR	2	20	MC1-C4
3045	3044	Ditch	SGW	P	DISH	6	188	MC2-C3
3045	3044	Ditch	SREDW	U	JAR	1	22	MC1-C2
3045	3044	Ditch	STW	RU	JAR	2	19	MC1-E/MC2

3045	3044	Ditch	SAM	Rim	Plate/Bowl	1	10	150-200
3048	3046	Ditch	NWW	U	JAR/BOWL	2	7	MC1-C2
3048	3046	Ditch	SGW	D	JAR	1	11	MC1-C4
3048	3046	Ditch	STW	U	JAR	1	4	MC1-C4
3071	3073	Ditch	GW(GROG)	U	JAR/BOWL	2	8	C1-E/MC2
3071	3073	Ditch	NWW	RU	JAR	7	150	C2-C3
3071	3073	Ditch	SGW	UB	JAR	4	27	LC1-C4
3071	3073	Ditch	SREDW	UD	FLAG	2	8	C2-C4
3085	3082	Pit	NWW	R	JAR	1	46	LC1-C2
3098	3099	Ditch	NWW	R	JAR	1	11	LC1-C2
3098	3099	Ditch	STW	U	JAR	1	3	MC1-C4
3101			SAM	Rim	Bowl	1	16	150-200
3101			SAM		Bowl	4	26	150-200
3102			SAM		Bowl	1	76	150-200
3102			SAM		Indeterminate	1	2	150-200
3102			SAM		Plate/Dish	1	3	150-200
3102			SAM	1	Dish/Bowl	1	4	150-200
3102			SAM		Cup	1	5	150-200
3102			SAM		Bowl	1	7	150-200
3102			SAM		Bowl	1	10	150-200
3102			SAM		Cup	1	13	150-200
3102			SAM	1	Bowl	2	21	150-200
3102			SAM		Bowl	1	59	150-200
3107	3106	Pit	GW(GROG)	U	JAR/BOWL	3	14	MC1-EC2
3107	3106	Pit	NWW	UD	JAR	24	328	MC1-C2
3107	3106	Pit	NWW	R	JAR	1	22	MC1-E/MC2
3107	3106	Pit	NWW	R	JAR	1	97	MC1-E/MC2
3107	3106	Pit	NWW	R	JAR	1	10	MC1-E/MC2
3107	3106	Pit	SGW	U	JAR	2	10	MC1-C2
3107	3106	Pit	STW	U	JAR	1	3	C1-E/MC2
3107	3106	Pit	SAM		Bowl	1	27	150-200
3108	3106	Pit	NWW	RUD	JAR	3	87	MC1-C2
3108	3106	Pit	NWW	MC2	JAR	1	130	MC1-MC2
3108	3106	Pit	SGW	RU	JAR	2	46	LC1-C2
3116	3117	Ditch	NWW	U	JAR	2	49	MC1-C2
3120	3121	Ditch	NWW	UB	JAR	3	81	MC1-C2
3132	3122	Pit	NWW	U	JAR	3	44	MC1-C2
3133	3123	Gully	SGW	RU	JAR	2	6	M/LC1-C2
3133	3123	Gully	SOW	U	JAR	1	3	MC1-MC2
3133	3123	Gully	STW	U	JAR	2	18	MC1-C2
3136	3142	Pit	NWW	RU	JAR	6	44	MC1-C2
3136	3142	Pit	STW	R	JAR	1	6	MC1-C2
3136	3142	Pit	SAM		Bowl	1	12	150
3136	3142	Pit	SAM		Plate/Bowl	2	35	150
3138	3142	Pit	OW(GROG)	U	JAR	16	109	MC1-C2
3138	3142	Pit	SGW	RUDB	JAR	28	335	LC1-C2
3138	3142	Pit	SOW	U	FLAG	1	8	MC1-C3
3138	3142	Pit	SOW	UB	BOWL	1	38	MC1-C2
3138	3142	Pit	STW	RU	JAR	3	22	MC1-C2
3139	3142	Pit	NWW	RU	JAR	2	39	M/LC1-C2
3140	3142	Pit	NWW	UB	JAR	47	1019	MC1-C2
3140	3142	Pit	NWW	R	JAR	1	22	MC1-MC2
3140	3142	Pit	NWW	R	JAR	1	30	MC1-C2
3140	3142	Pit	SGW	UB	JAR	6	106	MC1-C2
3140	3142	Pit	SGW	R	JAR	1	48	LC1-C2
3140	3142	Pit	SGW	R	JAR	1	11	LC1-C2
3140	3142	Pit	SGW	R	JAR	1	22	M/LC1-MC2
3140	3142	Pit	SGW	B	DISH	4	39	MC2-C3
3140	3142	Pit	SOW	U	JAR	1	13	MC1-C2
3140	3142	Pit	STW	RU	JAR	2	49	MC1-C2
3141	3142	Pit	GW(FINE)	D	BEAK	1	5	MC1-EMC2
3141	3142	Pit	NWW	RU	JAR	14	516	MC1-MC2
3141	3142	Pit	SGW	UB	JAR	5	116	MC1-C2
3147	2991	Pit	NWW	U	JAR	5	182	MC1-C2
3147	2991	Pit	NWW	R	JAR	1	10	MC1-MC2
3147	2991	Pit	NWW	R	JAR	1	13	LC1-C2
3147	2991	Pit	NWW	R	DISH	1	39	C2-C4

3147	2991	Pit	NWW	R	JAR	1	22	MC1-MC2
3147	2991	Pit	SGW	D	BEAK	3	46	M/LC2-C4
3147	2991	Pit	SGW	B	DISH	1	18	MC2-C4
3147	2991	Pit	SGW	R	DISH	1	26	MC3-C4
3147	2991	Pit	SOW	RU	JAR	6	128	M/LC2-C3
3147	2991	Pit	STW	R	JAR	1	89	C2-C3
3147	2991	Pit	SAM	1	Plate/Bowl	1	25	135
3147	2991	Pit	SAM		Bowl	3	17	135
3149	2991	Pit	NWW	U	JAR	3	21	MC1-C2
3149	2991	Pit	SGW	U	JAR	3	34	LC1-C4
3149	2991	Pit	SOW	RU	JAR	31	431	LC1-C2
3152	2870	Pit	NVCC	UD	JAR	3	7	LC2-C3
3152	2870	Pit	NWW	U	JAR	4	86	MC1-C2
3152	2870	Pit	SGW	RU	JAR	4	19	LC1-C4
3152	2870	Pit	SGW	RUB	DISH/PLAT	2	31	C2-C4
3152	2870	Pit	SGW	R	DISH	2	22	LC2-C3
3152	2870	Pit	SOW	U	JAR	2	18	MC1-C3
3152	2870	Pit	STW	U	JAR	1	5	C1-C4
3167	3166	Gully	NWW	RU	JAR	3	143	C2-C3
3167	3166	Gully	SGW	R	DISH	1	35	MC2-C3
3167	3166	Gully	SGW	D	JAR	1	20	E/MC2-C3
3167	3166	Gully	STW	UD	JAR	15	224	C1-C4
3173	3172	Pit	NWW	RU	JAR	8	131	MC1-MC2
3173	3172	Pit	SGW	R	DISH	1	19	MC2-C3
3173	3172	Pit	SGW	D	JAR	1	16	LC1-C3
3173	3172	Pit	SGW	R	JAR	1	71	LC1-C2
3173	3172	Pit	SOW	D	JAR	1	3	MC1-C3
3201	3202	Ditch	NWW	RU	JAR	5	144	MC1-MC2
3201	3202	Ditch	SGW	U	JAR	1	25	LC1-C4
3201	3202	Ditch	SOW	D	JAR	3	107	MC1-C2
3220	3222	Ditch	SGW	UB	JAR	1	9	MC1-C4
3232	3231	Ditch	NWW	U	JAR	2	14	MC1-C2
3232	3231	Ditch	SGW	UD	JAR	2	6	MC1-E/MC2
3232	3231	Ditch	STW	UB	JAR	2	24	C1-C2
3236	3235	Ditch	NWW	U	JAR	1	8	MC1-C2
3236	3235	Ditch	SGW	U	JAR/BEAK	2	5	M/LC1-C2
3236	3235	Ditch	STW	U	JAR	4	47	MC1-E/MC2
3242	3243	Pit	NWW	U	JAR	1	22	MC1-C2
3250	3249	Pit	NWW	U	JAR	1	9	MC1-C2
3250	3249	Pit	SAM		Dish	1	2	120-150
3254	3253	surface external	NWW	UB		7	76	MC1-C2
3254	3253	surface external	SGW	RUB	JAR	4	47	MC1-E/MC2
3265	3264	Posthole	NWW	U	JAR	1	4	MC1-C2
3022	3021	CREMATION	SGW	U	JAR/BOWL	1	3	MC1-C4

Table 19. Summary catalogue of Roman pottery

A.5 Samian

By Stephen Wadeson

Introduction

A.5.1 Excavations at Cranford Business Park, Kettering produced a small assemblage of samian pottery, totalling 128 sherds, weighing 1.491kg with an estimated vessel equivalent of 1.67 (EVE). Representing a maximum of 75 vessels the assemblage is primarily from Central Gaul (c.85% by weight), principally Lezoux and can be dated to the mid-2nd century AD. The quantities of samian by fabric source in chronological order are shown in Table 20.

A.5.2 Recovered from a total of 36 stratified deposits, the majority of the assemblage *c*. 69% (by weight) was retrieved from a number of pits, primarily pit/waterhole **3100** (*c*. 39% by weight) with a smaller yet significant quantity of material (*c*. 25% by weight) recovered from ditches. Much of the material is fragmentary and moderately abraded however a significant proportion is noticeably fresh, suggesting that the majority of the sherds were located near to or at their primary site of deposition. The assemblage has an average sherd weight of *c*. 12g.

Methodology

A.5.3 The Roman pottery was analysed following guidelines recorded in *A Standard for Pottery Studies in Archaeology* (Barclay et al 2016). The total assemblage was rapidly recorded and a summary catalogue was prepared (see App. A.4). The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups (used primarily in the archive) defined on the basis of inclusion types present. Vessel forms (cup, dish, bowl) are also recorded and vessel types cross referenced and compared to other examples. The sherds were counted and weighed to the nearest whole gram and recorded by context. Decoration, residues and abrasion were also noted.

A.5.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

Sampling bias

A.5.5 The excavations were carried out by hand and feature selection made through standard sampling strategies. There are not expected to be any inherent biases. Where bulk samples have been processed for environmental and artefactual remains, there has also been some recovery of pottery. These are small quantities of abraded sherds and have not been quantified unless no pottery was recovered during excavation, and serious bias is not likely to result.

Factual data

A.5.6 The samian fabrics identified are from three main sources, listed in Table 20.

Fabric	Quantity	Quantity (%)	Weight (Kg)	Weight (%)	EVE
South Gaul	10	7.8	0.126	8.5	0.27
Central Gaul (Les Martres)	1	0.8	0.005	0.3	0.00
Central Gaul (Lezoux)	117	91.4	1.365	91.2	1.40

Total	**128**	**100.0**	**1.491**	**100.0**	**1.67**

Table 20. Distribution of samian fabrics in chronological order.

South Gaulish Samian

A.5.7 The earliest material recovered is South Gaulish from La Graufesenque (Tomber and Dore 1998, 28) accounting for just 8.5% (by weight) of the total assemblage and is represented by a maximum of 10 vessels. The assemblage consists of a limited quantity of plain wares, including a single example of a form 18 platter, dish form 18/31 and a single form 33 cup. Decorated vessels recovered comprise a single base and lower wall fragment from a form 30 bowl and a rim sherd from a form 29 bowl. The remaining four sherds were too small and fragmented to assign to a specific form or type, however it is possible that at least one of the sherds is part of a base sherd from a bowl. No stamped sherds were identified.

Central Gaulish Samian

A.5.8 The majority of the samian identified comes from Central Gaul (Tomber and Dore 1998, 30-33) accounting for *c*. 91.5% of the total assemblage by weight. Attributed to the kilns of at both Les Martres-de-Veyre and Lezoux and with a maximum of 65 vessels.

Les Martres-de-Veyre

A.5.9 Noticeable by its almost complete absence from the assemblage, the earliest material recovered from Central Gaul is Trajanic (100-120AD) from the kilns at Les Martres-de-Veyre (Tomber and Dore 1998, 30). A single sherd accounting for just 0.3% (by weight) of the total site assemblage was identified however, due to the small size of the fragment, identification is tentative and the sherd can't be assigned to a specific vessel form with certainty. The sherd is not closely datable and only a broad date of *c.* AD100-120 can be suggested.

Lezoux

A.5.10 The majority of the Central Gaulish samian was produced at Lezoux (Tomber and Dore 1998, 32). Represented by a maximum of 64 vessels the assemblage dates to the Hadrianic and/or Antonine periods (c. AD120-200). A total of six stamped vessels were identified and recorded within the assemblage (see below).

A.5.11 Early plain ware forms identified within the assemblage consist primarily of dish forms 18/31 and 18/31R, which went out of production by the middle of the 2nd century (AD150/160) as well as two examples of a form 27 cup, which also went out of production *c*. AD150/160. Examples of form 33 cups, and form 31 dishes were recorded (however in relatively small quantities) and these account for the majority of the assemblage from Lezoux. They were recovered alongside examples of the plain

ware bowl form 31R, regarded as typical of the second half of the 2nd century. It should be noted that several sherds show evidence of repairs indicating vessel curation in antiquity. In addition, 19 plain ware sherds are too small and abraded for accurate identification and are not closely datable. As a result, only a broad date of between *c.* AD120-200 can be assigned to these sherds.

A.5.12 A total of six potter's stamped vessels were identified of which all but one, a form 18/31 dish from a ditch fill (2641) were identified on form 31 dishes. The only complete stamp identified, consisting of cross-fits from contexts (3102) SF165 and (3103) SF163, in pit/watering hole **3100** is classed as 'illegible' (Brenda Dickinson pers. comm.) and is one of four stamps which cannot be assigned to a known potter. The two vessels which could be assigned to a specific potter however, both form 31 dishes, from pit **3041** a partial stamp, reading SIIX[TI.M] (die 5b) is associated with Sextus v dated AD155-200. (NoTS, Vol 8, 2011 pp286-290). The second stamp recorded, GON[GI.M] (die 2a), can be attributed to the potter Gongius (NoTS, Vol 4, 2009 pp215-216) whose products are dated to *c*. AD145-175. The vessel was recovered from pit/watering hole **3100**.

A.5.13 Sherds from a maximum of nine decorated bowls were recovered in the Lezoux assemblage. These include sherds from a maximum of eight form 37 hemispherical bowls and a single sherd either from a form 30 or 37 bowl. While all nine vessels retain decorative figures or motifs, currently just three form 37 bowls can be tentatively attributed to a specific potter(s) style. Of the remaining vessels it may be possible to attribute these sherds to a specific potter's or potters' style. The remaining decorated sherds are fragmented and do not retain not enough of the vessel's design for identification.

Overview

A.5.14 This is a relatively small assemblage, the majority of which was recovered from stratified pit and ditch deposits associated with settlement activity. The date range of the material recovered suggests that access to samian, albeit limited, was available from the mid to late 1st century onwards. The majority of the samian recovered is 2nd century Central Gaulish (91.5%), primarily from Lezoux (AD120-200).

A.5.15 Much of the samian is fragmentary and moderately abraded however a significant number of sherds show little evidence of wear which would suggest they were broken in antiquity while either new or almost new, and are located in or near to their primary location of deposition. Several sherds show evidence of intense burning with the result that the sherds have changed colour. This includes a two sherds from fill of Ditch **2601** which contains multiple small (drilled/cut) holes, to enable repair using lead rivets of which the partial remains of at least three separate rivets can still be found in situ.

A.5.16 While plain ware forms account for the largest proportion of the assemblage (85% by weight) consisting principally of dishes, bowls and cups it was noticeable that the overall range of vessel types present was noticeably limited. Decorated wares account for just c.15% of the material recovered and is lower than the suggested average from assemblages recovered from rural sites (Willis 2005, Ch. 7.3.3). This relationship

between plain wares and decorated vessels however is typical of material recovered from low order settlements in the region (Evans 2003,105).

Catalogue of samian potter's stamps

A.5.17 The catalogue lists the potters identified in context order. Each entry gives the catalogue number, the potter's name (i, ii *etc*, where homonyms are involved); die form; form type, reading, published example (if any), pottery of origin, date; context information. This will need updating with phase information once this is available. Ligatured letters are underlined.

S1 Unidentified, Drag. 18/31 Dish. [ ]SF Lezoux, Central Gaul *c*. AD120-150. Ditch **2640**, Fill (2641).

S2 Unidentified, Drag.31 Bowl. NO READING Lezoux, Central Gaul *c*. AD150-200. Brewing Tank **2702**, Fill (2703).

S3 Unidentified, Drag.31 Bowl. [ ]IM Lezoux, Central Gaul *c*. AD150-200. Ditch **2852**, Fill (2856). SF173.

S4 Sextus v, Die 5b. Drag.31 Bowl. SIIX[TI.M] Lezoux, Central Gaul *c*. AD155-200. Pit **3041**, Fill (3043). (Ref. NoTS, Vol 8, 2011, 286-290).

S5 Gongius, Die 2a. Drag.31 Bowl. GON[GI.M] Lezoux, Central Gaul *c*. AD145-175. Pit/Waterhole **3100**, Fill (3103). SF163 (Ref. NoTS, Vol 4, 2009, 215-216).

S6 illegible, Drag.31 Bowl. NO READING Lezoux, Central Gaul *c*. AD150-200. Pit/Waterhole **3100**, Fill (3103). SF164 Cross-fit with SF165. (Ref. Brenda Dickinson pers. comm., July 2016)

S7 illegible, Drag.31 Bowl. NO READING Lezoux, Central Gaul *c*. AD150-200. Pit/Waterhole **3100**, Fill (3102). SF165 Cross-Fit with SF164. (Ref. Brenda Dickinson pers. comm., July 2016)

Statement of potential

A.5.18 Although this small assemblage has little intrinsic research potential, the samian may prove useful for refining the chronology of Roman activity on the site and will add to the growing corpus of samian recovered from sites in the area, specifically of similar size and status.

Recommendations for further work and methods statement

A.5.19 No further work is needed on the catalogue of potters stamps.

A.5.20 A full catalogue of all samian to be produced including all decorated sherds, rubbings taken of all decorated sherds, scan for publication and seek advice on identification of potters styles etc. where enough of the design remains to allow identification.

A.5.21 Analysis of the assemblage on various field criteria, based on major stratigraphic units.

A.5.22 Comparison with the excavation assemblage from adjacent excavations to help establish if the assemblage differs in date or composition. Cross-reference the report with that on the general Roman pottery assemblage. Look for comparison and equivalents of similar sized assemblages with other local, regional and national sites if appropriate.

A.5.23 This will take an estimated 2-3 days. Illustration of some of the samian sherds, for example those showing evidence of repairs (*c*. 3-4) is suggested, based on the rubbings.

A.6 Post-Roman Pottery

by Carole Fletcher BA ACIfA

Introduction

A.6.1 Archaeological works produced a small post-Roman pottery assemblage of seven sherds, weighing 0.089kg, recovered from features in three areas. The condition of the overall assemblage is moderately abraded. The average sherd weight from individual contexts is low at approximately 12g.

Methodology

A.6.2 The Prehistoric Ceramics Research Group (PCRG), Study Group for Roman Pottery (SGRP), The Medieval Pottery Research Group (MPRG), 2016 *A Standard for Pottery Studies in Archaeology* and the MPRG *A guide to the classification of medieval ceramic forms* (MPRG 1998) act as standards.

A.6.3 Dating was carried out using OA East's in-house system based on that previously used at the Museum of London. Fabric classification has been carried out for all previously described medieval and post-medieval types using Northamptonshire fabric codes where possible. All sherds have been counted, classified, weighed, and the Minimum Number of Vessels (MNV) determined. All the pottery has been recorded and dated on a context-by-context basis and the catalogue is recorded in Table 20Table 21. The archive is curated by Oxford Archaeology East until formal deposition.

A.6.4 The excavation was carried out by hand and selection made through standard sampling strategies on a feature by feature basis. There are not expected to be any inherent biases.

Factual data

A.6.5 The small number of medieval and later sherds recovered from three areas across the excavated area are recorded in Table 21. The pottery covers a broad date range, from a single sherd of a medieval Fabric 324 Brill/Boarstall ware jug, recovered from the surface of a Roman corn drier 2995, to the 18th century, including the narrowly dated sherd from a Fabric 420 Westerwald German Stoneware vessel (*c*.1689-1702). The latter is decorated with an image of William, Prince of Orange, an example of which can be seen on the V&A website (http://collections.vam.ac.uk/item/O11577/jug-unknown/).

A.6.6 The majority of the sherds were recovered from three ditches: 2553, 3793 and 3009, in Areas D, E and F2 respectively. In each case, the paucity of post-Roman material does not make the presence of this pottery indicative of a date for the feature. Most likely

the pottery is intrusive and has become incorporated into the feature through later reworking.

Statement of potential and recommendations for further work

A.6.7 The assemblage includes domestic vessels involved in the serving and consumption of food and drink. The relatively low levels of medieval and later fabrics (AD1200-1800) indicate that the site's usage was likely to be agricultural, the pottery representing low levels of manuring or rubbish disposal, with pottery then becoming incorporated in some cases into earlier features.

A.6.8 The low levels of pottery recovered, alongside the plain and fragmentary nature of the assemblage, means it is of little significance and no further work is recommended.

Retention, dispersal, display

A.6.9 The assemblage has been fully catalogued and the pottery may be deselected prior to archival deposition.

Trench	*Context*	*Cut*	*Fabric*	*MNV*	*Sherd Count*	*Weight (kg)*	*Pottery date range*
D	2554	2553	Fabric 403: Midland Purple-type, moderately abraded body sherd from a jar or bowl with internal dark brown glaze.	1	2	0.056	Mid 15th-mid 18th century
E	3790	3793	Staffordshire-type Black-Glazed moderately abraded bowl body sherd, internally glazed.	1	1	0.002	18th century
F2	3010	3009	Fabric 409: Staffordshire slipware bowl body sherd internally slipped, feathered design and glazed.	1	1	0.004	Late 16th-mid 18th century
	3055	2995	Fabric 324: Brill/Boarstall ware jug body sherd, externally glazed pale green with copper green mottles.	1	1	0.003	13th-end of 15th century
	5002 surface finds	5000	?Fabric 428 Iron-Glazed ware (Post-medieval Black-Glazed ware) bowl body sherd, internally glazed.	1	1	0.018	Late 16th-end 17th century
			Fabric 420: Westerwald German Stoneware Body sherd from a drinking jug or mug, part of a moulded central medallion with outer circular border of ?leaves, and a double circular border. Surviving letters within the double border are [.] G.MAG[.] part of DG MAG BRI FRA ET HIB REX A fragment of a crown survives in the main part of the medallion. The sherd is entirely uncoloured, being covered only with a grey ash glaze. Most likely from a globular mug. The medallion image would have been of William, Prince of Orange, an example of which can be seen in Gaimster 1997 col plate 22, p264-5 plate 121, ref 121 left hand vessel and on the V&A website. http://collections.vam.ac.uk/item/O11577/jug-unknown/	1	1	0.006	*c.*1689-1702
Total				6	7	0.089	

Table 21. Summary catalogue of post-Roman pottery

A.7 Stone

by Simon Timberlake

Introduction

A.7.1 A total of 126.15kg (x57 pieces) of worked stone, burnt stone and building stone was examined from this excavation; of which at least 103.6kg is composed of worked stone, consisting of 57.05kg of Iron Age and Romano-British quernstone (minimum 16 individual querns), 0.59kg of whetstone, 4.1kg of hammerstone/ anvil stone, and 41.8kg of miscellaneous stone, included in which is part of a stone basin and a door pivot. The remainder of this stone assemblage consists of rough building stone and roof slate (14.47kg) and some 8.1kg of burnt stone. A small amount of un-burnt and un-worked/ un-utilised stone was discarded and not recorded.

A.7.2 The great majority of these finds are clearly Roman in date, with a smaller number being Late Iron Age, a few Middle Iron Age, and more rarely Bronze Age (most likely Middle Bronze Age).

A.7.3 Late Iron Age to Roman quernstone was recognized that was quarried from four different geological sources (the Folkestone Greensand, Lodsworth Greensand, Old Red Sandstone and Millstone Grit), alongside the presence of saddlequern and rubber stones made locally from glacial erratic sarsen and other quartzitic sandstone boulders.

A.7.4 Other small objects of worked stone includes several cylindrical Roman whetstones, an Iron Age- Roman anvil stone, and a probable prehistoric hammerstone.

A.7.5 Parts of a large carved-out basin and a stone pedestal fashioned from ironstone may be Roman or later in date, whilst a large boulder with two worn hollows in it may well have been a pivot stone for the vertical axis of a door.

A.7.6 All of the building stone is Roman in date, and appears to consist of rough un-faced stone which was locally sourced and perhaps used as foundation material. In addition to the Cornbrash and Great Oolite (possibly Blisworth Limestone - var. Oundle Stone) there are utilised stones of local Northants Ironstone.

A.7.7 The burnt stone assemblage from here includes recycled broken worked stone objects, building stone and erratic pebbles/ cobbles collected from the gravel terraces. Some of this consists of prehistoric burnt stone which may have been used in cooking pits.

Methodology

A.7.8 All the stone was identified visually using an illuminated x10 magnifying lens, and compared where necessary with an archaeological worked stone reference collection. Projected quern diameters were estimated using a chart, and in some cases this involved re-fitting rim fragments. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of calcite within the rock.

Factual data

Quern

A.7.9 The sixteen pieces of quern examined consist of 11 fragmentary and two complete stones from rotary hand mills (a maximum of 12 different querns), almost all of which are upper stones. The majority of these were made from Millstone Grit, although both Folkestone Greensand and Lodsworth Greensand querns feature, as well as some smaller fragments of ORS quern. The two complete upper stones were of the Hunsbury-type or beehive Late Iron Age form, one of which still had the remains of the iron spindle in its base. There are in addition at least four pieces of Iron Age – Romano-British slab-type saddlequern fashioned from glacial erratic cobble/boulders of quartzitic sandstone. At least one of these is slightly convex upon the grind surface, and is therefore most likely a rubber stone.

A.7.10 Full details of this quern assemblage are provided within Table 22. This includes a hand-specimen petrographic assessment of the source rock and origin, an estimate of original diameter, and where relevant comments upon the object biography, its manufacture and use.

Context	Cut	SF no	dimensions (mm)	Wt (kg)	U/ L stn	estim orig diam (mm)	quern type (Shaffrey 2002)	grind surfce	geology	Comment * =draw
-	-	**103**	280-120 x145-170	16.34	U	300	Hunsbury type (LIA?)	5	Millstone Grit	complete stone, lopsided wear, primary + 2ndry handle slots on opposite sides, remains of iron axle *
-	-	104	275-250 x75-100	10.18	U	275	LIA -Early Roman	3	Folkestone	low beehive conical hopper, single handle slot *
2975	Ditch 2973	131	110x60x60	0.69	U?	260	Early Roman	4	Folkestone	low beehive, gritty coarse facies
2938	PH 2939	130	140x50-90	3.25	U	280	LIA- Early Roman	5	Lodsworth	15% of stone,flat-top drum shape, hopper diam 40mm *
2843	Ditch 2040	115	150x50-100	3.08	U	310	LIA- Early Roman	5	Lodsworth	20% of stone, outer vertical rim carefully pick dressed, burnt
2843	Ditch 2040	138	200x110x20-40	1.02	L	400	Roman disc Type 2?	4	Millstone Grit	<5% stone, worn + thin stone, same lithology as 110
2550	Ditch 2551	108	205x170x 25-50	1.63	U	390	Roman	5	Lodsworth	c.20% stone
2778	Ditch 2780	116	165x135x 35-45	1.31	U	>350	Roman flat top Type 1b	3	Old Red Sandstone	10% of stone, lithology suggests Mendip UORS or F Dean?
99999	-	114	125x90x50-63	0.75	U	500?	Roman rim style Type 5b	4	Old Red Sandstone	carefully pick-dressed surface, prob Mendip UORS? *
2650	Tree throw 2649	110	270x200x 45-55	4.17	U	600	Roman disc Type 2?	3	Millstone Grit	15% stone, large handmill, pick-dress top, laminated micaceous sst *
2644	Ditch 2646	109	120x120x 45-60	1.18	U	500+	Roman flat top Type 1	4	Millstone Grit	
3043	Pit 3041	147	160x100-x50-40	1.31	L/U	500+	Roman Type1c or 4	4	Millstone Grit	lower stone has been re-used as upper stone, c arkose grit
3103	Pit 3100	150	150x140x 32-50	1.64	L/U	500+	Roman Type1c or 4	4	Millstone Grit	possibly same stone as <147> but not a re-fit, centre hopper diam of 80mm*
3103	Pit 3100		115x80x35-60	0.77			saddlequern	3-4	Millstone Grit	possible erratic or re-used rotary used on both top and bottom*
3103	Pit 3100	151	145x85x95	1.14			saddlequern	3	erratic	poss 25% of quern, made of local oolit lmstn?
2897	Pit 2896	129	85x65x60	0.58			IA-RB slab saddlequern	4	erratic	micac sstn, burnt
2863	Ditch 2861	127	180x210x 75-90	8	U		saddlequern rubberstone	4	erratic	micac quartzite, convex surface suggests fit with large concave quern*

Table 22. Catalogue of quern from Cranford Business Park, Kettering.

U/L stone U = upper stone; L = lower stone

Grind surface 1 = little or no wear; 2 = minor wear (patchy); 3 = smooth; 4 = polish around rim; 5 = concentric wear striations

* = recommend drawing for publication

Whetstone

A.7.11 Two flattened cylindrical pocket-size whetstones SF 172 and 174 made of calcareous fine-grained and slightly glauconitic micaceous sandstone were recovered from the fill of a pit/ tank (2703, Tank 2702) and the fill of a pit (3101) respectively. Whetstone SF 172 is a thin, flattened and round-edged stone some 45mm x 22mm x 11mm thick weighing c. 20g, whilst whetstone SF 174 is shorter and worked into an almost perfectly round cylinder as a result of its evenly distributed sharpening usage (36mm x 26mm x 23mm; weight 39g). Both whetstones were probably made from a Wealden Clay sandstone outcropping within the Surrey/ Sussex area, and extracted for this specific purpose during the Roman period (Allen 2014, 59; fig.17.1).

A.7.12 Although never intended as a whetstone in its primary function, a small square broken fragment of Collyweston Slate from Northamptonshire (collected from context 2785 in ditch 2784; 130mm x 90mm x 23mm; weight 0.54kg) appears to have been used just on its upper face and along one edge as an opportunistic sharpening stone. The particular type of wear suggests polishing as well as knife edge sharpening. Yet another stone from context (3103) which appears to have been used as an anvil, seems also to have been used as a polishing stone. The lightly worked area upon the flat surface of this stone may have been used to polish the sides of metal knife blades.

Hammerstone

A.7.13 A small round hand-held hammerstone made from an erratic cobble composed of slightly micaceous quartzitic sandstone was recovered from context (10511) (<900> 60mm x 70mm x 50mm; weight 0.39 kg). Faceting formed as a result repetitive pounding use around the rim of this stone had lent a rounded polygonal shape to this. It appears from the wear and removal of the oxidised patina surface around this stone that it had been picked up and used as a hammerstone after it had been burnt and slightly cracked. The most likely period of use of this artefact is prehistoric.

Anvil stone

A.7.14 A single example of a possible stone anvil was that recovered from context 3103, the fill of what appears to have been an artefact-rich Roman pit (3100). The anvil stone made from a glacial erratic cobble of quartzitic sandstone weighs 3.71kg (dimensions:160mm x 170mm x 60-65mm), and possesses a perfectly flat top with a centrally polished or worn area of around 80x80mm.

Miscellaneous stone

A.7.15 Stone basin or trough: Two re-fitting pieces from the 'spout' end of a large stone basin carved from an ironstone concretion were examined. This ironstone rock, which appears to be common on the site, probably represents the oxidised iron-enriched outcrop of the Northants Ironstone Formation (Lower Inferior Oolite). The goethitic outcrop of this would have been hard enough to use as a building stone, and facilitate its use for working into objects. The adjoining pieces of this 'trough' weighed 7.76kg, the 'spout' end being 240mm long and 170mm tall, with an internal depth of 110mm. Not enough of this survives to hazard a guess at function, and as an 'unlocated' surface find it is difficult to ascertain a date.

A.7.16 Socket stone for a door: From the Roman Area F2 context 2812 (posthole 2183) came a large unevenly rounded boulder of oolitic limestone, perhaps Lincolnshire Limestone (Upper Inferior Oolite)). This stone seems likely to have been utilised on two different occasions as a basal socket stone to take the iron pivot or axle from a door or a gate. Weighing 34 kg and 400mm x 300 x 300mm in size, this was indented with a worn and polished hemispherical hollow upon its flattest face, some 140mm x 120mm in diameter and c.65mm deep. A second (possibly earlier) socket hole was noted upon the narrower adjacent face. This was of approximately the same dimensions, thus was used by the same (or a similar sized) pivot door. The socket stone was probably embedded below ground within an earthen floor. There are parallels for this in the form of 'door socket stones' which were associated with door pivots on Hadrian's Wall, although it was said that the pivots were fixed by means of an iron ring cemented to the pivot stones by molten lead (Bishop 2003). A specific example is referred to at the Roman station of Chesters in Northumberland, where it was noted that the pivots were sometimes held within iron bands, and sometimes within bored stone (Clayton 1903, 106).

Building stone

A.7.17 Some 14.47 kg of rough (unfaced) walling stone and stone roofing slate was identified, almost all of this from Area F. Only representative samples of the stone present in foundations on site was collected. All of the rocks appeared to be local to the area, these ranging from the Upper Lias to the Bathonian in date. Without access to a local rock reference collection it was quite difficult to be precise about the geological identification of all pieces, thus Table 23 below provides a probable, but not certain, lithostratigraphy.

Context	Cut	Area	Weight	Dimensions (mm)	Description	W	Geology	Use
2972	Oven 2877	F2	4.64	240x190 x70	grey-brown bioclastic micrite		Cornbrash?	rough walling
10561	Pit 10560	B	1.32 + 0.88	170 + 150	ironstone (goethite)		Northants Ironstone	walling
2754	Kiln/corn drier 2750	F2	5.12	260x260x30-40	fissile bioclastic limestone	W?	Tilestone	coarse roof slate
2660	Pit 2660	F2	1.829	190x240x30	bio-oosparite	W?	Blisworth Limestone?	roof slate?
2219	Ditch 2217	F2	1.68	1240x160x60	pisolitic ironstone	W	Northants Ironstone	pedestal
5262	Pit 5260	D	0.447	160x85x15	fissile limestone		Collyweston Slate	roof slate
2785	Ditch terminal 2784	F2	0.54	130x90x23	fissile limestone	W	Collyweston Slate	roof slate
2841	Ditch 2840	F2	0.219	80x70x25	bio-oosparite		Blisworth Limestone?	walling?

Table 23. Catalogue of building stone

W= worked

A.7.18 The probability is that much of this stone (apart from the roofing slate) represents stone foundation course material. A small variety of fissile limestone appears to have been used for roof slates, and it is also surprising that so little Collyweston Slate is present, considering the relative proximity of the main Roman quarries for this, and its general ubiquity across Roman settlements of the East Midlands and East Anglia.

Burnt stone

A.7.19 A total of 14.47kg of recognisably burnt stone was identified. This includes stone re-used as hearth surrounds *etc*., but in particular redeposited and *in situ* burnt and cracked waterworn cobbles selected and collected from the nearby gravels for use as collective burnt stone for cooking, and for use as potboilers. Examples of these include the small cobbles of micaceous quartzitic sandstone collected from Iron Age features on Area E (contexts 3509 (pit 3508) and 3516 (pit 3515)). Quartzitic sandstone or crystalline igneous rock types are often best choices for this, but the selection of cobbles used here were not so specific, though limestone is only rarely encountered as burnt cooking stone.

Statement of potential

A.7.20 The occurrence here at Kettering of querns of Lodsworth Greensand and Folkestone Greensand from SE England, Millstone Grit from the Southern Pennines, and Old Red Sandstone from the Mendip-Forest of Dean area of south-west England provides interesting evidence of a meeting point of different trade networks and competitive spheres of production which have their origin in the Iron Age, and which then continue right through the Roman period. The assemblage has good potential for investigating the production and trade quern during the Iron Age to Roman periods, especially with regard to the presence of what appears to have been a local distribution centre, centred upon the hillfort of Hunsbury near Northampton.

A.7.21 The unusually good preservation of the Late Iron Age upper quern stone (SF103), with its replacement handle socket added to counteract the uneven wear on the stone and the remains of the iron axle in its base, is reminiscent of Curwen's description of such querns at Hunsbury hillfort with their preserved iron spindles and sleeves and their wooden handles (Curwen 1941, 18).

A.7.22 The occurrence of at least three different types of Roman flat rotary querns at Kettering, together with the broad date range(s) for their use, provides a further indication of their value in understanding sites with respect to their connections with long-distance trade routes. Their presence also supports the dating of features and contexts between the 1st and 4th centuries AD.

A.7.23 On a more site-specific basis, further analysis of the distribution of quern and whetstone finds at Kettering may prove interesting: most (apart from the two largest querns appear to have been associated with the Romano-British 'industrial' enclosures and related features in Area F2.

A.7.24 Certain similarities in the stone finds between East Kettering and Cranford Business Park sites are also discernible and clearly worthy of further study, including thin-sectioning.

Recommendations for further work and method statement

A.7.25 A full report incorporating phasing and distribution information, supported by targeted lithography is recommended. In addition, the current assemblage is worthy of a note within any publication in respect of the quernstone group and the occurrence of Lodsworth quern, perhaps amongst the most northerly distributions of this recorded.

A.7.26 At least eight pieces of quern plus the two whetstone are recommended for illustration, alongside a hammerstone, an anvil, and the socket stone for a pivot door.

A.7.27 It will also be necessary to refer to any published recommendations within the Historic England Research Agenda Strategy for the Eastern Counties relating to research investigating Late Iron Age – Roman quern production and distribution.

Retention, dispersal and display

A.7.28 All of the quern and whetstone should be retained within the stored finds archive. However, following illustration/photography, the miscellaneous stone (including the basin and socket stone), the building stone and tile, and all of the non-worked burnt stone may be deselected prior to archiving.

A.8 Iron slag

by Simon Timberlake

Introduction

A.8.1 A total of 3.33kg (x208 pieces) of iron smithing slag was examined from this excavation; of which at least 3kg consisted of vitrified hearth lining (VHL) and 0.24 kg of denser iron slag.

A.8.2 Almost all of the excavated material came from the Romano-British Area F2 (with just a very small amount from Area F1), although some trace remains of smithing were also recovered from the Middle Iron Age site(s) (Areas C and D).

Methodology

A.8.3 The assessment of this material followed Historic England (2015) guidelines. All of the slag was identified visually using an illuminated x10 magnifying lens, and then tested against a magnet for the presence of free iron or wustite. A dropper bottle containing dilute hydrochloric acid was used to confirm the presence or absence of calcium carbonate (calcined chalk) within the slag.

Factual data

A.8.4 Table 24 provides a full catalogue of the material examined, all of which came from Areas F1 and F2, and Areas C and D. All of this consists of iron smithing slag debris, more than 95% of which is made up of cindery or glassy vitrified hearth lining (VHL). Several of the pieces provide some idea of the dimensions of the smithing hearth(s), which in this case was around 400mm (external diameter). Just four samples of broken-up smithing hearth base (SHB) were encountered, all of which has a very low free iron or wustite (Fe.O) content, as determined by the poor or absent magnetic properties.

Where the dimension of these SHBs could be determined, they appear to be between 120-140mm in diameter, which is moderately large, but within the expected range. Two small pieces of slag smithing lump (SSL) were also noted, plus one piece of vitrified clay from Iron Age context 10759 in Area C which may or may not be the result of metalworking. Several pieces of ironstone or iron pan are included within the assemblage, but almost certainly these are unrelated to the metalworking taking place.

Context/ SF no	Area	Enviro no.	dimensions (mm)	Wt (g)	Magnet (0-4)	Hearth/ SHB diam (mm)?	Category	Comments
2594	F2		55	47			iron pan	NOT slag
2594	F2		100	129	0		VHL	fused with chalk
2594	F2		55	62	0-1		VHL	glassy lump
2594	F2		75	87	0		VHL	
2594	F2		70	57	0		VHL	outer hearth rim
2594	F2		90x55x25 (thick)	236	0	inner 350 outer 450	VHL	section hearth rim*
2594	F2		90	128	0		VHL	tuyere nozzle diam c.20mm+?
2594	F2		60	67	0		VHL	
2594	F2		(x36 frags)20-70	679	0		VHL	
10526	C		(x3)	14	0		VHL	some glassy
10526	C		60	53			iron pan	NOT slag
10759	C		30	8			VC	'iron age grey'
10520	C		(x4) 10	5	0		VHL	glassy blobs
10435	C		20	3	0		VHL	
2718	F2	279	(x4) <10	1	0		VHL	
2927	F2	301	(x5) <5	3	0		VHL	
3014	F2	307	(x4) 5-10	2	1		VHL	
3081	F2	327	(x5) 5-10	2	0		VHL	
3080	F2	325	(x2) 22	2	0-1		VHL	
3115	F2	320	(x15) 10-35	32	0		VHL	glassy
3743	F2	438	10	<1	0		VHL	glassy
5190	D	638	10	<1	0		VHL	glassy
2698	F2		(x12) 10-35	40	0-1		VHL	glassy broken
3115	F2			5	0-1		VHL	
5002 <654>	D			30	2-3		Fe	iron in slag
3102	F2		20	4	1		VHL	
3261	F2		<10	<1	0		VHL	
3143	F2		22	3	0		VHL	
3103	F2		50	37	1		VHL	
2718	F2		(x4) 20-55	62	0		VHL	glassy
3071	F2		(x11) 10-35	37	0-1		VHL	glassy
2855	F2		40	17	0		VHL	edge hearth
2738	F2		(x2) 35-40	41	1	c.140	SHB	rim
3214	F2		50	22	1		VHL	glassy
3159	F2		30	8	0		VHL	glassy
2596	F2		(x3) 20-40	27	0		VHL	glassy
2927	F2		(x2) 30-45	38	0		VHL	glassy
2220	F1		(x2) 30-40	18	0		VHL	glassy
2728	F2		45	21	0		VHL	rim
2728	F2		(x2) re-fit 30+60	103	0	c.120	SHB	dense *
3103	F2		(x9) 20-80	260	0	c.400	VHL	glassy with tuyere blast
3043	F2		(x10) 30-70	303	0		VHL	melted drops/ mass
3027	F2		70	88	0		VHL	glassy
3096	F2		(x2) 50-100	215	0	c.400	VHL	glassy
3037	F2		(x4) 20-65	102	0		VHL	glassy
2800	F2		60	41	0		VHL	glassy
3081	F2		(x7) 10-20	14	0-1		VHL	glassy
2616	F2		(x7) 10-55	83	0		VHL	vitrif clay
3808			30	13	0		SSL	
3077			(x5) 10-30	14	0		VHL	glassy drops
3184	F2		(x3) 30-45	24	0		VHL	glassy
3078			30	4	0		VHL	glassy
3014			20	3	0		VHL	non-glassy
2871	F2		(x8) 10-40	52	0-1		VHL	glassy
2827	F2		(x3) 10-50	83	0	c.100	SHB	fragments
2835	F2		35	14	0		SHB	fragment
3098	F2		30	10	0-1		SSL	fragment
99999			50	29	0		VHL	glazed pebble
3014			(x3) 10-45	16	0		VHL	glassy
2708	F2		10	2	1		VHL	cindery
3143			40	15	0		VHL	glassy

Table 24. Catalogue of slag from Areas F1, F2 (Romano-British) and Areas C and D (Middle Iron Age)

VHL = vitrified hearth lining; SHB = smithing hearth base; SSL = slag smithing lump; VC = vitrified clay (not necessarily slag) Mag 0-4 = degrees of magnetisation (0 = none; 1 = faint)
* = recommend drawing for publication

Statement of potential

A.8.5 There is no evidence for any primary iron production at either the Iron Age or the Roman sites. Unusually, little in the way of dense slag, such as the normally ubiquitous SHBs provides was recovered during the excavations, and the reason behind this is uncertain. However, it is fairly clear that the fragments of high-temperature slaggy vitrified hearth lining (VHL) testifies to a small-moderate amount of iron smithing activity having taken place, the debris of which seems to be fairly well dispersed across the Romano-British site (Area F2), being re-deposited within a variety of ditch fills and pits. Investigation of the distributional focus for this slag may help to identify the location of the original smithy(s).

A.8.6 The very small amount of smithing debris recovered from the Middle Iron Age sites (Areas C and D) confirms that at least some iron smithing was taking place, but not that it was in any way significant within the area(s) of the settlement(s) sampled.

A.8.7 Despite there being an outcrop of the Northants Ironstone close-by, and the presence of an iron-enriched goethite cap to this sideritic ore on site, there is no evidence at all from this assemblage of any sort of iron smelting activity or primary bloom smithing. Close by to Corby the Northants Ironstone was being exploited and also smelted to produce bloomery iron from the Late Iron Age through to the Roman period (Hall 2008), as it was along the Northamptonshire outcrop of these iron-bearing rocks (including within the area around Kettering) in Roman times (Schrufer-Kolb 2007; Condron 1997,2+8).

A.8.8 Not to have found iron smithing slag on these sites would have been quite unusual, so it is not possible to infer from its minor presence here that the secondary metalworking activity was either related to or influenced by the nearby production of Northamptonshire iron ore and iron smelting. The noted lack of industrial activity at both the Iron Age and Roman sites suggests these were small-scale agricultural settlements with the presence of a smithy simply to repair and re-forge iron tools.

Recommendations for further work

A.8.9 No further work is required other than incorporating any phasing and distribution data. Illustration of one of the hearth rims and a single piece of smithing hearth base is suggested.

Retention, dispersal and display

A.8.10 Following the collection of token slag samples from each of the four sites (Areas F1, F2, C and D), the assemblage can be deselected in its entirety prior to archive deposition.

A.9 Fired and worked clay

by Ted Levermore BA with contributions by Simon Timberlake

Introduction

A.9.1 In total archaeological works produced 328 fragments, weighing 8251g, of fired clay from contexts in Areas C, D, E, F1 and F2. The assemblage comprises amorphous and structural fragments (142, 731g and 186, 7520g respectively). The structural assemblage mostly comprises low fired material (from Area F1), that is probably oven furniture; including thick clay plate-like objects, some of which are perforated, and fragments of lining. There is also a fragment of kiln plate, fragments of triangular loomweight and a spindlewhorl.

Methodology

A.9.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gramme. Fabrics were examined using a x20 hand lens and were described by main inclusions present. Fired clay collected from samples that weighed below 1g were not assessed. Swan (1984) was consulted for identification and discussion of oven and kiln related material.

A.9.3 The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. Summaries of the catalogue can be found in Tables 25-27.

Fabrics

A.9.4 The fired clay was attributed to ten fabrics, four of which are subsets of two others. The fabrics could be grouped into three families: sandy clay, silty clay and shell tempered. The silt and sand clays contains a variety of inclusions and/or tempering material including grog/clay pellets, ferrous material and crushed flint. Although the exact source of the clay or inclusions has not been proven for this assemblage these are likely to have been naturally occurring in the local clay. The poor sorting of the inclusions suggests minimal paste preparation, although organic matter (chaff?) may have been added to some of the clay recipes.

A.9.5 The shell tempered fabric suggests a more invested and considered paste preparation, as this family of fabrics contains a vast amount of crushed oyster shell. This fabric group could be divided into two; a well-prepared paste and only slightly friable fabric versus a less considered paste preparation and a very friable fabric. The varying degree of friability probably relates to higher and lower temperatures during firing and/or use. The shell tempered fabric is fired to an oxidised reddish-purple with occasional sooting or reduced grey surfaces.

Factual data

A.9.6 The fired clay was collected from 66 contexts in Areas C, D, E, F1 and F2. These are described by type and site below.

Amorphous fired clay

A.9.7 Sixteen contexts produced amorphous fired clay (142 fragments, 731g). These are fragments that could only be attributed to a broad fabric group and provide little information beyond indicating the historic presence of kilns, ovens, hearths or domestic clay objects in the area. Amorphous fragments from contexts with structural material are likely to have originated from the same features or structures (such as ovens) as the latter. The amorphous portion of the assemblage is summarised below.

Area	Cut	Context	Feature	Count	Weight (g)
C	10432	10435	Post Hole	1	4
	10514	10511	Pit	1	1
	10524	10526	Pit	3	13
	10696	10697	Pit	7	53
D	5153	5155	Pit	4	35
	5153	5156	Pit	1	26
	5333	5335	Hearth/Oven	23	33
E	3510	3512	Pit	1	2
	3552	3553	Pit	3	1
	3641	3642	Ditch	2	6
	3675	3676	Pit	3	2
	3693	3694	Pit	1	2
	3693	3695	Pit	2	2
	3744	3743	Post Hole	2	3
	3752	3830	Pit	17	5
	3833	3834	Ditch	1	4
	3863	3871	Pit	1	8
	-	3589	Layer	1	11
	-	3751	Layer	2	1
F1	2217	2219	Ditch	1	8
F2	2736	2739	Pit	4	65
	2736	2739	Pit	7	140
	2818	2819	Pit	23	103
	2844	2845	Pit	1	2
	2846	2848	Pit	10	10
	2877	2907	Oven	1	64
	2965	2966	Ditch	1	15
	2967	2969	Pit	1	10
	3012	3014	Pit	3	50
	3076	3078	Pit	2	7
	3100	3063	Pit	12	45
			Grand Total	142	731

Table 25. Summary catalogue of amorphous fired clay

Structural fired clay

A.9.8 Most of the fired clay recovered from the site can be characterised as structural (186 fragments, 7520g). These fragments are those that have distinctive features; here they exhibit flattened surfaces, rounded corners or wattle impressions. The majority of fragments, by weight (68 fragments, 6034g), are a collection of low-fired shell-tempered clay plates and oven lining from Area F2. Diagnostic objects are amongst this assemblage as well, including a fragment of kiln furniture and triangular loomweight fragments.

Area	Object Class	Object Form	Count	Weight (g)
C	?Kiln Furniture ?Briquetage	?Pan end	1	43
	?weight ?kiln bar	-	2	9
	Spindlewhorl	Cylindrical/Globular	1	30
	Undiag. Structural	-	1	12
D	Undiag. Structural	-	5	32
	?weight	?triangular loom weight	2	20
E	?weight	?triangular loom weight	55	183
	Undiag. Structural	-	59	247
F2	?Oven Furniture	?Clay Plate	6	286
		?Clay Plate/?Flattened lining	1	189
		?Lining	6	2144
		Clay Plate	30	921
		Perforated Clay Plate	10	2066
		Superstructure/Lining	3	383
	Kiln Furniture	Kiln Plate	1	223
	Weight	Triangular Weight	2	726
	Undiag. Structural	-	1	6
Grand Total			**186**	**7520**

Table 26. Summary of the structural and diagnostic fired clay by Area

Area C

A.9.9 Ditch 10489 produced two fragments (55g) in a silty fabric, with flattened and hand-moulded surfaces. One is a moulded corner with smoothed inner surfaces, suggesting it may be a pan end – but probably not briquetage. The other may be the face of a kiln bar or a weight. Pit 10514 also produced a fragment of flattened fired clay (9g).

A.9.10 Pit 10524 produced a near-complete spindlewhorl (30g). It is a nearly (80%) complete example of a cylindrical-globular type Iron Age clay spindlewhorl. It is 38mm in diameter and 40 mm high, with a flat to slightly concave base, a central perforation (4-7mm), and is un-decorated. Such objects tend to be *ad hoc* and as such there are no known exact parallels. Nevertheless, it is similar to those described at Mucking (Evans *et al.* 2015).

Area D

A.9.11 Pit 5153 produced five flattened fragments (32g) of heavily reduced and sooted fired clay. These fragments were made in an untempered silty fabric that also appear in small amounts across Areas E and F2.

Area E

A.9.12 A total of 59 fragments (247g) of fired clay with flattened surfaces were collected from Area E. Gully 3572 produced two small fragments (33g) in an untempered silty fabric. Ovens 3829 and 3871 produced 50 (157g) and 5 (24g) fragments respectively and layer 3751 produced two (33g) fragments in the low-fired shelly fabric. Whilst there were no *in situ* fired clay objects collected from the ovens, it is likely that this material was used as a lining or to form the superstructure of the oven(s).

Area F2

A.9.13 The majority of the fired clay assemblage came from Area F2. The largest portion (68 fragments, 6034g) of this assemblage was identified as possible 'oven furniture' (see below).

Oven furniture

A.9.14 This class of fired clay is in the form of thick clay plates and fragments of probable lining. The 'oven furniture' was made in a shelly fabric and is very friable (although this varies between objects with no particular pattern). As such, many of the objects have not survived well post-excavation. Nevertheless, some of the plates have evidence for at least one perforation and a couple of fragments have traces of rounded edges.

A.9.15 Generally, these fragments are 20-35mm thick with perforations that are *c*.20mm in diameter. It is likely that they formed part of a permanent to semi-permanent raised oven floor, similar to that of a kiln. The size of these plates suggest they may have been used in a larger scale (?non-domestic) operation. The fact that these fragments are so friable, and the shell largely unscathed, suggests that they had not been subjected to particularly high temperatures. It is suggested, therefore, that they formed part of a malting oven or a similar technology where drying or baking was the intention – as opposed to the high temperatures needed for pottery manufacture or metalworking. The fragments were all collected from midden or refuse contexts or disuse fills so their provenance is not known, however they may have been related to the large 'tank' features in this area. The oven furniture catalogue is summarised in the table below.

Cut	Context	Feature	Object Form	Count	Weight (g)
2646	2644	Ditch	Clay Plate	1	47
2646	2645	Ditch	Clay Plate	3	245
2702	2703	Tank/Pit	?Clay Plate	2	96
2702	2703	Tank/Pit	Clay Plate	1	83

Cut	Context	Feature	Object Form	Count	Weight (g)
2736	2739	Pit	?Clay Plate/?Flattened lining	1	189
2736	2739	Pit	Clay Plate	3	256
2736	2739	Pit	Superstructure/Lining	3	383
2736	2739	Pit	?Lining	6	2144
2846	2848	Pit	Perforated Clay Plate	1	451
3100	3063	Pit	?Clay Plate	16	235
3100	3063	Pit	Perforated Clay Plate	1	343
3100	3103	Pit	Clay Plate	21	251
3100	3103	Pit	Perforated Clay Plate	7	1042
3106	3107	Pit	Clay Plate	1	39
3114	3116	Pit	Perforated Clay Plate	1	230
			Grand Total	**68**	**6034**

Table 27. Summary catalogue of the oven furniture

Other domestic/light industrial fired clay

A.9.16 The other diagnostic objects collected in this area are more typical of Late Iron Age/Romano-British domestic sites. A single fragment (6g) of a porous silty clay, that probably had an organic temper, was collected from pit 2736. It has an impression in it that is reminiscent of those seen in daub.

A.9.17 Two refitting fragments (726g) of a near complete Late Iron Age/Romano-British triangular loomweight were collected from ditch 2952. It is 60mm thick and each length measures around 12-13mm. Although incomplete it has the remains of two apex perforations (15mm diameter). It is broken along one of the perforations, the weakest point, and one corner is lost completely. It is similar to Type 1 weights from Danebury Hillfort (Poole 1984). Triangular weights are common finds on domestic sites of this period, although they can range in size and thickness. Usually they are identified as loomweights, with larger examples probably used as thatch weights.

A.9.18 A fragment (223g, 22mm thick) of a clay plate, typical of pottery kilns from the Late Iron Age and Early Roman periods (Swan, 1984), was recovered from pit 3100. The plate is made in the same shelly fabric as mentioned above; but the paste was prepared more evenly and its firing temperature was much higher (as would be expected). The function of kiln plates varies by region and kiln tradition (*ibid.*), but it is likely that they were used as part of the kiln's raised floor, as shelving within the kiln or as roofing for the kiln chamber.

Statement of potential

A.9.19 The fired clay assemblage taken as a whole is representative of Late Iron Age and Early Roman domestic and light industrial activity. Little can be gleaned from the amorphous fragments beyond their quantity and spread across the site. They suggest little more than the historic presence of clay objects, kilns, ovens or hearths within the site. However, the structural fragments and the diagnostic objects paint a picture

of domestic activities in addition to more specialised industrial activity. The presence, though sparse, of weaving related objects is the most indicative of domestic life on this site, while the array of shell tempered clay plates and possible lining for an oven points towards some form of low temperature drying process. When considered alongside the various features (including tanks and corn driers), the pottery and the environmental evidence, it is quite probable that the function of these objects will be further elucidated which will add to the overall interpretation of activities on the site during the Iron Age and Roman periods.

Recommendations for further work and method statement

A.9.20 The assemblage has been fully assessed and described. This will provide the basis for the full grey literature report, once phasing and distribution data has been incorporated, with the catalogue forming part of the archive.

A.9.21 The spindlewhorl should be photographed and illustrated along with the loomweight and the structural clay objects.

A.9.22 The shelly perforated plates and oven furniture should be analysed by a specialist and compared with other examples of such objects and the relationship with malting further explored (*c*. 2 days).

Retention, dispersal and discard

A.9.23 The amorphous fragments are recommended for deselection prior to archive deposition.

A.10 Glass

by Stephen Wadeson

Introduction

A.10.1 A small assemblage of Roman vessel glass was identified, consisting of just 12 fragments and representing a maximum of six vessels. Of these three vessels (nine fragments) were sufficiently diagnostic to allow identification. In addition, a complete annular glass bead was also recovered. Associated with general settlement activity on or near to the site, the assemblage is consistent with a broad Roman date ranging from the mid-1st to 4th centuries AD.

Factual data

Vessel glass

A.10.2 The assemblage can be divided into two broad categories: storage vessels/containers and table wares.

A.10.3 Storage vessels account for the majority of the vessels identified, consisting primarily of fragments from blue-green, mould blown prismatic bottles, typical of the late 1st and 2nd centuries. These include SF170 (3103, in finds-rich pit/watering hole 3100), a

semi-complete wide angular handle, finished with fine vertical ribs (reeding) pulled into points and shoulder fragment from a prismatic bottle (c.AD 43 to the late 2nd century) and SF153 (3063, also a fill in finds-rich pit/watering hole 3100), a single shard from the junction of the wall and base also from a prismatic bottle. The shard includes the partial remains of a single line in relief on the base of the vessel; part of a geometric base design typical of the type found on prismatic bottles of this period. This shard has also been melted, due to ?post-depositional exposure to high heat, which has deformed the glass and caused partial devitrification.

A.10.4 Cool and Price describe Prismatic bottles as containers for transport and storage, rather than table wares. It is generally assumed that their contents were liquid or semi liquid. The bodies of the prismatic bottles found in Britain are typically mould blown, with the shoulder neck, rim and handle formed subsequently by free manipulation. The slightly concave bases of most prismatic bottles have mould blown patterns in relief. Most commonly these are of concentric circles, but more complex designs are also known (Cool & Price 1995, 179).

A.10.5 Recovered from pit/tank 2702 (SF112) in Area F2, a further seven fragments of glass were identified all from a blue/green bath flask (Isings Form 61). These would have been used for the carrying of oils during visits to the baths. Of the seven fragments two are from the thick concave base while a further three fragments are handles shards and include two joining pieces. The handles, in the form of looped eyelets are often referred to as 'dolphin handles' the handle has been applied to the shoulder, trailed up the neck folded out and down as is typical of the 2nd and 3rd century handles (Figure 87b, Price & Cottam 1998, 189).

A.10.6 Evidence currently suggests that the form does not appear as a blown vessel before the later Neronian period, becoming common during the later 1st and 2nd centuries. Its use continued until the late 2nd and early 3rd centuries and possibly into the mid 3rd century AD. As such it is not possible to give a specific date for this vessel within the Neronian to 3rd century period as they appear only to occur as individual examples on domestic sites (Cool & Price 1995, 156-157).

A.10.7 It is likely that the remaining undiagnostic body sherds recovered are also fragments of mould blown prismatic bottles.

A.10.8 A single undiagnostic sherd is the only example of a tableware identified within the assemblage. Most probably from a Late Roman drinking vessel, SF175 (3103 from pit/watering hole 3100) consists of a small thin-walled body fragment.

Glass bead

A.10.9 Excavations also produced a single undecorated annular bead of natural green, translucent glass (Group 6 (iia) Guido, 1978, 65-6) from the fill of pit 2702 (SF 111). which is long lived and not closely datable. As such the bead provides little assistance with dating due to the nature of its re-use and longevity.

Statement of potential

A.10.10 This is a small assemblage, consisting mainly of storage vessels, the majority of which are typical of mid-1st to 3rd centuries AD with a single example dating to the later

Roman period. Consisting primarily of fragmentary vessel shards, this is suggestive of high levels of post-depositional disturbance such as ploughing and is consistent with most of the shards being residual.

A.10.11 The assemblage recovered is too fragmentary to make specific comments on the nature of glass supply to the site throughout the Roman period from the late 1st to 4th century AD. It has little potential to add to knowledge of glass manufacture, use, trade and exchange in this area during the Romano-British era.

Recommendations for further work

A.10.12 All of the recovered shards in the assemblage as well as the bead have been fully recorded and are in a stable state of preservation and require no conservation. As such no further analysis of the assemblage is recommended, apart from incorporation of phasing and distribution data.

A.10.13 Fragments selected for illustration or photography (two objects) are indicated in the catalogue below.

Small find no	Context	Comments
SF 111	2703	Complete, (medium) annular glass bead, undecorated. Natural Greenish, translucent glass (Group 6 (iia) Guido, 1978, 65-6) Date; Not closely dated c.43 AD to 4th century AD. Wgt 4g, Dia 20mm, Hgt 8.7mm, Per. Dia 7mm. Tank/Pit 2702, Area F2. *(Illustrate/Photograph).*
SF 112	2703	Seven neck, handle and base fragments from a bath flask (Isings Form 61). Blown; blue/green glass. Date; Third quarter of 1st century AD to mid-3rd century AD. Tank/Pit 2702, Area F2. *(Illustrate/Photograph).*
SF 128	2879	Single base fragment from a ?prismatic bottle. Mould blown; blue/green glass. Date; c.43 AD to late 2nd century AD. Oven/Drier 2877, Area F2.
SF 145	3063	Wall/Base fragment from a thick-walled prismatic bottle. Abraded outer surface. Mould blown; pale blue/green glass. Date; c.43 AD to late 2nd century AD. Wgt 13g, Max Thickness 5mm. Pit/Watering Hole 3100, Area F2.
SF 153	3063	Single base fragment from a prismatic bottle with ?post depositional damage due to exposure to heat. Partial devitrification. Mould Blown; blue/green glass. Date; Mould Blown; blue/green glass. Date; c.43 AD to late 2nd century AD. Pit/Watering Hole 3100, Area F2.
SF 170	3103	Shoulder and ribbon handle fragment from a prismatic bottle. Iridescent weathering. Mould Blown; blue/green glass. Date; c.43 AD to late 2nd century AD. Pit/Watering Hole 3100, Area F2.
SF 175	3101	Thin, slightly curved fragment of vessel glass possibly from a late Roman tableware of unspecific form. Frequent small bubbles and striations. Iridescent weathering. Blown; Green-tinged colourless glass. Date; Not closely dated c.43 AD to 4th century AD. Pit/Watering Hole 3100, Area F2.

Table 28. Glass catalogue

APPENDIX B DETAILED ENVIRONMENTAL ASSESSMENTS

B.1 Human Skeletal Remains

by Zoë Uí Choileáin BA MA

Introduction

B.1.1 Eight cremation burials (seven unurned and one in an inverted collared urn) of probable Early Bronze Age date were revealed in Areas C and F2. In addition, an infant skeleton, dated to the Roman period was also found in a pit in Area F2.

Methodology

B.1.2 Excavation and processing of both the cremations and inhumation were carried out in accordance with published guidelines (Brickley and McKinley 2004). Unurned cremation deposits were excavated on site and the entirety of the deposit was retained for wet sieving. The inverted cremation vessel was lifted whole on site and excavated in spits at OA East's finds department.

B.1.3 Osteological analysis of the cremations was undertaken in accordance with published guidelines (Mckinley 2004; Mays *et al.* 2004). Identified human bone was assessed in order to explore the potential of the material to provide information on biological anthropology (minimum number of individuals, sex and age), palaeopathology and the cremation rite (as indicated by bone weight, degree of fragmentation and colour).

B.1.4 The inhumation was aged using standards recorded in Scheur and Black (2009) and Ubelaker (1989). Surface preservation of the cortical bone was recorded using Mckinley's 0-5 scale (Brickley and McKinley 2004, 11, fig. 6).

Factual data

Cremations

B.1.5 Urned cremation burial 2011 was found within a pit (2010) in Area F2 during the evaluation stage (XNNCAB15). The calcined human remains had been buried in an inverted collared urn dating to the Early Bronze Age. A second unurned cremation burial (3023 in pit 3024), also interpreted as Early Bronze Age, was excavated nearby during the excavation phase. Area C contained six unurned cremation burials that were situated in a cluster nearby to a possible Late Neolithic or Early Bronze Age monument.

B.1.6 Cremation burial 3023 (pit 3024) located within Area F2 was untruncated, meaning that all of the bone that was originally interred is likely to be present. The inverted urn in pit 2010 is also taken to be untruncated for the purpose of this report, although the base of the vessel had been 'clipped'. Calcined bone was visible on the surface of all other cremation pits, suggesting that they were truncated/disturbed by ploughing and bone may well have been lost.

B.1.7 All remains are estimated to be adult based on the size and robusticity of the bone. There are no skeletal markers present with which to estimate sex. A minimum of one individual can be estimated for each deposit as no identifiable fragments are repeated.

B.1.8 No pathological changes were observed on any of the bone fragments.

Area	Cut	Deposit	sample	spit	>10mm frags	Weight (g)	10-4mm frags	Weight (g)	4-2mm frags	Weight (g)	Total Weight (g)
		2011	201		Skull, axial, upper and lower limb bones	56	Long bone fragments, skull, unid	142	Unid,	33	
		2011	202		Skull, axial, phalanges, upper and lower limb bones	308	Unid, phalanges, long bone frags	168	Unid frags	72	
				1	Long bone frags	6	Unid	2	Unid	1	
				2	Axial, skull, long bone	79	Unid	3	Unid	2	
				3	Axial, skull, upper limb, lower limb	341	Long bone frags, unid	96	Unid	18	
	2010	2011	205	4	Axial, skull, upper limb, lower limb	276	Skull, unid	66	Unid	58	1727
				1	Skull, long bone, humeral head	66	Skull, long bone	43	Tooth root, unid	10	
				2	Skull, long bone, humeral head	57	Tooth root (premolar), Skull	30	unid	6	
F2	3023	3024		3	Skull (occipital), long bone	68	Skull, long bone	24	unid	7	311
	2949	2948	368		Skull, mandible, long bone	52	Long bone, skull	72	unid	61	185
	10646	10647	1135		Skull, maxilla, mandible, humerus, ulna, gleniod	135		177	Long bone, petrous, skull, tooth roots		
		10732	1136		-	-	Unid	1	unid	2	315
	10710	10711	1137		Skull, tooth cusp and root	22	Skull, rib	34	Unid	6	62
		10728	1131		Skull, long bone	4	Skull, long bone	10	Unid	7	
	10721	10729	1138		Single skull frag	2	skull	4	Tooth root	3	30
	10723	10730	1134		-	-	Unid	1	Unid	1	2
C	10726	10725	1132		-	-	Unid	1	Unid	1	2

Table 29. Deposits of cremated bone; summary of weights and fragmentation

B.1.9 The colour of the bone is primarily oxidised white. Colour reflects the degree of heat used during cremation, with bone that was exposed to the highest temperatures having a buff white appearance (Holck 2008 110-115). This indicates that all of the bone was exposed to a consistent heat. The only exception to this is the bone in the urned cremation burial (pit 2010), where the colour ranges from yellow-brown to white suggesting that here, the temperature was not consistent across the pyre.

B.1.10 All of the calcined bone displays a mixture of transverse, curved transverse and longitudinal fractures. Fractures like this are the result of bone heating then cracking as soft tissues and muscles shrink (Symes *et al.* 2008, 43). These can be used as evidence that the bodies were cremated while there was still flesh and fat attached to

the bone, as opposed to the bones being defleshed before being placed on the pyre (McKinley 1994).

B.1.11 Bone weights (Table 29) range from 2g -1727g but amongst the untruncated features the weight of bone is 311-1727g (3013 and 2010 respectively). Largest fragment sizes for all cremations are in general quite low, ranging from 29.73 – 69.93mm for long bones and 19.35 – 47.43mm for skull fragments.

B.1.12 Within pit 2010 a large amount of the calcined bone was recovered from the soil directly below the urn, with the lowest bone weights being recovered from spits at the base of the urn rather than the top. The weight of bone recovered is high totalling 1727g. A high percentage of almost all elements are represented suggesting an effort to collect all of the calcined bone for burial.

B.1.13 Bone weights from cremation pit 3023 are much lower although the evidence suggests that most, if not all, elements are present. A much higher percentage of skull is represented in the lower two spits suggesting some order to the way remains were placed within the burial pit.

B.1.14 All cremated deposits excavated from Area C were truncated. The bone weights recorded are substantially lower than those recorded from the Area F2 cremations (2-315g). The deposits from features 2949, 10646, 10710 and 10721 represent cremation burials. Features 10723 and 10726 contained only a few grammes of unidentified calcined bone. These deposits were however rich in charcoal and may represent pyre material.

Skeleton

B.1.15 Skeleton 3258 was recovered from pit 3255 in area F2. The skeleton is between 75-100% complete and bone condition is recorded as 0 on McKinley's 0-5 scale (Brickley and McKinley 2004, 11, fig. 6) Fragmentation is high with only a single humerus and ulna being complete. The skull is highly fragmented and all teeth recovered are loose. The individual was between 4 – 6 months of age based on tooth crown development and humerus length. Pottery found within the pit suggests that the skeleton is probably of Roman date.

Statement of potential

B.1.16 Although undated and isolated from cremation burial 2010, it is probable that cremation burial 3023 also dates to the Early Bronze Age, however radiocarbon dating would confirm this. The cremation burials from Area C also appear to date to the Early Bronze Age and the bone weights are comparable to weights from sites such as Chelmsford Effluent (Essex) (Ui Choileain and Loe 2015) and Fordham (Cambridgeshire) (Webb 2015). Bronze Age calcined human bone weights are often low, suggesting proportional representation of the body rather than burial of the complete remains. No grave goods were recovered which is typical of cremation burials of this date.

B.1.17 The proximity of this cluster to a possible Bronze Age monument is of interest. This association makes the site comparable to cremation pit clusters of similar date found at both Chelmsford Effluent (Ui Choileain and Loe 2015) and Fordham (Webb 2015). It is not unusual for these unenclosed clusters of cremation burials to develop close to

monuments such as barrows (English Heritage 2011, 3). Radiocarbon dating should also allow investigation of any relationship between the cluster of cremation pits and the monument to be explored.

Recommendations for further work and method statement

B.1.18 The cremations and single inhumation have been fully recorded and require no further analysis.

B.1.19 Radiocarbon dating is recommended for at least two of the cremation deposits to establish whether they are of Early Bronze Age date. Skeleton 3258 was found within a dated feature and as such is not recommended for radiocarbon dating.

B.1.20 Beyond selecting bone samples for radiocarbon dating and updating the report with any new phasing information and nearby comparisons, no further work is required on this assemblage (0.5 days).

B.2 Faunal remains

by Hayley Foster BA MA PhD

Introduction

B.2.1 An assemblage of moderate size (41.40kg) was recovered, with the number of recordable fragments totalling 641. Animal bone was recovered from Areas D and E (Iron Age) and F1 and F2 (Roman). The species represented include cattle (*Bos taurus*), sheep/goat (*Ovis/Capra*), sheep (*Ovis aries*) horse (*Equus cabullus*), pig (*Sus domesticus*), dog (*Canis familiaris*), house mouse (*Mus musculus*) and hare (*Lepus sp*.). Also present are fish vertebrae, an unidentified micromammal and the remains of a bird (possible corvid); these were not quantified as they were not identified to species.

Methodology

B.2.2 The method used to quantify this assemblage was based on that used for Knowth by McCormick and Murray (2007) which was modified from Albarella and Davis (1996). This involves analysing and recording bones from the assemblage but omitting those fragments that are considered 'low grade' and not worthy of being counted. In order for an element to be recorded 50% of the diagnostic zone on a bone must be present. This method narrows down the assemblage so that fragmented elements are not counted multiple times. MNI (minimum number of individuals) was calculated for all species present. MNI estimates the smallest number of animals that could be represented by the elements recovered. Any fragments that did not fit into the above criteria but were still of interest, which may include butchery marks, gnawing, or pathology, would be considered 'non-countable'. These fragments were recorded but not included in the quantification. Ribs and other vertebrae were not counted. Recordable elements were separately recorded on an Access database. Information recorded includes: context, species, element, side, condition, state of fusion, zone present, percentage present, signs of butchery, gnawing, pathology, ageing, and any other observations worthy of noting. Regarding NISP tables (Tables 30-31) loose teeth

include loose maxillary teeth and teeth that could not be classified as either mandibular or maxillary. Cranium includes zygomatic arch or tooth row where three or more teeth of the dP4/P4-M3 tooth row were present. For calculation of MNI; Loose teeth or unfused epiphyses were not counted. Pig canines were divided by 2. M1/2 were divided by 4, M3 were divided by 2 and phalanges were divided by 8. Except for teeth and phalanges, left and right were considered for all elements. Proximal and distal ends were considered for all elements where applicable. In the case of cattle or sheep/goat metapodials MC2/MT2/MP2 were counted as 0.5 units. In the case of pig MC/MT/MP were counted as 0.5 units.

Identification

B.2.3 Identification of the faunal remains was carried out at Oxford Archaeology East. References to Hillson (1992), Schmid (1972), von den Driesch (1976) and Cohen & Serjeantson (1996) were used where needed for identification purposes. Attempts to distinguish between sheep and goat were carried out based on morphological characteristics and metric data following Boessneck (1969, 339-341) and Prummel and Frisch (1986, 569-570).

Ageing

B.2.4 Two methods of ageing were implemented when analysing the mammalian bone remains. These methods include observing dental eruption and wear and epiphyseal fusion. When analysing tooth wear of sheep/goat, tooth wear stages by Payne (1973 and 1987) were implemented. Tooth wear stages by Grant (1982) were implemented when assessing wear for cattle and pig. Higham (1967) mandibular wear stages (MWS) were assigned to loose mandibular M3s and mandibles with the innermost tooth still present. The Higham wear stages are used to estimate a minimum age of an individual animal. The state of epiphyseal fusion is determined by examining the metaphysis and diaphysis of a bone. Fusion was recorded according Silver (1970) and Schmid (1972) for cattle, sheep and pig.

Gnawing, Butchery and Burning

B.2.5 Gnawing marks made by carnivores and rodents were noted. For all identified bones and non-countable bone butchery marks were recorded. Butchery marks were described as “chop” or “cut” marks. There were no bones that showed evidence of sawing. Burning on bones was simply recorded as either burnt/blackened, calcined or singed.

Factual data

B.2.6 The faunal material was recovered from features provisionally phased to the Iron Age and Roman periods. Remains were collected by hand and from environmental samples. From the data collected (Tables 30-31), both phases appear to have been dominated by cattle, followed by sheep.

Iron Age (Area D and E)

B.2.7 Iron Age features produced the smallest quantities of animal remains in the assemblage. The main domestic mammals, cattle, sheep/goat, horse and dog account for all the recordable bone in this phase (Table 30). As this phase contains such a small

amount of material no solid interpretations can be provided. In terms of taphonomy there is one example of carnivore gnawing on a cattle metapodial. There is no evidence of burning or butchery for this phase. There is an interesting dental anomaly in a cattle maxillary tooth, which exhibited an unusual v-shaped wear pattern. The aetiology in unknown, yet it is probably due to a genetic absence of the lower second premolar.

Ageing

B.2.8 *Epiphyseal Fusion:* for cattle, the only unfused fragments are from late fusing elements, that fuse at 42-48 months. The majority of elements are fused and there are no signs of very young cattle. For sheep/goat and horse remains, all elements are fused.

B.2.9 *Tooth wear:* the tooth wear data for cattle is mainly from adult animals (50 months and over). There are a few examples of animals slaughtered at 30-31 months and 38 months. This is consistent with the fusion data. For sheep/goat there are two wear stages that could be assigned and they are both identified as adult.

Element	Cattle	Sheep/Goat	Horse	Dog	Total
Horncore	3				3
Cranium				1	1
Loose teeth	26	7		1	34
Loose lower incisor	5		1		6
Loose lower premolar	11	2			13
Loose lower M1/2	14	11			25
Loose lower M3	6	3			9
Mandible	3	3			6
Axis	1				1
Humerus	2	1			3
Radius	1		2		3
Metacarpal	3				3
Pelvis	7				7
Femur	6	1			7
Tibia	4				4
Astragalus	2		1		3
Calcaneum	2				2
Metatarsal	1				1
Metapodial	1				1
Scafocuboid	1				1
Phalanx 1	4	1			5
Phalanx 2	1				1
Phalanx 3	1				1
NISP	105	29	4	2	140
%NISP	75.0	20.7	2.9	1.4	
MNI	2	1	1	1	5
%MNI	40.0	20.0	20.0	20.0	

Table 30. Number of identifiable specimens (NISP) by element and species for Iron Age phase.

Roman (Area F1 and F2)

B.2.10 Features provisionally assigned to the Roman period contained the largest quantities of animal bone. The main domestic mammals, cattle, sheep/goat, horse and pig account for the majority of the identifiable bone in the Early Roman phase (Table 31). A few micro-vertebrate species are present, in the form of mouse and hare that were recovered from contexts 3257 (pit/hearth 3255) and 2880 (oven 2877) respectively.

Where sheep/goat bones could be assigned to species, only sheep was identified. With regard to taphonomy, there are signs of gnawing on several horse and cattle remains. Evidence of burning is only visible on sheep/goat remains, which includes a sheep femoral head and an unfused distal radius epiphysis. Cut marks on the anterior surface are visible on a cattle and horse first phalanx; evidence of skinning. There is also a series of cut marks on the ascending ramus of a cattle mandible, also probable signs of skinning. There are two examples of pathological change in two separate cattle first phalanges from contexts 3103 and 3063 (both fills in finds-rich pit/waterhole 3100). Both exhibit bone growth on the proximal anterior borders and deep grooves on the articular surface, where the cartilage would have been destroyed. These characteristics are evidence of probable osteoarthritis (O'Connor, 2000).

B.2.11 Context 3042 is the remains of an articulated cattle skeleton found in pit 3041, including all vertebrae and sacrum. A few horse fragments were also recovered from this context. Context 3261 (pit/hearth 3255) contained a micromammal tibia and a fish vertebra; these were not quantified as they were not identified to species. In context 3164 (gully 3123), there were the remains of a partial bird skeleton. The remains do not appear to be from a domestic fowl and are possibly those from a corvid. Remains include a radius, humerus, tibia, femur, coracoid, scapula and several skull fragments. Fill 2642 in ditch 2640 contained the remains of a puppy aged less than 11-12 months.

Element	Cattle	Sheep/Goat	Pig	Horse	Hare	Dog	Mouse	Total
Horncore	2							2
Cranium	3	2	1			1		7
Loose teeth	62	45		11				118
Loose lower incisor	5	2	2	10				19
Loose lower canine			1	1				2
Loose lower premolar	24	9	2	4				39
Loose lower M1/2	39	31	3	8		1		82
Loose lower M3	7	12	1	5				25
Mandible	17	16	1			1	1	36
Atlas	2		1					3
Axis	1			3				4
Scapula	2	2	1			1		6
Humerus	9	3				3		15
Radius	8	6		4		2		20
Ulna	2	1	1			2		6
Metacarpal	11	6		2		0.5		19.5
Pelvis	10	1		5				16
Femur	1	1				1		3
Patella								
Tibia	10	1	1	3	2	1		18
Astragalus	4			1	2			7
Calcaneum	6			2	2			10
Metatarsal	10	4						14
Metapodial	4			3	1.5			8.5
Scafocuboid	2			2				4
Phalanx 1	5	1		3	1			10
Phalanx 2	2				1			3
Phalanx 3	1							1
NISP	249	143	15	67	9.5	13.5	1	498
%NISP	50.0	28.7	3.0	13.5	1.9	2.7	0.2	
MNI	7	6	2	3	1	2	1	22
%MNI	31.8	27.3	9.1	13.6	4.5	9.1	4.5	

Table 31. Number of identifiable specimens (NISP) by element and species for Roman phase

Ageing

B.2.12 *Epiphyseal Fusion:* Fusion data for cattle from the Roman phase shows that there is evidence of unfused early, middle and late fusing elements, indicating the presence of younger animals. The presence of an unfused distal humerus, indicated an animal with age of death of 12-18 months. Most skeletal elements for cattle are fused.

B.2.13 The fusion data for sheep varies from the data from the Iron Age phase (see above), as there are unfused early, middle and late fusing elements. The unfused early fusing elements consist of distal humeri and the acetabulum of a pelvis, which indicates the presence of very young sheep (3-10 months at age of death). The only unfused element for pig is a distal scapula which fuses at 12 months of age. The presence of at least one puppy, less than 11-12 months old, in the Roman period is evidenced by the presence on an unfused distal radius.

B.2.14 *Tooth wear:* cattle ranged from stage 16 (31-32 months) to 23 (over 50 months). This data compares to the fusion data in that most fragments belonging to cattle are from adult animals.

B.2.15 Tooth wear data for sheep/goat from the Roman phase ranges from MWS 13-17, giving age of death of 21 months to adult. There is a single pig third molar that could be aged: MWS 19 (21-23 months).

Overview

B.2.16 Assessment has indicated that at this site domestic animals were the basis of the food economy, with cattle and sheep dominating the assemblage. Cattle were numerically predominant over sheep in both the Iron Age and Roman phase groups. Taking into account the relative sizes of cattle and sheep carcasses, beef would have contributed more to the diet of the residents than lamb or mutton in both periods.

B.2.17 In general, analysis of Iron Age assemblages indicates that sheep were central to husbandry regimes in this period (Albarella 2007). However, this appears not to have been the case based on the Iron Age material recovered from Kettering although no firm conclusions can be drawn given the small sample size. No pig remains were recovered from this phase. Further conclusions may be possible once final phasing is available, although it is probable that this assemblage has relatively little research potential.

B.2.18 The larger assemblage from the Roman period features offers more potential. In general, Romano-British cattle appear to have been used for dairying or traction and they were commonly slaughtered for meat around four to eight years of age (Maltby, 2016). Ageing data collected from this site indicates a broad correspondence with this model, in that the majority of cattle were slaughtered at over 50 months of age. During the Roman period sheep were often slaughtered for meat, when reaching a good carcass weight, at the end of their immaturity (around 18-36 months), while adult sheep were exploited for wool production (Maltby 2016). Animals that were in the 18-36 months range were probably being slaughtered for meat, and those that were adults were likely kept as breeding stock or for wool. The presence of young sheep in the

Roman phase assemblage may be an indication that young animals, particularly males, were being culled if not required for stud purposes.

B.2.19 Assessment also indicates that pigs were slaughtered before reaching adulthood as they were solely used for meat and lard. Pigs would have been slaughtered at their optimum weight for consumption. There is only a small amount of ageing data but it does indicate the presence of pigs slaughtered at around a year and around two years of age. Horse constitutes 13.5% of the Roman assemblage. Horses would have primarily been used for transportation, though there was evidence of cut marks on a horse first phalanx, which could potentially be an indication of horse meat consumption. Evidence of meat consumption of horse is relatively common during the Iron Age but evidence of butchery marks on horse remains is rare during the Roman period (Maltby, 1981). As the only butchery mark was on the foot, it is a possibility that the horse was exploited for the hide. The MNI for dog in the Roman phase is two, one of which was a puppy. Dogs would have been kept as pets and farm animals. The preservation of the remains from the assemblage overall was good with very little signs of erosion noted.

Statement of potential and recommendations for further work

B.2.20 The assemblage offers some research potential, particularly for the Roman period. Collecting full biometric data would allow for comparison to be made with other sites in the area (notably the East Kettering development sites) and to determine if there were any changes in size of all of the main species represented. Identifying the fish, bird and micromammal remains to species with the aid of a reference collection would also aid in adding further detail. Analysis and a full report for this assemblage, incorporating phasing and distribution data, would require a further eight days of work.

B.3 Charred plant remains

by Rachel Fosberry HNC AEA ACIfA

Introduction

B.3.1 A total of 265 bulk samples were taken during the excavation of six areas (A, B, C, D, E, F2) at Cranford Business Park, Kettering, Northamptonshire. Sub-samples of each of the bulk samples were processed and examined.

B.3.2 The purpose of this assessment is to determine whether plant remains are present, their mode of preservation and whether they are of interpretable value with regard to domestic, agricultural and industrial activities, diet, economy and rubbish disposal.

Methodology

B.3.3 For an initial assessment, one bucket (approximately 10 litres) of each of the samples was processed by tank flotation using modified Siraff-type equipment for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. It was decided that a uniform processing strategy would be employed in which 10L of each sample was processed in the first instance

to assess the density and preservation of plant remains. Ideally larger sample volumes would have been processed to ensure maximum recovery due to potential variation in concentration of plant remains within a deposit. Budgetary and time constraints were the limiting factor but the uniformity of a 10L sample size provided both positive and negative evidence that can be properly assessed for each of the excavated areas. Any samples taken from cremation deposits have been fully processed to ensure the complete retrieval of human remains. The residues of cremation samples have been sorted by an osteoarchaeologist (see Human Remains report).

B.3.4 The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Tables 1-6. Identification of plant remains is with reference to the *Digital Seed Atlas of the Netherlands* (Cappers et al. 2006) and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

B.3.5 For the purpose of this initial assessment, items such as seeds, cereal grains and legumes have been scanned and recorded qualitatively according to the following categories

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

Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance

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

Results

AREA A

B.3.6 Samples were taken from the deposits within Iron Age ditches (10784, 10796). Charred plant remains are present in the form of sparse charcoal flecks and single specimens of barley (*Hordeum vulgare*) grains.

Recommendations:

B.3.7 No further work is recommended.

Feature No.	Context No.	Sample No.	Feature type	Volume processed (L)	Flot Volume (ml)	Cereals	Estimated charcoal volume (ml)
10784	10785	1146	Ditch	8	2	#	<1

10796	10797	1147	Ditch	5	1	#	0

Table 32. Samples from Area A

AREA B

B.3.8 Nine bulk samples were taken from an Iron Age pit alignment that ran parallel to a ditch. Roughly half of the pits were sampled despite having a sterile appearance on excavation with no visible charcoal or burning. Preserved plant remains were scarce with only occasional small charcoal fragments and a single charred barley grain in pit 10560.

Recommendations:

B.3.9 No further work is recommended.

Feature No.	Context No.	Sample No.	Volume processed (L)	Flot Volume (ml)	Cereals	Estimated charcoal volume (ml)
10552	10553	1116	10	1	0	0
10560	10561	1115	6	2	#	<1
10572	10573	1114	9	2	0	<1
10577	10576	1112	8	1	0	0
10584	10583	1118	8	1	0	0
10587	10588	1117	8	1	0	0
10602	10601	1119	9	2	0	0
10610	10611	1113	8	1	0	<1
10634	10635	1120	6	1	0	<1

Table 33. Samples from Area B

AREA C

B.3.10 Samples were taken from five cremations that are thought to be Early Bronze Age in date. Charcoal is abundant in cremation 10710 and super-abundant in cremation 10710 which also contains charred tubers of of onion-couch grass *(Arrhenatherum elatius* var. *bulbosum).* Onion-couch grass forms bulbous tubers (actually basal internodes) just below the soil surface and charred remains of these tubers are commonly found in cremation deposits, particularly those dating to the Bronze Age. They most likely represent de-turfing around the pyre-site to create a fire break (Stevens, 1998) or may simply have become carbonised due to proximity to the pyre. The charcoal content of these cremations suggests that the calcined bone had been scooped out of the pyre along with pyre debris prior to burial.

B.3.11 Two samples taken from Early Bronze Age ring ditch 10400 did not contain preserved plant remains.

B.3.12 The remaining samples were taken from Iron Age features. A four post structure in the far north-western corner of the site contains well-preserved charred plant remains in each of the post holes (10432, 10436, 10438, 10430). Each of the assemblages are comprised of well-preserved barley (*Hordeum vulgare*) grains along with lesser quantities of wheat (*Triticum* sp.) grains. The barley grains display obvious twisting which enables them to be identified as a 6-row variety. Occasional glume bases and the general morphology of the wheat grains suggests that they are spelt (*T. spelta*). Occasional weed seeds include bromes (*Bromus* sp.), black bindweed

(*Fallopia convolvulus*), cleavers (*Galium aparine*), vetches (*Vicia* sp.) and docks (*Rumex* sp.). Charcoal is frequent in each of the samples. Iron-Age four-post structures are considered to be used as granaries, their height enabling the grain to be stored away from pests and damp. Charred plant remains are only likely to survive in the post holes of these structures if they had been burnt down. Normal spillages of grain would not otherwise survive in the soil. Two other probable four post structures (10664 and 10693) produced only occasional charred seeds that probably accumulated as wind-blown material.

B.3.13 Fill 10713 of this pit 10712 (located in the extreme south area of the site) produced a 360ml flot that is entirely comprised of barley and wheat grains with no charcoal or chaff and only occasional seeds of brome and dock. The preservation of the grains, particularly the barley, is exceptional. This deposit clearly represents the deliberate deposition of burnt grain that has been fully processed and subsequently burnt.

B.3.14 The samples from the remaining Iron Age pits, post holes and ditches from this site, including shrine 10737, are less remarkable in content. Charred grain occurs in most of the samples in low densities, probably the result of natural accumulation of wind-blown material.

Recommendations

B.3.15 The charcoal from the cremations is suitable for species identification to determine fuel type.

B.3.16 Fill 10435 of post hole 10432 (Sample 1102) contains the largest assemblage of charred grain and is also the sample that contains chaff. It is recommended that the remaining buckets (this was a 40L sample) are processed and quantified.

B.3.17 Further processing of additional soil from pit 10712 is not required due to the high density of grain already recovered. Further study of this assemblage is required to determine the proportion of barley to spelt and to calculate the grains present per litre of soil.

Feature No.	Context No.	Sample No	Feature Type	% context sampled	Volume processed (L)	Flot Volume (ml)	Cereals	Chaff	Legumes	Weed Seeds	Tubers	Estimated charcoal volume (ml)
10400	10408	1100	Ring ditch	?	8	1	0	0	0	0	0	0
10400	10414	1101	Ring ditch	<10	8	5	0	0	0	0	0	<1
10432	10435	1102	Posthole	50	9	140	####	#	0	#	0	15
10436	10437	1103	Posthole	100	8	10	##	0	0	0	0	5
10438	10439	1104	Posthole	100	9	40	##	0	#	#	0	10
10440	10441	1105	Posthole	100	8	40	###	0	0	0	0	25
10446	10448	1106	Pit	<5	10	50	##	##	0	##	0	10
10446	10447	1107	Pit	<5	9	2	#	0	0	0	0	3
10470	10472	1108	Ditch	<5	9	30	##	0	0	0	0	15
10476	10477	1109	Pit	<20	7	30	##	0	0	0	0	10
10505	10506	1110	Pit	40	7	50	##	##	0	#	0	25

10524	10526	1111	Pit	30	9	30	#	0	0	0	0	20
10504	10503	1121	Pit	<10	9	20	#	0	0	0	0	2
10661	10663	1122	Ditch	<10	8	2	0	0	0	0	0	0
10664	10665	1123	Posthole	50	8	5	0	0	0	0	0	0
10548	10550	1124	Pit	<10	8	30	#	0	0	0	0	25
10505	10506	1125	Pit	<11	8	5	#	0	0	#	0	5
10492	10493	1126	Pit	<12	7	5	#	#	0	##	0	1
1693	10692	1127	Posthole	<13	9	2	#	0	##	0	0	<1
10712	10713	1128	Pit	50	8	360	#####	0	0	#	0	0
10515	10516	1129	Pit	>10	7	1	0	0	0	0	0	0
10724	10727	1130	Pit	<10	7	1	0	0	0	0	0	0
10721	10728	1131	Cremation	100	14	200	0	0	0	0	0	215
10726	10725	1132	Cremation	100	7	50	0	0	0	0	0	20
10731	10733	1133	Cremation	100	8	5	0	0	0	0	0	1
10723	10730	1134	Cremation	100	34	80	0	0	0	0	0	30
10646	10647	1135	Cremation	100	18	300	0	0	0	0	#	315
10646	10732	1136	Cremation	100	11	5	0	0	0	0	0	<1
10710	10711	1137	Cremation	100	29	1400	0	0	0	0	0	1300
10710	10729	1138	Cremation	100	43	400	0	0	0	0	##	325
10722	10734	1139	Pit	50	9	10	0	0	0	0	0	0
10735	10736	1140	Ditch terminus	<10	9	5	#	0	0	0	0	0
10738	10739	1141	Ditch terminus	<10	8	1	#	0	0	0	0	0
10649	10649	1142	Pit	10	8	5	#	0	0	0	0	<1
10749	10750	1143	Ditch	>10	6	1	#	0	0	0	0	<1
10766	10767	1144	Ditch	>1/100	4	1	0	0	0	0	0	0
10776	10777	1145	Post Hole	>20	9	15	0	0	0	0	0	2

Table 34. Samples from Area C

AREA D

B.3.18 Several samples were taken from an Iron Age rectangular enclosure (a possible Iron Age shrine) located on the northern boundary of the site. There is a low-density scatter of charred plant remains that include emmer (*T. dicoccum*)/spelt wheat, barley and oats/large grasses (*Avena* sp./Poaceae) and seeds that may represent grassland plants (perhaps harvested as hay) such as ribwort plantain (*Plantago lanceolat*a), clover (*Trifolium* sp.) and small-seeded grasses. Pits and ditches to the west of the shrine produced similar result with the most notable sample from fill 5261 of Middle Iron Age pit 5260 (Sample 660) which contains charred wheat grains, some of which have the morphology of emmer wheat. This feature is possibly related to pit 5212 (2m to the south-east) described as a 'cooking pit' filled with burnt stone.

B.3.19 A group of Middle Iron Age pits to the east of the shrine also contains mixed cereals and seeds of plants that are likely to have been growing amongst the crops such as bromes, cleavers, black bindweed and docks. Seeds of grassland plants are present and include rushes (*Juncus* sp.) which suggests damp grassland.

B.3.20 Charcoal volumes are very low in all of the samples from the northern part of the site with the exception of pit 5244 which contains occasional charred grain with seeds of elderberry (*Sambucus nigra*), buttercup (*Ranunculus acris/reprens/bulbosus*), chickweed (*Stellaria media*) and sedge (*Carex* sp.).

B.3.21 At least three phases of a roundhouse were located in the south-east corner of the site. The ditches were sampled spatially:

Quadrant A – 5 samples. Fills 5103, 5104 and 5111 contain occasional wheat and barley grains with sparse charcoal. Fill 5100 is sterile.

Quadrant C – 7 samples. Layer 5076 contains the most grain (approximately 15 grains) of wheat and barley. The remaining samples are virtually sterile.

Quadrant E – 3 samples, virtually sterile

Quadrant G – 2 samples, virtually sterile

B.3.22 Sealing the roundhouse was layer 5069. A sample taken from fill 5182 (Sample 638, over Quadrant C) is very different from the other samples in that it produced a charcoal-rich flot (approximately 200ml) that also contains approximately 100 charred grains of wheat and barley with seeds of bromes, black bindweed, corn buttercup (*Ranunculus arvensis*), knotgrass (*Polygonum aviculare*) and three 'tubers' of onion-couch grass (possibly indicating use of turf for roofing? Is it possible that this represents the burning of a roundhouse roof?). Nearby pits contain moderate charred remains; pit 5159 (Samples 634 and 635) contains occasional charred wheat and barley with a few spelt glume bases and seeds of bromes, cleavers, grasses, docks and clover and pit 5117 (Sample 623) contains a similar assemblage.

B.3.23 The samples from Area D contain very mixed assemblages of charred plant remains with cereal grains mixed with burnt hay and probably thatching/flooring material. There are no significant high density deposits and this area appears to relate to settlement that has been kept reasonably clean with charred material from hearths and midden material accumulating in open features and in the spread of the re-cut roundhouse. Despite extensive sampling there is little variation in the distribution of plant remains across the site.

Recommendations

B.3.24 The most productive sample is probably Sample 638 taken from spread 5069 over the re-cut roundhouse. It is recommended that the remaining 30L of this sample is processed and the contents quantified.

Feature No.	Context No.	Sample no	Feature Type	% context sampled	Related numbers	Volume processed (L)	Flot Volume (ml)	Estimated charcoal volume (ml)	Cereals	Chaff	Legumes	Weed Seeds

5000	5002	600	Pit	10	-	9	2	<1	#	0	0	#
5003	5005	601	Pit	<5	-	7	10	<1	#	0	0	#
5012	5014	606	Ditch terminus	<10	-	9	2	<1	#	0	0	#
5019	5015	604	Pit	?	605	9	2	<1	##	0	#	#
5021	5020	605	Pit	?	604	9	2	<1	##	0	0	#
5022	5024	602	Ditch terminus	<10	-	8	15	<1	#	0	#	#
5027	5028	603	Pit	<10	-	9	2	<1	#	0	0	0
5034	5035	607	Enclosure ditch	<10	-	9	1	<1	#	0	0	#
5041	5042	608	Enclosure ditch	<10	-	9	1	<1	#	0	0	0
5043	5045	609	Pit	<10	-	9	10	<1	#	0	0	###
5049	5050	617	Ditch	<10		7	5	<1	#	0	0	0
5049	5050	610	Ditch	<10	-	8	2	<1	#	0	0	0
5066	5067	611	Pit	<10	612	8	2	<1	##	0	0	#
5066	5068	612	Pit	<10	611	8	20	1	##	0	0	##
5069	5100	619	Barrow	<1		17	5	0	0	0	0	0
5069	5085	624	Layer	10		17	5	<1	#	0	0	0
5069	5088	625	Layer	10		17	5	<1	#	0	0	0
5069	5104	620	Ditch	<1	621	17	5	1	##	#	0	#
5069	5103	621	Ditch	<1	620	19	5	0	#	0	0	0
5069	5111	622	Ditch	<1		16	10	<1	#	0	0	#
5069	5182	638	Spread	<15	670	39	210	200	####	0	0	##
5069	5182	670	Spread	50	638	10	27	20	###	##	0	##
5070	5071	615	Barrow	<10	-	17	1	0	0	0	0	0
5073	5074	616	Barrow	<10	-	19	1	0	#	0	0	0
5095	5097	618	Pit	<10		8	10	<1	##	0	0	##
5112	5114	623	Pit	<50		9	20	1	##	0	#	###
5115	5131	627	Pit	25		7	1	<1	0	0	0	#
5124	5116	626	Ditch	50		9	15	2	#	#	0	#
5144	5146	628	Ditch	<1		36	20	<1	0	0	0	0
5147	5165	633	Ditch	<1		18	5	<1	0	0	0	0
5153	5154	630	Pit	<10		8	1	<1	0	0	0	#
5153	5155	631	Pit	<25		7	10	1	0	#	0	#

5153	5156	632	Pit	<25		6	5	<1	0	0	0	#
5159	5160	634	Pit		635	6	5	1	#	0	0	##
5159	5161	635	Pit		634	8	2	<1	#	0	0	#
5169	5171	637	Pit	100		1	1	<1	#	0	0	0
5185	5184	639	Ditch	<5		20	2	<1	0	0	0	0
5189	5190	640	Ditch	<5		18	2		0	0	0	0
5192	5193	641	Ditch	<5		18	1	1	0	0	0	0
5210	5211	642	Pit	<5		8	5	<1	##	0	0	#
5218	5219	656	Ditch	<5		10	15	<1	##	#	0	#
5224	5225	643	Ditch	<10		8	3	<1	#	0	#	0
5226	5227	644	Ditch	<5		10	20	1	##	#	0	#
5232	5233	655	Pit	<5		9	10	<1	##	#	0	#
5244	5250	657	Pit	<25	658	9	30	25	##	0	0	#
5244	5247	658	Pit	<25	657	9			0	0	0	0
5254	5255	659	Ditch	<10		8	5	<1	#	0	0	#
5260	5261	660	Pit	<10		10	40	2	###	#	0	#
5267	5268	661	Pit	<5		9	15	<1	#	#	0	0
5272	5273	662	Pit	<5		6	1	<1	0	0	0	0
5297	5301	665	Pit	<10	666	8	7	<1	#	#	0	#
5297	5300	666	Pit	10	665	8	20	<1	##	#	0	##
5303	5306	663	Pit	<10	664	8	10	<1	#	0	0	#
5303	5305	664	Pit	10	663	8	2	<1	##	#	0	#
5328	5329	667	Ditch	<1		7	3	<1	#	0	0	0
5333	5335	668	Oven	~50		8	20	5	#	0	0	#
5367	5369	669	Pit	1		8	2	<1	#	0	0	0
-	5076	613	Layer	<10	-	16	5	1	##	0	0	#
-	5075	614	Layer	<10	-	35	3	<1	0	0	0	0

Table 35. Samples from Area D

AREA E

B.3.25 Samples were taken from three or four Iron Age roundhouses within an enclosure. Samples from pits 3547 and 3598 from a pit cluster in the north-west corner of the enclosure contain similar charred assemblages of charcoal with spelt wheat grains and chaff. Pit 3547 also contains barley, oats and weeds of pasture/hay such as scentless mayweed (*Tripleurspermum inodorum*) and ribwort plantain (*Plantago lanceolata*).

B.3.26 Three samples taken from the gully termini of the roundhouse in the centre of the enclosure along with a pit within the feature all contain occasional/single charred grains only.

B.3.27 The ring-gully of the roundhouse in the south-west corner of the enclosure was similarly sparse in charred plant remains but several of the pits within a large cluster immediately south-east of this roundhouse have clearly been used for the discard of hearth/oven waste. Charred cereal grains are frequent; spelt wheat predominates (identified through grain morphology and the presence of glume bases) although barley is also frequent. Charcoal volumes are low but this may be due to poor preservation. Pits 3508, 3510 and 3598 produced the largest assemblages (both pits were sampled from opposite sides of the feature) of spelt wheat and barley; preservation was poor suggesting that the remains had been subject to decay prior to decomposition (possibly through repeated burning or accumulation within a midden). The enclosure ditch (3539) was sampled close to this roundhouse and also contains occasional spelt and barley grains.

B.3.28 The roundhouse in the central, southern area of the enclosure had been recut several times and also contained hearths/ovens that cannot be attributed to a particular phase. The deposits were extensively sampled (15 samples) but charred plant remains appear to be scattered in only very low concentrations throughout. The two ovens (3572 and 3863) do not contain preserved plant remains, not even charcoal. The most productive samples were from ring ditch 3789 at the extreme north of the feature which contains a moderate amount of spelt wheat and barley.

B.3.29 Fifteen samples were taken from a pit cluster to the east of the site that was external to the main settlement enclosure but may have also been enclosed. Charred grains of spelt and barley are present in most of the pits along with occasional weed seeds of bromes and grasses but the numbers of grain never exceed 25 and most likely represent the disposal of mixed refuse rather than deliberate deposits of charred grain. Occasional charred henbane (*Hyoscyamus niger*) seeds are present in pit 3746.

Recommendations

B.3.30 The samples from Area E produced charred spelt and barley with occasional chaff and weed seeds representing an area of settlement that had been kept reasonably clean. One bucket remains of <414> fill 3601 of pit 3598 and it is recommended that this is processed and the sample fully quantified. The assemblages from pits 3508, 3510 and 3746 could also be quantified but this additional work is unlikely to provide any further information that could assist with interpretation.

Feature no	Context no.	Sample no.	Feature type	Volume processed	Cereals	Chaff	Legumes 2-4mm	Weed seeds	Flot Charcoal volume (ml)	Volume of flot (mls)
3507	3505	400	Pit	10	##	0	0	0	<1	1
3507	3506	402	Pit	8	#	0	0	#	<1	1
3508	3509	401	Pit	10	###	##	0	##	<1	10
3508	3509	441	Pit	9	###	0	0	0	2	15
3510	3512	403	Pit	9	##	#	0	#	<1	2

3510	3511	440	Pit	8	###	0	0	#	1	15
3515	3516	404	Pit	8	#	0	0	0	<1	1
3518	3517	405	Pit	10	#	0	0	0	<1	1
3539	3540	407	Ditch	8	#	0	0	0	<1	15
3544	3543	409	Pit	8	#	0	0	0	<1	1
3547	3549	406	Pit	9	##	##	0	#	10	25
3550	3551	413	Gully terminus	9	#	0	0	0	<1	5
3552	3553	408	Pit	7	#	0	0	0	<1	5
3555	3556	410	Gully terminus of roundhouse	9	#	0	0	0	<1	1
3557	3558	411	Pit	9	#	0	0	0	<1	5
3567	3568	412	Pit	8	###	0	0	#	2	15
3587	3588	416	Ditch			0	0	0		
3594	3595	415	Gully terminus	9	#	0	0	0	1	2
3598	3601	414	Pit	7	###	##	#	##	15	40
3629	3613	420	Ditch terminus	8	0	0	0	0	0	1
3629	3623	421	Ditch	8	#	0	0	0	0	1
3632	3634	417	Pit	8	0	0	0		0	1
3639	3640	418	Gully terminus of roundhouse	9	##	0	0	0	<1	2
3641	3642	422	Ditch	8	##	0	0	#	0	1
3654	3655	419	Gully of roundhouse	8	0	0	0	0	0	1
3671	3673	424	Pit	8	#	0	0		0	1
3675	3676	423	Pit	8	0	0	0		0	1
3675	3676	449	Pit	9	#	0	0		<1	15
3686	3688	430	Pit	9	#	0	0	#	<1	2
3686	3687	431	Pit	8	##	0	0	#	<1	5
3686	3687	462	Pit	9	##	0	0		<1	5
3686	3688	463	Pit	8	##	0	0	##	2	20
3693	3694	425	Pit	8	#	0	0		2	5
3693	3696	426	Pit	8	##	0	0	##	<1	2
3693	3694	439	Pit	9	#	0	0	#	<1	1
3693	3695	443	Pit	9	#	0	0		<1	15
3693	3696	444	Pit	9	##	0	0		<1	5
3693	3697	445	Pit	9	#	0	#	#	<1	2
3693	3698	446	Pit	7	#	0	0		<1	1
3703	3704	427	Pit	9	#	0	0		0	1

3710	3709	436	Ditch terminus	8	0	0	0	0	0	1
3720	3721	432	Pit	8	#	0	0	#	<1	1
3720	3739	433	Pit	7	#	0	0		<1	2
3727	3726	437	Ditch terminus	8	0	0	0	0	0	1
3734	3735	428	Pit	8	#	0	0		0	1
3734	3735	450	Pit	8	##	0	0		<1	5
3736	3738	429	Pit	8	#	0	0		0	1
3744	3743	438	Posthole	4	#	0	0		<1	1
3746	3747	434	Pit	8	0	0	0		0	1
3746	3748	435	Pit	8	#	0	0	##	<1	1
3746	3747	460	Pit	9	#	0	0	#	<1	40
3746	3748	461	Pit	9	##	0	0	#	2	15
3752	3827	451	Oven	10	0	0	0	0	<1	15
3752	3829	452	Oven	10	0	0	0	0	<1	10
3752	3830	453	Oven	8	#	0	0	0	0	1
3789	3805	448	Ditch	9	#	0	0	#	<	1
3789	3805	455	Pot contents	0.5	##	0	0	#	1	1
3789	3804	456	Ditch	8	##	0	0	#	<1	1
3789	3806	457	Ditch	7	##	0	0	#	<1	5
3807	3808	447	Gully	9	0	0	0	0	<1	1
3849	3850	454	Pit	9	0	0	0	#	0	1
3863	3871	459	Oven	4	0	0	0	0	<1	2
3864	3866	458	Posthole	2	#	0	0	#	0	1
-	3751	442	Layer	9	0	0	0	#	<1	15

Table 36. Samples from Area E

AREA F2

B.3.31 Area F2 consists of several enclosures that are thought to be Roman in date although there are two Early Bronze Age cremations (3021 and 3023) which both contain charcoal and cremation 3021 also contains charred tubers of onion couch grass. Samples from features within the western enclosures are mainly scarce in content with poor preservation of small assemblages of charred grain. An oven/kiln/corndrier 3110 contains occasional spelt and barley grains along with seeds of pasture plants such as fairy flax (*Linum catharticum*), scentless mayweed, clovers (*Trifolium* sp.) and poppies (*Papaver* sp.). Enclosure ditch 2575 (Sample 259, fill 2574) also contains seeds of pasture plants that also include corn salad (*Valerianella dentata*), pale persicaria (*Persicaria lapathifolia*) and a number of goosefoot (*Chenopodium* sp.)

species. This feature also contains a moderate amount of spelt grain and chaff and it is possible that there is occasional germination of the spelt grains..

B.3.32 Features in the far eastern area of F2 clearly had an industrial use but preserved plant remains are mainly scarce and preclude further interpretation. Features include 2702 (barley and wheat grain, pea (*Pisum sativum*)), 2895 (wheat, barley and dock seeds) and tank 2688 (two charred grains only). Other features in the eastern part of the site are similarly mostly unproductive or contain low-levels of scattered grain. The exceptions are gully terminus 2690 (Sample 270) mainly spelt chaff with occasional emmer (*T. dicoccum*) glume bases and spelt grains, some of which shows evidence of germination) and structure 2803 (Sample 286, fill 2804) barley grains and chaff, spelt grains and chaff, awns and knotgrass (*Polygonum aviculare*) seeds). A very similar assemblage to that from 2803 was recovered from of corn drier 2877 (Sample 287, fill 2879) which also contains abundant barley grains and a significant amount of barley chaff, a large proportion of which has been reduced to ash. Knotgrass seeds are similarly frequent. This corn drier was located in the southern central area of the site and was sampled spatially (seven samples). Samples 295 and 300 both produced frequent barley grains, several of which are missing their embryos and may have germinated. Occasional spelt grains included within the assemblages also show evidence of germination and there are occasional detached sprouts present. Many of the other pits within the central southern area contain spelt wheat and barley and several of the assemblages also hint at low-level germination.

B.3.33 Samples taken from a possible roundhouse in the northern central area are notably sparse in content.

Recommendations*:*

B.3.34 Several of the features sampled within Area F2 may have had specific industrial purposes such as grain drying and possibly malting. Preservation of plant remains is by carbonisation and is moderate to good. Further study of the assemblages from corn drier 2877 is recommended to investigate the proportion of wheat to barley present and to attempt to ascertain if germination was being deliberately induced (malting) or whether cereals were being dried because they were damp due to weather conditions. Additional soil from samples 287, 295 and 300 should be processed.

B.3.35 Possible corndrier 3110 (Sample 319) had a 60L sample taken from the main chamber. A 10L subsample indicates the preservation of pasture seeds and it is recommended that the remaining soil from this feature is processed as it is possible that there was spatial variation.

B.3.36 The remaining soil from fill 2805 of Structure 2803 (Sample 286) is also recommended for processing for determination of barley variety.

B.3.37 Pit 2702 remains enigmatic in function. Processing and assessment of the remaining soil from samples 277, 278 may aid interpretation.

B.3.38 Sample 270 from fill 2697 of gully terminus 2690 is recommended for processing due to the high wheat chaff content and to confirm the presence of emmer wheat.

Feature No.	Context No.	Sample No	Feature Type	% context sampled	Volume processed (L)	Flot Volume (ml)	Cereals	Chaff	Legumes	Weed Seeds	Charred tubers	Estimated charcoal volume (ml)
2505	2504	250	Pit	<10	6	10	#	0	0	0	0	<1
2513	2512	251	Roundhouse	<10	9	5	0	0	0	0	0	0
2517	2516	252	Roundhouse	<10	8	10	##	0	0	0	0	<1
2521	2520	253	Roundhouse	<10	8	2	0	0	0	0	0	0
2529	2528	254	Roundhouse	<10	7	1	#	0	0	0	0	0
2533	2532	255	Roundhouse	<10	8	1	0	0	0	0	0	0
2536	2536	256	Roundhouse	<10	8	1	#	0	0	0	0	0
2540	2540	257	Roundhouse	<10	7	1	0	0	0	0	0	0
2549	2549	258	Ditch	<10	8	1	0	0	0	0	0	0
2575	2575	259	Ditch	<10	9	30	###	##	0	###	0	10
2593	2675	265	Pit	100			0	0	0	0	0	0
2593	2675	266	Pit	100			0	0	0	0	0	0
2593	2675	267	Pit	100			0	0	0	0	0	0
2618	2616	260	Ditch	<10	7	20	#	0	0	0	0	<1
2621	2624	261	Ditch/pit	<10	8	5	#	0	0	0	0	<1
2627	2628	262	Oven?	~50	9	15	##	0	0	0	0	<1
2646	2645	263	Ditch	~30	8	5	#	0	0	0	0	0
2666	2665	264	Pit/posthole	~30	8	15	#	0	0	0	0	0
2686	2687	268	Ditch	<5	8	1	0	0	0	0	0	0
2688	2689	269	Tank	<5	8	80	#	0	0	0	0	<1
2690	2697	270	Gully terminus	10	9	30	###	###	0	#	0	<1
2702	2703	277	Processing pit	<20	10	120	###	##	0	##	0	<1
2702	2766 & 2767?	278	Processing pit	<20	7	1	##	0	0	#	0	+
2702	2703	291	Processing pit/tank	<20	9	40	###	#	#	##	0	10
2702	2766 & 2767	292	Processing pit/tank	<10			0	0	0	0	0	0
2702	2766 & 2767	293	Processing pit/tank	<10			0	0	0	0	0	0
2704	2732	298	Corn dryer	<5	9	2	0	0	#	0	0	0
2704	2734	299	Corn dryer	100	19	1	0	0	0	0	0	0
2705	2706	271	Ditch terminus	10	8	1	0	0	0	0	0	0
2712	2718	279	Ditch	<20	8	5	#	0	0	0	0	<1
2713	2717	273	Ditch	20	9	15	##	0	##	#	0	1
2714	2715	272	Ditch	10	8	1	#	0	0	0	0	0
2725	2727	274	Ditch	<5	9	1	#	0	0	0	0	0

2736	2739	275	Quarry pit	10	8	40	#	0	0	###	0	<1
2750	2752	276	Kiln?	50	6	10	#	0	#	0	0	0
2803	2851	284	Structure	<10	9	2	0	0	0	0	0	0
2803	2804	285	Structure	60	8	10	0	0	0	0	0	0
2803	2805	286	Structure	<10	9	80	###	###	0	0	0	10
2813	2812	280	Posthole	<5	8	5	#	0	0	0	0	<1
2816	2817	281	Pit	25	8	15	##	0	0	0	0	<1
2818	2819	282	Pit	40	9	10	#	0	0	0	0	3
2846	2848	283	Pit	<10	10	10	#	0	0	0	0	1
2874	2960	364	Grain dryer	10	7	5	0	0	0	0	0	0
2874	2962	365	Grain dryer	100	2	1	0	0	0	0	0	0
2874	2963	366	Grain dryer	15	8	5	0	0	0	0	0	0
2874	2964	367	Grain dryer	10	7	15	0	0	0	0	0	0
2876	2890	288	Structure	30	8	25	###	#	0	##	0	1
2877	2879	287	Grain dryer	50	9	60	####	###	#	###	0	20
2877	2906	294	Grain dryer	50	8	5	0	0	0	0	0	0
2877	2879	295	Grain dryer	50	9	60	###	0	0	#	0	<1
2877	2878	296	Grain dryer	50	9	30	##	0	0	0	0	<1
2877	2906	297	Grain dryer	50	9	20	#	0	0	0	0	0
2877	2879	300	Grain dryer	50	3	60	####	#	0	##	0	1
2877	2879	303	Grain dryer	60	9	55	##	0	0	0	0	0
2877	2879	304	Grain dryer	<10	6	5	#	0	0	0	0	0
2895	2900	289	Kiln	100	7	60	#	0	0	0	0	<1
2895	2901	290	Kiln	50	9	130	0	0	0	0	0	20
2920	2922	315	Pit	50	2	10	0	0	0	0	0	0
2928	2927	301	Pit	40	7	10	##	0	0	0	0	0
2931	2929	302	Posthole	50			0	0	0	0	0	0
2949	2948	368	Cremation?	100	8	15	#	0	0	0	0	<1
2967	2968	363	Pit	<5	9	1	0	0	0	0	0	0
2992	2993	305	Ditch	<10	4	10	##	0	0	0	0	<1
2995	3051	312	Corn dryer	60	8	1	0	0	0	0	0	0
2995	3052	313	Corn dryer	100	7	10	#	0	0	0	0	0
2995	3056	316	Corn dryer	70	4	10	0	0	0	0	0	0
2995	3055	317	Corn dryer	100	7	10	#	0	0	0	0	<1
3000	3001	306	Pit	40	10	5	#	0	0	0	0	<1
3012	3014	307	Pit	25	10	10	#	0	#	#	0	3
3021	3022	311	Cremation	100	18	25	#	0	0	0	0	20
3023	3024	308	Cremation	100	18	65	0	0	0	0	0	60

3023	3024	309	Cremation	100	15	20	0	0	0	0	##	<1
3023	3024	310	Cremation	100	10	10	#	0	0	0	##	<1
3076	3077	314	Pit	10	10	30	####	#	0	#	0	<1
3079	3080	325	Pit	20	10	30	###	##	0	#	0	2
3079	3168	326	Pit	50	7	1	0	0	0	0	0	<1
3079	3081	327	Pit	20	10	1	#	0	0	#	0	<1
3100	3063	318	Watering hole	<10	9	5	#	0	0	#	0	0
3110	3113	319	Corn dryer	50	9	5	#	#	#	##	0	<1
3110	3112	321	Oven/kiln?	100	8	10	##	0	#	#	0	0
3114	3115	320	Pit	50	9	15	##	0	0	##	0	<1
3122	3131	322	Pit	50	8	1	0	0	0	0	0	0
3122	3132	323	Pit	80	8	30	0	0	0	0	0	0
3123	3164	328	Gully	60	9	1	0	#	0	0	0	0
3142	3141	324	Pit/well	<10	7	2	#	#	0	0	0	<1
3166	3167	329	Gully terminus	20	9	2	#	#	#	0	0	<1
3169	3171	330	Pit	<20	8	30	##	##	0	0	0	<1
3255	3257	369	Pit/hearth	<50	16	35	###	##	0	#	0	5
3255	3261	370	Pit/hearth	<50	18	1	#	0	0	0	0	0
3262	3263	371	Posthole	<50	9	1	0	0	0	0	0	0

Table 37. Samples from Area F2

Further work:

B.3.39 It is recommended that selected samples (Table 38) have the remaining soil processed and are quantified. 25 samples have been selected.

B.3.40 Additional processing of remaining soil of other samples may be required for artefact retrieval as the post-excavation study proceeds.

Area	Sample No	Context No.	Feature No.	Feature Type	Further work	Reason
C	1102	10435	10432	Posthole	Process remainder, quantify and compare	Four post structure with good preservation of charred plant remains (cereals, chaff and weeds)
C	1103	10437	10436	Posthole	Quantify and compare	Four post structure with good preservation of charred plant remains (cereals, chaff and weeds)
C	1104	10439	10438	Posthole	Quantify and compare	Four post structure with good preservation of charred plant remains (cereals, chaff and weeds)
C	1105	10441	10440	Posthole	Quantify and compare	Four post structure with good preservation of charred plant remains (cereals, chaff and weeds)
C	1128	10713	10712	Pit	Quantify	determine the proportion of barley to spelt and to calculate the grains present per litre of soil.
D	638	5182	5069	Spread	Process remainder ánd quantify	Spread of material over re-cut roundhouse with good preservation of cereals and weed seeds. Could this represent the burning of a turf roof?
E	414	3601	3598	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	401	3509	3508	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains

E	441	3509	3508	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	403	3512	3510	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	440	3511	3510	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	434	3747	3746	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	435	3748	3746	Pit	Quantify	Moderate assemblage of charred plant remains
E	460	3747	3746	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
E	461	3748	3746	Pit	Process remainder ánd quantify	Moderate assemblage of charred plant remains
F2	270	2697	2690	Gully terminus	Process remainder ánd quantify	high wheat chaff content and to confirm the presence of emmer wheat
F2	259	2575	2575	Ditch	Process remainder ánd quantify	possible germination. Pasture plants
F2	286	2805	2803	Structure	Process remainder ánd quantify	determination of barley variety
F2	277	2703	2702	Processing pit/tank	Process remainder ánd quantify	To determine function of feature
F2	278	2766 & 2767?	2702	Processing pit/tank	Process remainder ánd quantify	To determine function of feature
F2	291	2703	2702	Processing pit/tank	Process remainder ánd quantify	To determine function of feature
F2	319	3113	3110	Corn dryer	Process remainder ánd quantify	Good preservation from corn drier. Compare with other corn driers
F2	287	2879	2877	Grain dryer	Process remainder ánd quantify	Good preservation of assemblages from corn drier
F2	295	2879	2877	Grain dryer	Process remainder ánd quantify	Good preservation of assemblages from corn drier
F2	300	2879	2877	Grain dryer	Process remainder ánd quantify	Good preservation of assemblages from corn drier

Table 388. Samples from Area F2

Timescales:

- Additional processing of remaining buckets – 4 days
- Quantification of 25 samples – 20 days
- Tabulation and report – 3 days
- Discard of remaining samples – 3 days

B.4 Waterlogged wood

by Matthew Brooks BA

Introduction

B.4.1 A total of five pieces of waterlogged wood were retrieved from a well in Area F2. The assemblage was excavated by field staff and recorded off-site by the author. The well (2857), which was cut into the ironstone bedrock, contained the only evidence of waterlogged wood on the site and has been provisionally dated to the Early-Mid Roman period (1st-2nd century AD).

B.4.2 The five stakes, which were not found *in-situ*, were recovered from a deposit (2858) at a depth of *c*.4m within the well, which was not fully excavated. Due to the moderate anaerobic conditions, moisture-based decay is present on all pieces.

Methodology

B.4.3 This document has been written alongside the guidelines of Historic England, regarding the recording and conservation of waterlogged wood (Brunning and Watson 2010).

B.4.4 Each item was recorded individually using a pro forma 'wood recording form', developed from York Archaeological Trust's 'post-excavation wood record sheet' (Brunning and Watson 2010, 14). This information was then inputted into a database (Table 39).

B.4.5 Metric data for each item was measured using hand tools such as hand and long tapes. Any tool marks or points of interest were measured using a calliper.

B.4.6 Species identification was undertaken using a hand lens, those which have been proven uncertain and/or of importance have been sub-sampled in order to enable later identification if appropriate.

Factual data

B.4.7 The entire assemblage comprises five timber stakes (Table 38). Stake 137 was damaged during excavation and was initially interpreted as two separate timbers but was reconstructed off-site.

Wood type	Frequency	% of assemblage
Stake (complete)	4	80
Stake (damaged)	1	20

Table 39. Frequency of wood categories

Timber No.	Feature	Observations	Species	Discard	Decay/ fungus	L (m)	W (m)	D (m)
133	2857	Unknown setting. Rectangular section. Radially split. Damaged at both ends in antiquity. Branches cut away. De-barked.	Undetermined.	Sub sampled	Wet rot (white and orange staining	0.49	0.08	0.04
134	2857	Unknown setting. Rectangular section. Damaged at both ends in antiquity. De-barked.	Undetermined.	Sub sampled	Wet rot (white and orange staining)	0.26	0.09	0.04
135	2857	Unknown setting. Branch. Rectangular section. Damaged at both ends. De-barked	Undetermined	Sub sampled	Wet rot (white staining only)	0.59	0.08	0.05
136	2857	Unknown setting. Square section. Complete at stake end damaged at opposite end. Branches cut away.	Undetermined	Sub sampled	Wet rot (white and orange staining	0.41	0.04	0.05

Timber No.	Feature	Observations	Species	Discard	Decay/ fungus	L (m)	W (m)	D (m)
		Axe fashioned at stake end diagonally.						
137	2857	Unknown setting. Rectangular section. Damaged both ends. Radially split. Broken in half during excavation. De-barked.	Undetermined	Sub sampled	Wet rot (white and orange staining)	0.38	0.11	0.04

Table 40. Catalogue of wood

Condition of material

B.4.8 Using the condition scale table (Table 40), developed by the Humber Wetlands Project (Van de Noot, Ellis, Taylor and Weir 1995, table 15.1), the wood assemblage from Kettering scores an average of 2 (Table 41).

	Museum conservation	Technology analysis	Woodland management	Dendro-chronology	Species identification
5	+	+	+	+	+
4	-	+	+	+	+
3	-	+/-	+	+	+
2	-	+/-	+/-	+/-	+
1	-	-	-	-	+/-
0	-	-	-	-	-

Table 41. Condition scale used for this report

Condition Score	Frequency	% of assemblage
5 Excellent	0	0
4 Good	0	0
3 Moderate	1	0.20
2 Poor	4	0.80
1 Very poor	0	0
0 Non-viable	0	0

Table 42. Condition of wood

Species identification

B.4.9 Despite the use of a hand lens, it was not possible to identify the wood to species.

Wood working

B.4.10 Two forms of wood-working are evident on the stakes, producing rectangular and square sections. The stakes are all are similar in size. One stake has been axe-fashioned diagonally to create a tapered point. It is probable that the stakes came from a nearby low status structure or fence and had no direct association with well 2857.

Statement of potential

B.4.11 The poor condition of the assemblage combined with its small size means that there is little potential for assessment of woodland management practices. Decay and fungus

are evident, including white staining to all timbers and orange staining to four out of the five: possibly a result of intermittent anaerobic conditions within the well backfill. Further technological analysis is feasible but as the stakes were not found *in situ*, their research value in terms of understanding wood working technology in this period is low.

B.4.12 The items do not display enough growth rings for dendrochronology.

Recommendations for further work

B.4.13 The assemblage has been recorded and no further work, other than the use of a light microscope to clarify species for the archive, is recommended.

APPENDIX C RISK LOG

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

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

APPENDIX D HEALTH AND SAFETY STATEMENT

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

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

APPENDIX E OASIS REPORT FORM

Project Details

OASIS Number	Oxfordar3-291246		
Project Name	Cranford Business Park, Kettering		
Start of Fieldwork	23/03/2016	End of Fieldwork	2/12/2016
Previous Work	yes	Future Work	no

Project Reference Codes

Site Code	XNNCAB16	Planning App. No.	KET/2013/0661
HER Number	ENN108298	Related Numbers	

Development Type	Industrial units
Place in Planning Process	After full determination (eg. As a condition)

Techniques used (tick all that apply)

☐ Aerial Photography – interpretation	☐ Grab-sampling	☐ Remote Operated Vehicle Survey
☐ Aerial Photography - new	☐ Gravity-core	☐ Sample Trenches
☐ Annotated Sketch	☐ Laser Scanning	☐ Survey/Recording of Fabric/Structure
☐ Augering	☒ Measured Survey	☐ Targeted Trenches
☐ Dendrochonological Survey	☒ Metal Detectors	☐ Test Pits
☐ Documentary Search	☐ Phosphate Survey	☐ Topographic Survey
☐ Environmental Sampling	☒ Photogrammetric Survey	☐ Vibro-core
☐ Fieldwalking	☐ Photographic Survey	☐ Visual Inspection (Initial Site Visit)
☐ Geophysical Survey	☒ Rectified Photography	

Monument	Period
ditch	Roman (43 to 410)
pit	Roman (43 to 410)
Oven	Roman (43 to 410)
Well	Roman (43 to 410)
roundhouse	Iron Age (- 800 to 43)
Ditch	Iron Age (- 800 to 43)
pit	Iron Age (- 800 to 43)
Ring-ditch	Early Bronze Age (- 2500 to - 1500

Object	Period
pottery	Roman (43 to 410)
Glass	Roman (43 to 410)
Worked stone	Roman (43 to 410)
Ceramic building material	Roman (43 to 410)
Brooch	Roman (43 to 410)
Metal working debris	Roman (43 to 410)
Pottery	Iron Age (- 800 to 43)
pottery	Bronze Age (- 2500 to - 700)
Struck flint	Bronze Age (- 2500 to - 700)

Project Location

County	Northamptonshire
District	Kettering
Parish	Burton Latimer
HER office	Northamptonshire
Size of Study Area	6.70ha
National Grid Ref	SP 9036 7613

Address (including Postcode)

Project Originators

Organisation	OA East

Project Brief Originator	Lesley-Ann Mather
Project Design Originator	Nick Gilmour
Project Manager	James Drummond-Murray
Project Supervisor	Nick Gilmour

Project Archives

	Location	ID
Physical Archive (Finds)	Northamptonshire County Store	ENN108298
Digital Archive	OA East office, Bar Hill	XNNCAB16
Paper Archive	Northamptonshire County Store	ENN108298

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	☒	☒	☒
Ceramics	☒	☒	☒
Environmental	☒	☒	☒
Glass	☒	☒	☒
Human Remains	☒	☒	☒
Industrial	☒	☒	☒
Leather	☐	☐	☐
Metal	☒	☒	☒
Stratigraphic		☐	☐
Survey		☐	☐
Textiles	☐	☐	☐
Wood	☒	☒	☒
Worked Bone	☐	☐	☐
Worked Stone/Lithic	☒	☒	☒
None	☐	☐	☐
Other	☐	☐	☐

Digital Media		Paper Media	
Database	☒	Aerial Photos	☐
GIS	☐	Context Sheets	☒
Geophysics	☐	Correspondence	☐
Images (Digital photos)	☒	Diary	☐
Illustrations (Figures/Plates)	☒	Drawing	☒
Moving Image	☐	Manuscript	☐
Spreadsheets	☐	Map	☐
Survey	☒	Matrices	☐
Text	☒	Microfiche	☐
Virtual Reality	☐	Miscellaneous	☐
		Research/Notes	☐
		Photos (negatives/prints/slides)	☐
		Plans	☒
		Report	☒
		Sections	☒
		Survey	☐

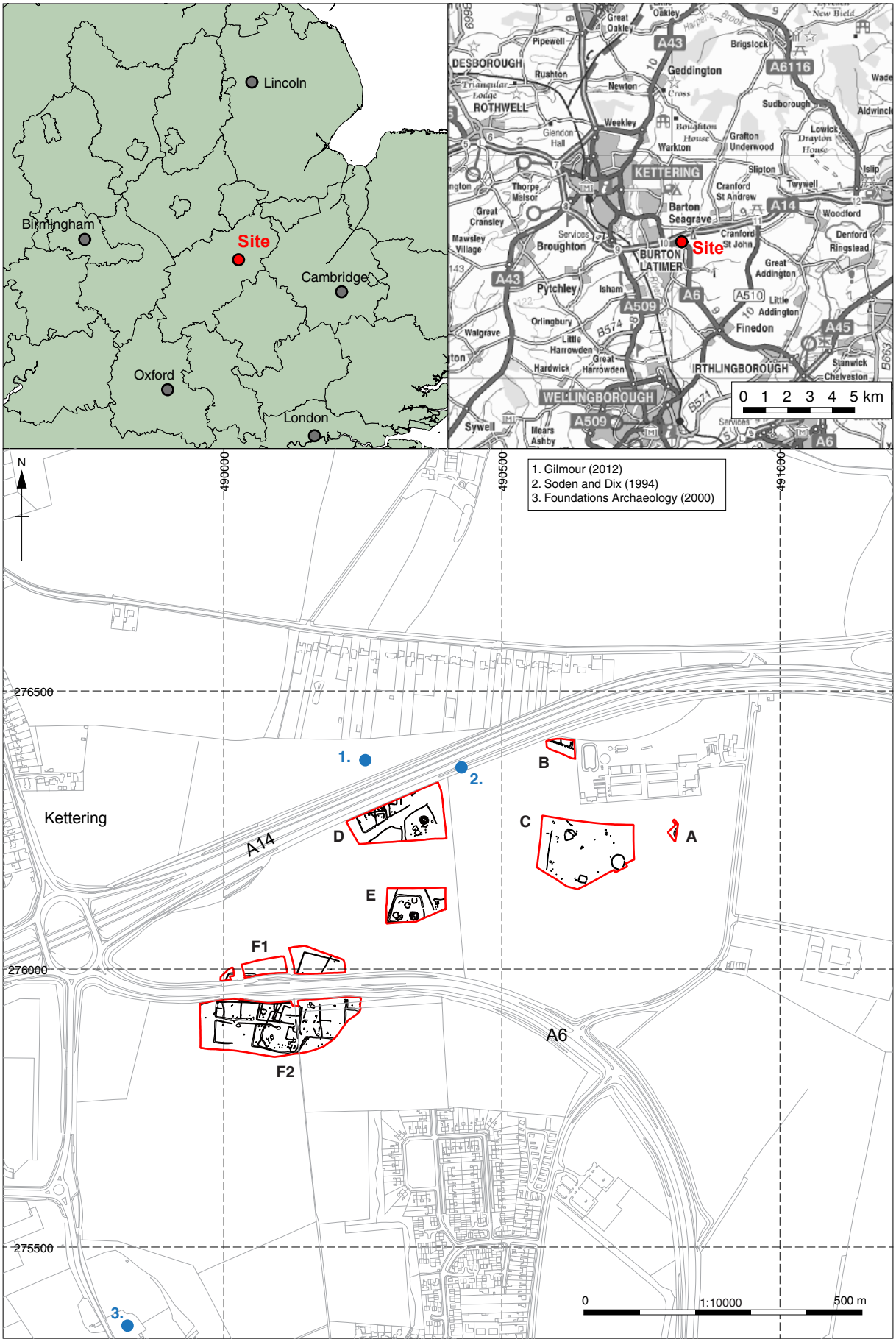

Figure 1: Site location showing excavation areas (red) and archaeological features (black)

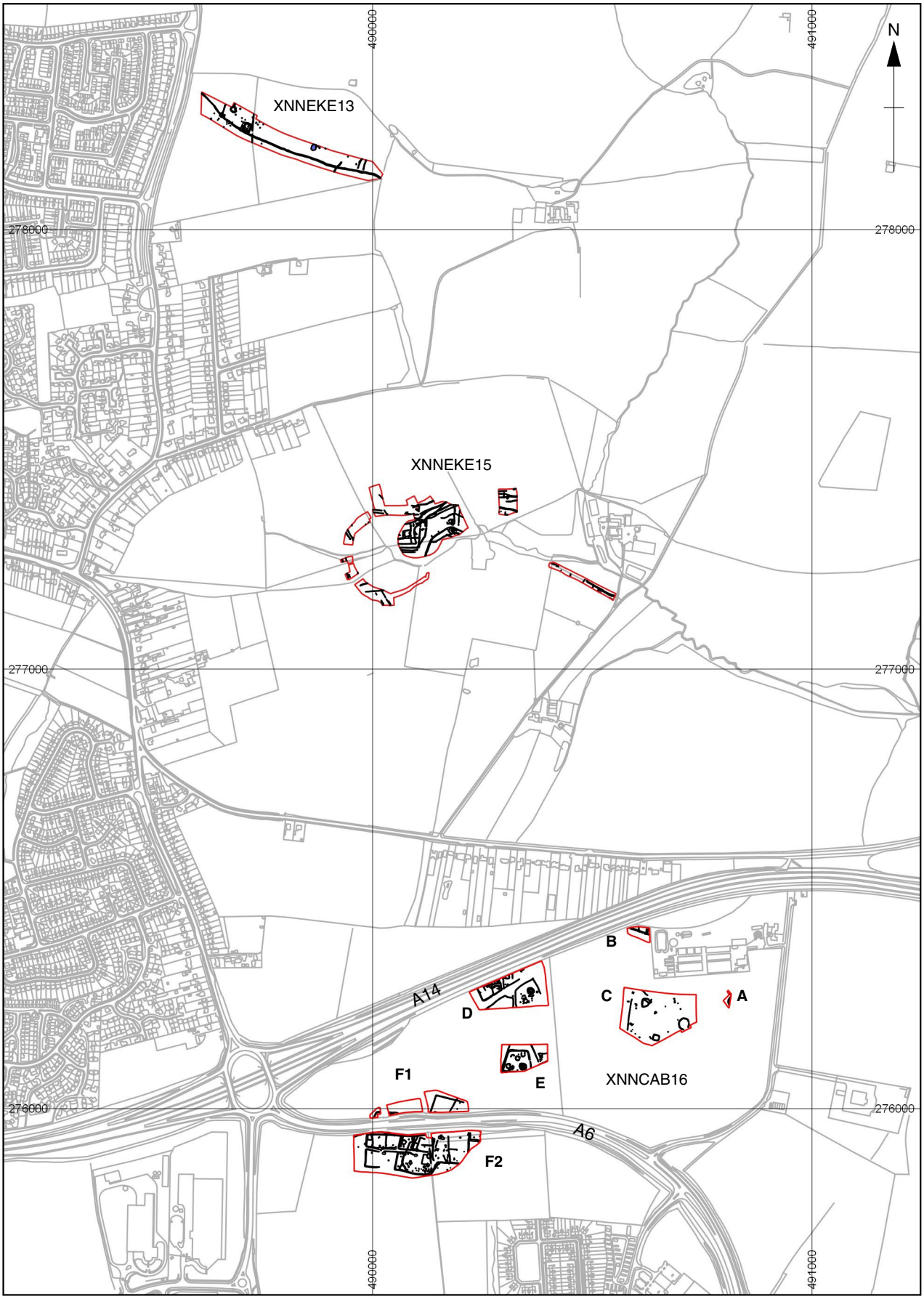

Figure 2: Site location in relation to other areas excavated by Oxford Archaeology East

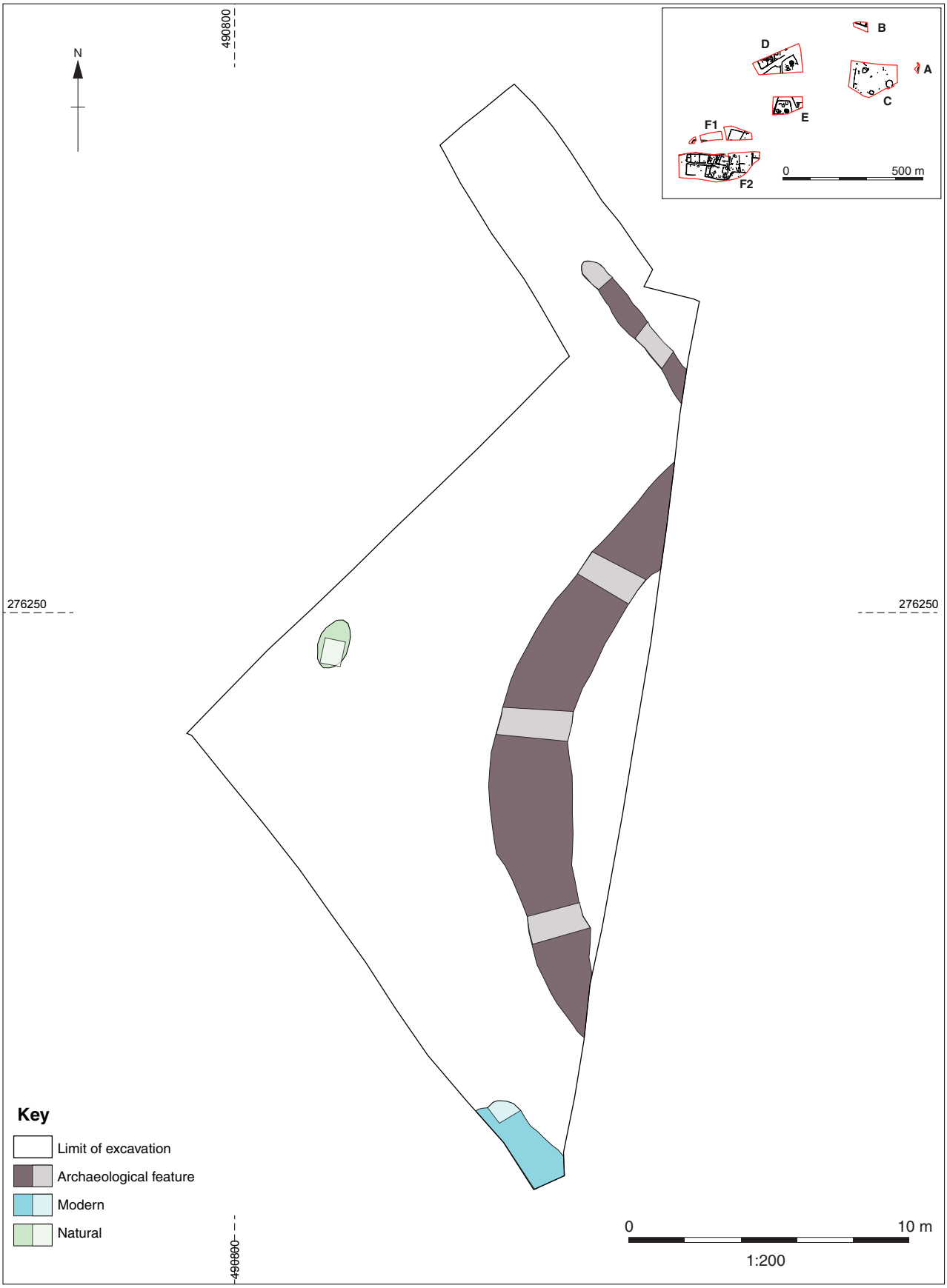

Figure 3: Excavation Plan Area A

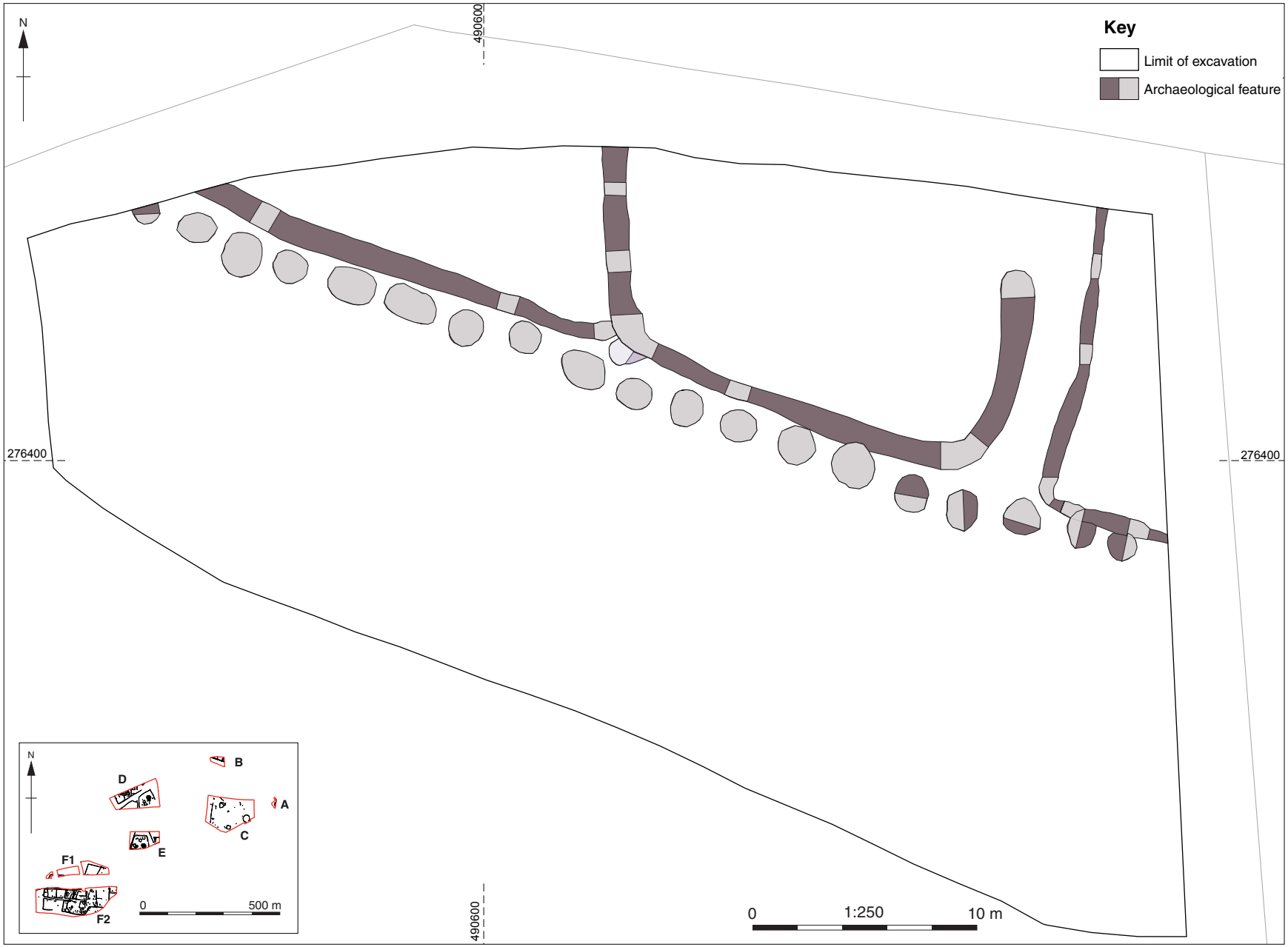

Figure 4: Excavation Plan Area B

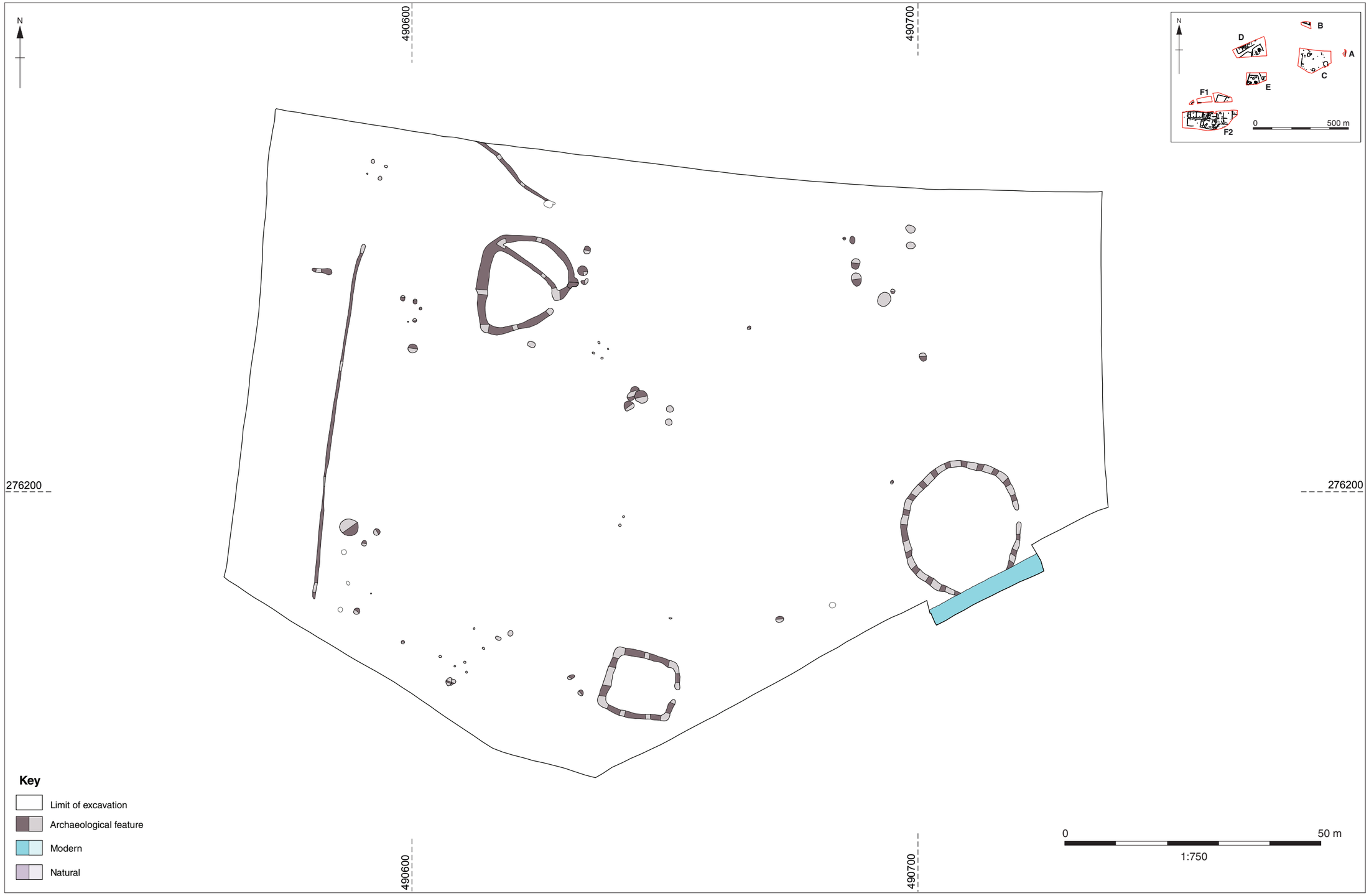

Figure 5: Excavation Plan Area C

Figure 6: Excavation Plan Area D

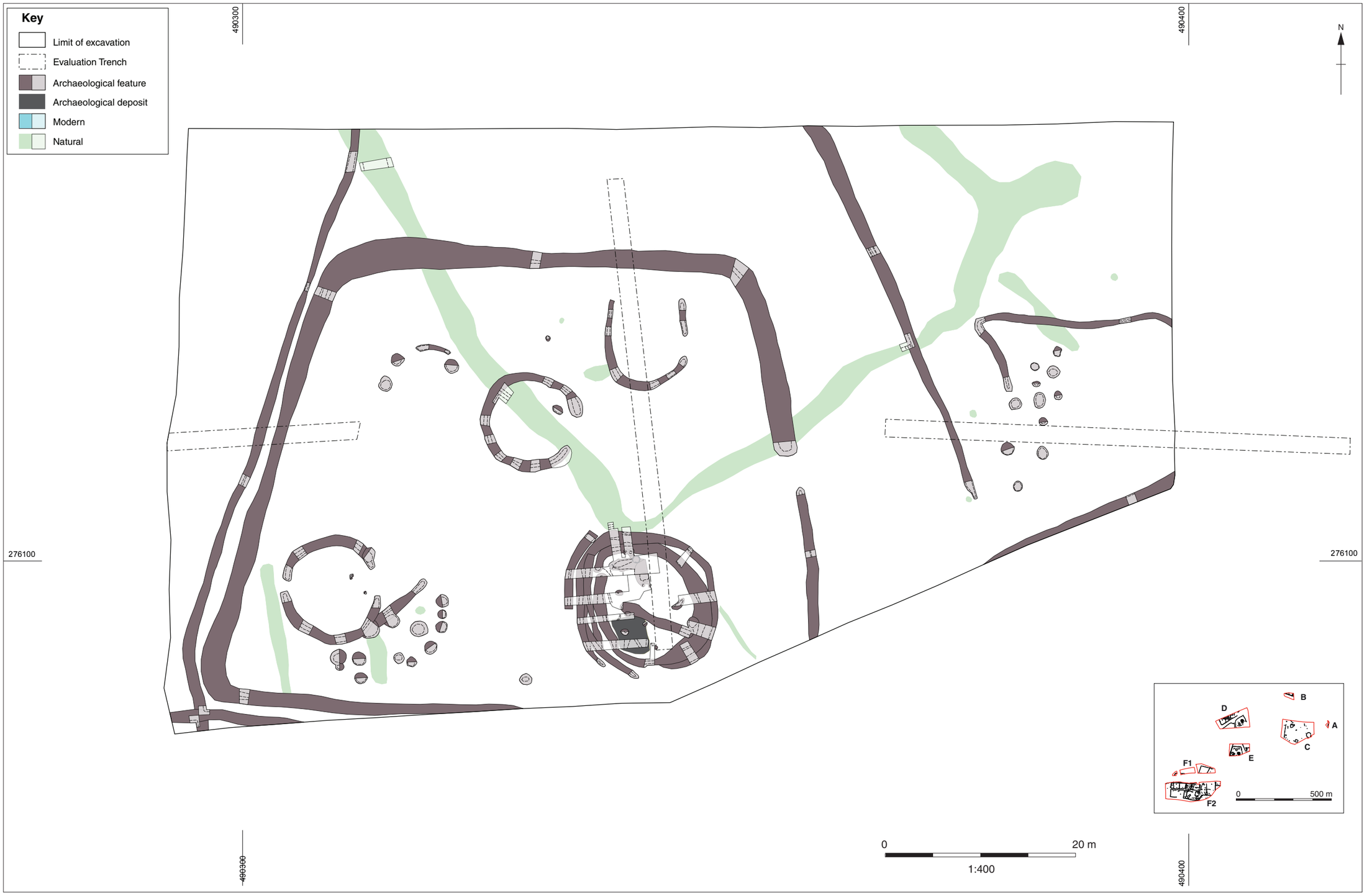

Figure 7: Excavation Plan Area E

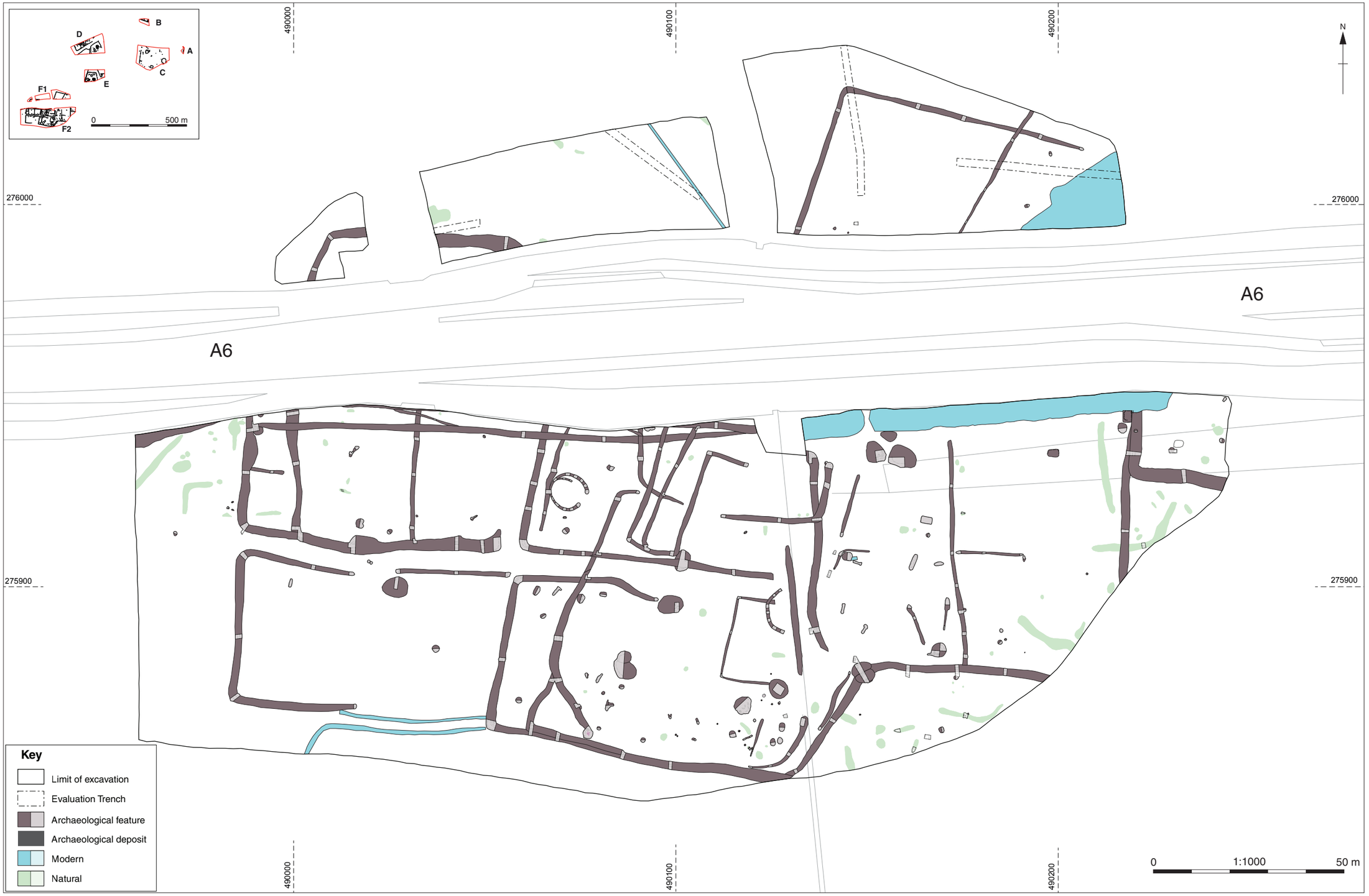

Figure 8: Excavation Plan Area F2

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