



# Northamptonshire Archaeology

An archaeological excavation at the former  
Cherry Orchard School, Northampton  
February 2012



## Northamptonshire Archaeology

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Northamptonshire  
County Council

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Report 12/166

September 2012



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## QUALITY CONTROL

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**OASIS REPORT FORM**

<b>PROJECT DETAILS</b>		<b>Oasis No 134231</b>	
Project name	An archaeological excavation at the former Cherry Orchard School, Northampton February 2012		
Short description	<p>In February 2012, Northamptonshire Archaeology carried out an archaeological excavation at the former Cherry Orchard School, Northampton. A well-preserved Roman pottery kiln excavated prior to the construction of the school in the 1950s dated to the 1st century AD. The kiln was a standard updraught type, but unusually much of the kiln furniture had been preserved in situ. Although much of rest of the site was known to have been quarried in the 19th and 20th centuries, further Roman remains were identified during evaluation. There were two parallel boundary or enclosure ditches aligned north-west to south-east close to the location of the kiln. The southern ditch contained large quantities of kiln-bar fragments. Since the kiln excavated in the 1950s had contained much of its kiln furniture and appeared only to have been fired once, the kiln-bars may have originated from another kiln close by. To the west, there were two further parallel ditches aligned north-south, with an entrance through the western ditch. It is possible that the two ditch groups were associated, possibly forming a sub-rectangular enclosure, or field-system. The ditches broadly date from the mid-1st century AD through into the mid/late 2nd century AD. A grave, which had been dug into one of the earlier north-south boundary ditches, contained the remains of a middle aged male. Pottery in the grave dated to after the mid-2nd century, which is consistent with the tradition of this type of burial.</p>		
Project type	Excavation		
Previous work	Excavation (Bunch and Corder 1954), geophysical survey (Stratascan 2010) and evaluation (Harvey 2011)		
Current land use	Former school		
Future work	None		
Monument type/period	Roman kiln and associated activity		
Significant finds	Roman kiln		
<b>PROJECT LOCATION</b>			
County	Northamptonshire		
Site address	Former Cherry Orchard School, Wellingborough Road, Northampton		
Study area	1.95ha		
OS NGR	SP 7849 6232		
Height aOD	c 90-100m aOD		
<b>PROJECT CREATORS</b>			
Organisation	Northamptonshire Archaeology (NA)		
Project brief	Lesley-Ann Mather, NCC Archaeological Advisor		
Project design	NA		
Director/Supervisor	Tim Upson-Smith		
Project Manager	Adam Yates		
Sponsor/funding	Bellway Homes		
<b>PROJECT DATE</b>			
Start date	Feb 2012		
End date	Feb 2012		
<b>ARCHIVES</b>	<b>Location</b>	<b>Paper</b>	
Paper	NA stores	1 document box	
Finds		Pottery (1box), animal bone (1 box)	
Digital		Report and photographs (1 CD)	
<b>BIBLIOGRAPHY</b>			
Title	An archaeological excavation at the former Cherry Orchard School, Northampton February 2012		
Serial title & volume	12/166		
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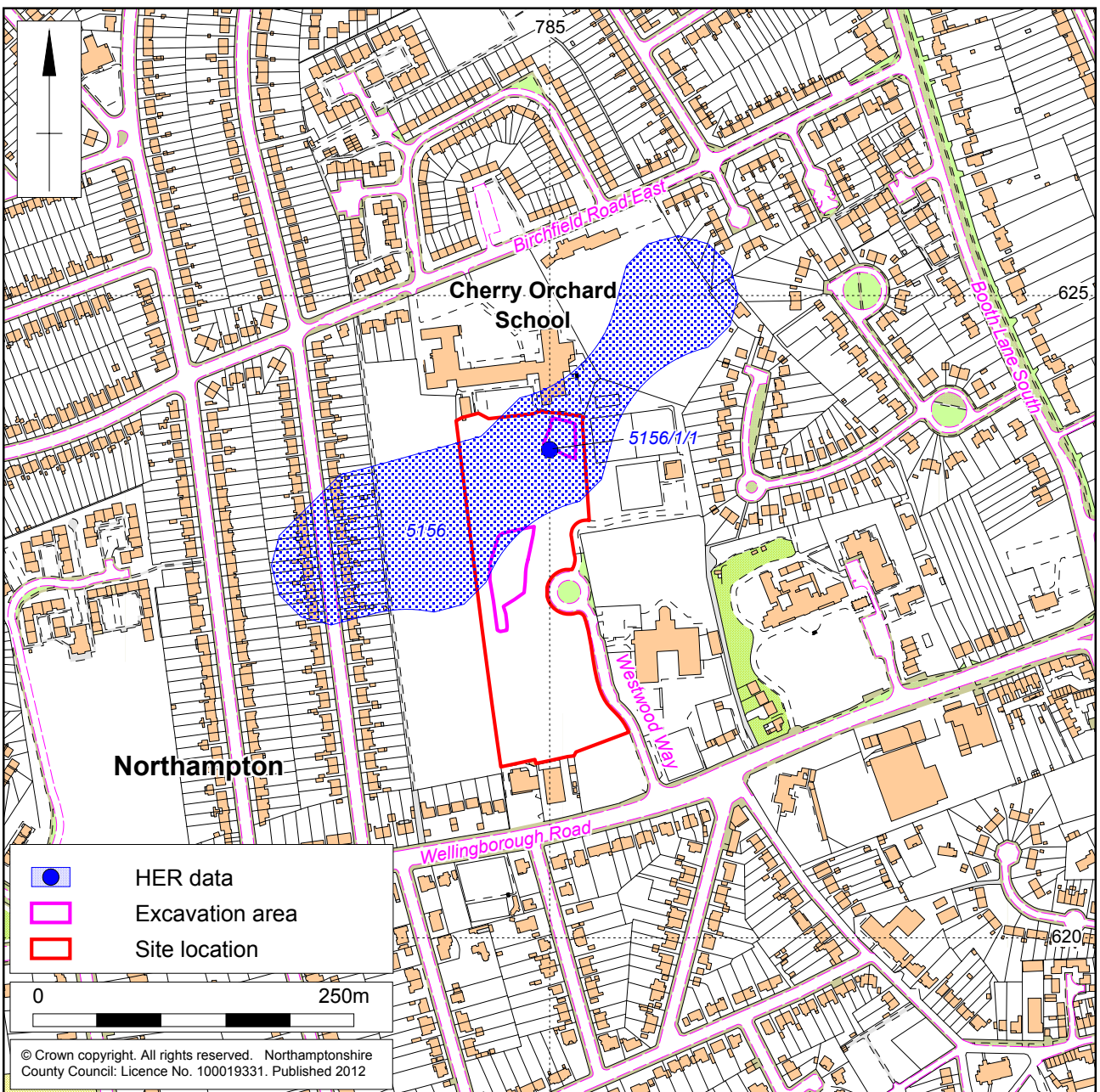
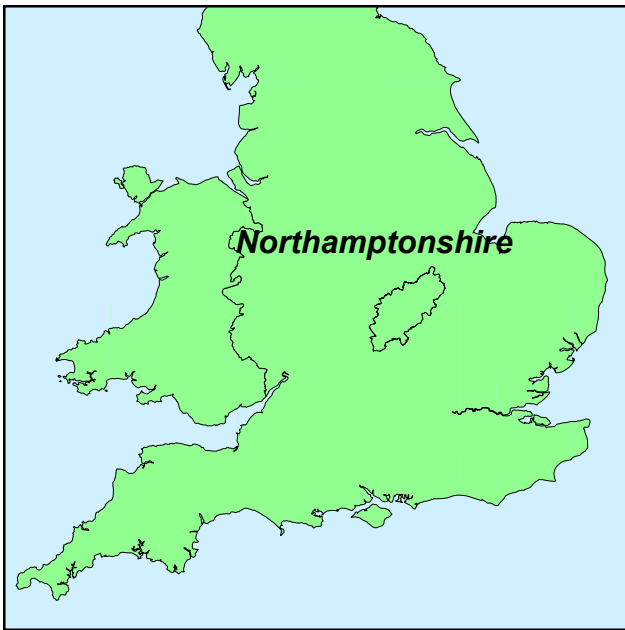
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Scale 1:5000

Site location showing Historic Environment Record (HER) data Fig 1

**AN ARCHAEOLOGICAL EXCAVATION AT  
THE FORMER CHERRY ORCHARD SCHOOL, NORTHAMPTON  
FEBRUARY 2012**

**Abstract**

*In February 2012, Northamptonshire Archaeology carried out an archaeological excavation at the former Cherry Orchard School, Birchfield Road East, Northampton.*

*A well-preserved Roman pottery kiln, dated to the 1st century AD, had been excavated prior to the construction of the school in the 1950s. The kiln was a standard updraft type, but unusually much of the kiln furniture had been preserved in situ. Although much of rest of the site was known to have been quarried in the 19th and 20th centuries, further Roman remains were identified during evaluation in 2011.*

*There were two parallel boundary or enclosure ditches aligned north-west to south-east, close to the location of the kiln. The southern ditch contained large quantities of kiln-bar fragments. Since the kiln excavated in the 1950s had contained much of its kiln furniture and appeared only to have been fired once, the kiln-bars may have originated from another kiln close by.*

*To the west, there were two further parallel ditches, aligned north-south, with an entrance through the western ditch. It is possible that the two ditch groups were associated, possibly forming a sub-rectangular enclosure, or field-system. The ditches broadly date from the mid-1st century AD through into the mid/late 2nd century AD.*

*A grave, which had been dug into one of the earlier north-south boundary ditches, contained the remains of a middle aged male. Pottery in the grave dated to after the mid-2nd century AD, which is consistent with the tradition of this type of burial.*

## **1 INTRODUCTION**

### **1.1 Project background**

In February 2012, Northamptonshire Archaeology (NA) carried out an archaeological excavation, in two areas, of the former Cherry Orchard Middle School, Birchfield Road East, Northampton (site centred on NGR: SP 7849 6232; Fig 1). The excavation was commissioned by Bellway Homes, in advance of the development of the land for housing (06/0132/OUTWNN).

This report has been prepared to meet the requirements of the two-part brief for archaeological investigation issued by NCCAA (Mather 2011) and complies with Appendix 4 of the English Heritage procedural document Management of Archaeological Projects 2 (EH 1991), relevant sections of Management of Research Projects in the Historic Environment (EH 2006), and appropriate national standards and guidelines, as recommended by the Institute for Archaeologists (IfA).

### **1.2 Topography and geology**

The development area is located outside of Northampton's town centre, to the north of the River Nene (NGR SP 7849 6232; Fig 1) comprising an area of approximately 1.95ha. The site is situated on flattish ground at c90-100m above Ordnance Datum and is

currently occupied by the former school buildings, concrete hard standing and playing fields. It is in an area bounded by allotments to the west and a recreation area to the east, by the A4500 (Wellingborough Road) trunk road to the south and by Birchfield Road East to the north.

The natural underlying geology comprises great Oolite group sandstone and Kellaways formation and Oxford clay (<http://www.bgs.ac.uk/geoindex/>).

### **1.3 Historical and archaeological background**

The site lies within an area of recorded Roman and medieval occupation. Within the proposed development area, a Roman clay-lined pottery kiln, dated to the 1st century AD, was identified during construction of the Cherry Orchard School buildings (HER 5156/1/1; Bunch and Corder 1954).

The kiln was a single-flue updraft kiln with a raised floor constructed of pre-fabricated kiln bars. The inner end of the kiln bars had been placed like spokes of a wheel on a central pediment constructed of large pebbles and a covering clay plate. The outer end of the bars had been pushed into the clay lining of the kiln while the clay was still soft. It was thought that the kiln had been fired just once to harden this clay lining and not used again. Certainly, although a few pieces of pottery were found in the fill it was thought that these had not been introduced as part of a firing.

The kiln lies within a larger area identified on the Historic Environment Record as Romano-British industrial activity (HER 5156; Fig 1). Small numbers of Roman coins, a bronze key and pottery have also been found in the vicinity.

The proposed development area is situated to the north-west of the medieval core of Weston Favell, centred on St Peter's Church, and some 5km to the north-east of the historic core of Northampton.

Historic maps show that the proposed development area had been quarried in the 19th century.

In 2010, a detailed magnetometer survey of the southern part of the proposed development area was undertaken by Stratascan. A number of anomalies, possibly suggesting an archaeological origin, were identified as well as the extent of the post-medieval quarrying (Smalley 2010, Mather 2011).

Following on from the geophysical survey, University of Leicester Archaeological Services (ULAS) were commissioned to undertake a trial trenching evaluation across the development area (Harvey 2011). The fifteen trenches and a test pit were excavated and identified areas of Roman activity including features possibly associated with the Roman kiln found in the 1950s.

A geotechnical survey was undertaken in 2011 by Hydrock Consultants Limited (Brown 2011). Sixteen trial pits were excavated across the site and identified the underlying sandstone geology except where the stone had been extensively quarried away. The backfilled quarry (or highwall) was situated in the southern part of the site, near to Wellingborough Road.

### **1.4 Aims and objectives**

The aim of the archaeological excavation, as stated in the brief (Mather 2011), was to determine and understand the nature function and character of the archaeological site in its cultural and environmental setting.

The excavation was carried out within the parameters suggested by the published research priorities for the East Midlands and its wider region (EH 1997; Cooper 2006, Knight *et al* 2012).



Possible questions may include and relate to:

- Roman pottery production;
- Roman and medieval agriculture and rural settlements;
- Material culture and environmental evidence.

## 1.5 Excavation methodology

A programme of open excavation was undertaken in the two discrete areas of archaeological remains as requested by NCC Planning (Mather 2011, Fig 2). Area 1, 24m long by 18-28m wide, was targeted on Roman ditches, and encompassed previous trial trenches 1 and 2. Area 2 was an irregular-shaped area, measuring 84m by 28m, targeted on Roman features and encompassing previous trenches 4, 6 and 9. Areas available for excavation were constrained by the extent of previous quarrying. The excavation areas were accurately measured in and marked out prior to the commencement of work using Leica System 1200 GPS operating to an accuracy of +/- 0.05m to Ordnance Survey National Grid.

Machine excavation was under the direction of an experienced archaeologist. Excavation areas were excavated by machine using a toothless bucket to reveal archaeological remains or, where these were absent, undisturbed natural horizons. The spoil heaps and excavated areas were scanned with a metal detector.

The two areas were hand-cleaned sufficiently to enhance the definition of features and to enable them to be plotted on a survey grade GPS (Leica System 1200) operating to an accuracy of +/- 0.05m to produce a base plan.

Archaeological features were hand-excavated sufficiently to characterise the remains and determine their date and function. Excavated sections were targeted to confirm stratigraphic relationships where these were not visible in plan, and to obtain a representative sample of larger features. The following was used as a guide for the excavation of the features:

- **Linear features not associated with settlement:** Sufficient to allow an informed interpretation of date and function;
- **Field boundaries:** 5% away from intersections to obtain unmixed samples of material;
- **Discrete features** (pits and postholes): 50%, except where they are shown to form part of recognisable structures or contain deposits of particular value or significance, in which case they will be fully excavated;
- **Burials:** fully excavated in accordance with the relevant legislation.

All archaeological deposits and artefacts encountered during the course of evaluation were fully recorded. Recording followed standard Northamptonshire Archaeology procedures (NA 2011). All archaeological features were given a separate context number. Deposits were described on pro-forma context sheets. Sections or profiles through features and areas of complex stratigraphy were drawn at a scale of 1:10. All levels were related to Ordnance Datum.

A photographic record was maintained using 35mm colour slide and black and white film supplemented by digital photography. Overall shots of the site were taken prior to excavation and after backfilling. Overall shots of the open areas were taken together with detailed shots of individual features.

Finds were collected from the individual deposits and appropriately packed and stored in stable conditions, by context.

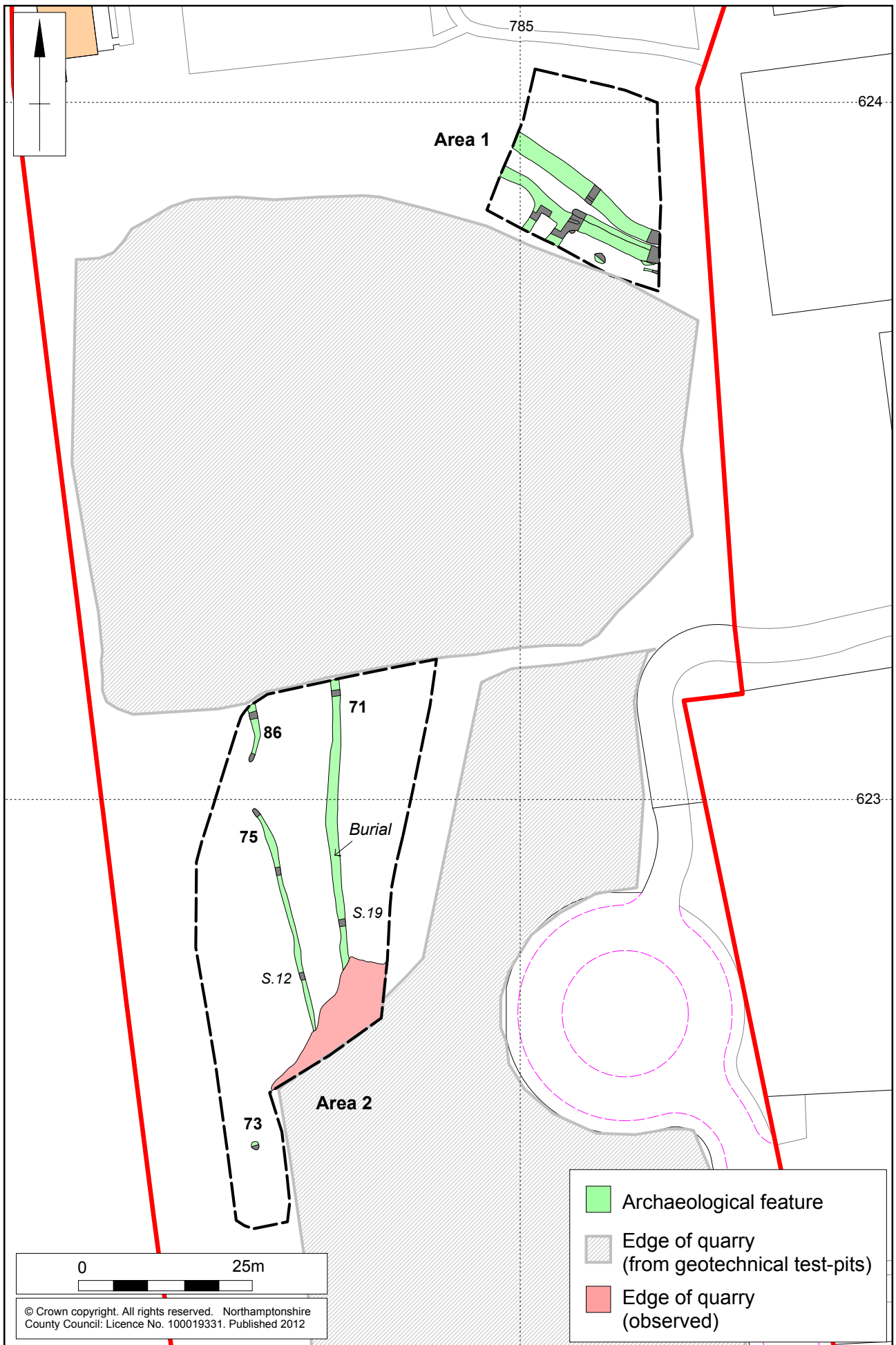
The burial was excavated following the guidelines set out in the licence, from the Secretary of State for Justice (Licence Number: 12-0008).

Environmental samples were collected from undisturbed contexts that have the potential for further analysis for palaeoenvironmental, palaeoeconomic or industrial materials. Bulk samples were 40 litres per context, samples were collected and stored in sealable buckets.

All samples were processed at Northamptonshire Archaeology, using the flotation technique to retrieve seed, charcoal and mollusc remains. All the resultant residues were then be hand sorted to retrieve bones and other finds.

All works were carried out accordance with the specification prepared by NA (NA 2010), and the Institute for Archaeologists' *Code of Conduct* (1985, revised 2010) and *Standard and guidance for archaeological field excavation* (1994, revised 2008). All procedures complied with Northamptonshire County Council Health and Safety provisions and Northamptonshire Archaeology Health and Safety at Work Guidelines.

The project was monitored by Lesley-Ann Mather, Northamptonshire County Council's Archaeological Advisor.



Scale 1:750 (A4)

Areas 1 and 2 showing the archaeological features Fig 2

## 2 THE ARCHAEOLOGICAL EVIDENCE

### 2.1 Area 1

This area was located in the north-eastern part of the development area, immediately south of the former Cherry Orchard School, which was demolished after the completion of the excavation (Fig 2). The area was targeted to investigate further ditches observed during the evaluation (Harvey 2011). It was also in this part of the site where a Roman pottery kiln was excavated in 1953, during the backfilling of the quarry and prior to the construction of the school. There was no evidence of the kiln in the excavation area.

The earliest feature appeared to be a pit, at least 0.95m in diameter and 0.55m deep ([63]; Fig 4). The primary fill was composed of compact light grey-orange silty sand and contained animal bone, sealing it was sterile orange-yellow sand. The upper fill was dark grey silty clay with no finds. A further shallow pit was situated c 4m to the south-east ([40]; Fig 4). It was 1.60m in diameter and 0.29m deep with a very irregular profile. The fill was light brown sandy clay with patches of lighter brown-yellow sandy clay.

At the southern edge of the site, adjacent to the quarry, there were two gullies, aligned north-east to south-west, situated nearly 3m apart (Fig 4). The eastern gully [61] was up to 1.55m wide and 0.75m deep with a wide U-shaped profile and homogeneous light orange-grey silty sand fill. It was truncated by the later ditch [48] aligned north-west to south-east to the north.

Nearly 3m to the west was a parallel gully [81], which was 1.15m wide and 0.25m deep (Figs 2 and 4). It was also truncated by ditch [48] to the north. The upper fill of gully [81] consisted of dark brown-black silt with frequent charcoal and a few pieces of limestone. The nature of the fill suggests that it represented a dump of material from the nearby kiln. There was a high density of charred cereal remains in the fill and it has been suggested that it may have been the result of a catastrophic fire during the cereal parching process (Val Fryer, this report).

#### ***The parallel ditches***

There were two broadly parallel ditches, at least 26m long, aligned north-west to south-east. Both ditches had been re-cut on at least one occasion, indicating that they were long-lived boundaries. The southern ditch [48] was up to 2.10m wide and 0.84m deep with fairly irregular U-shaped edges, which may have been due to repeated scouring of the ditch (Figs 3, 4 and 5, Section 7). The primary fill (49) comprised light grey very sandy clay with orange-brown mottling. In two of the sections there was a secondary fill (53) composed of compact light grey silty clay with orange mottling (not illustrated). The upper fill (50) was darker orange-grey silty sandy clay. Small amounts of pottery were found in both fills and part of the bottom stone of a worn rotary quern and a quartzite pebble used for grinding were found in the secondary fill of the ditch. A large quantity of kiln-bar fragments were found in the ditch fills, although more were found in the upper fills. Part of a human femur was also found in the upper ditch fills.

Gully [59] was aligned north-east to south-west and was 1.10m wide and 0.30m deep with steep sides and a flat base. No relationship could be discerned between this later gully and ditch [48], suggesting they may have been contemporary. Occasional kiln-bar fragments were found in the gully.

A later shallow gully [46] truncated the northern edge of ditch [48] (Figs 4 and 5, Section 7). It was 1.00m wide and 0.40m deep with a regular U-shaped profile. The fill comprised dark grey silty clay.

The northern ditch [88] was up to 1.74m wide and 0.70m deep with fairly steep edges and a flat base (Figs 4 and 5, Section 21). The primary fill (89) was mid brown-grey sandy clay with occasional orange mottling. The upper fill was mid-dark brown grey clay

with frequent charcoal. A later re-cut [91] was 1.64m wide and 0.66m deep. The fill was light grey-brown sandy clay with frequent charcoal.

It was not clear whether they were contemporary or whether one replaced the other. However, the inclusion of significant numbers of kiln-bars or fragments within the southern ditch and none in the northern may suggest that they were not open at the same time.



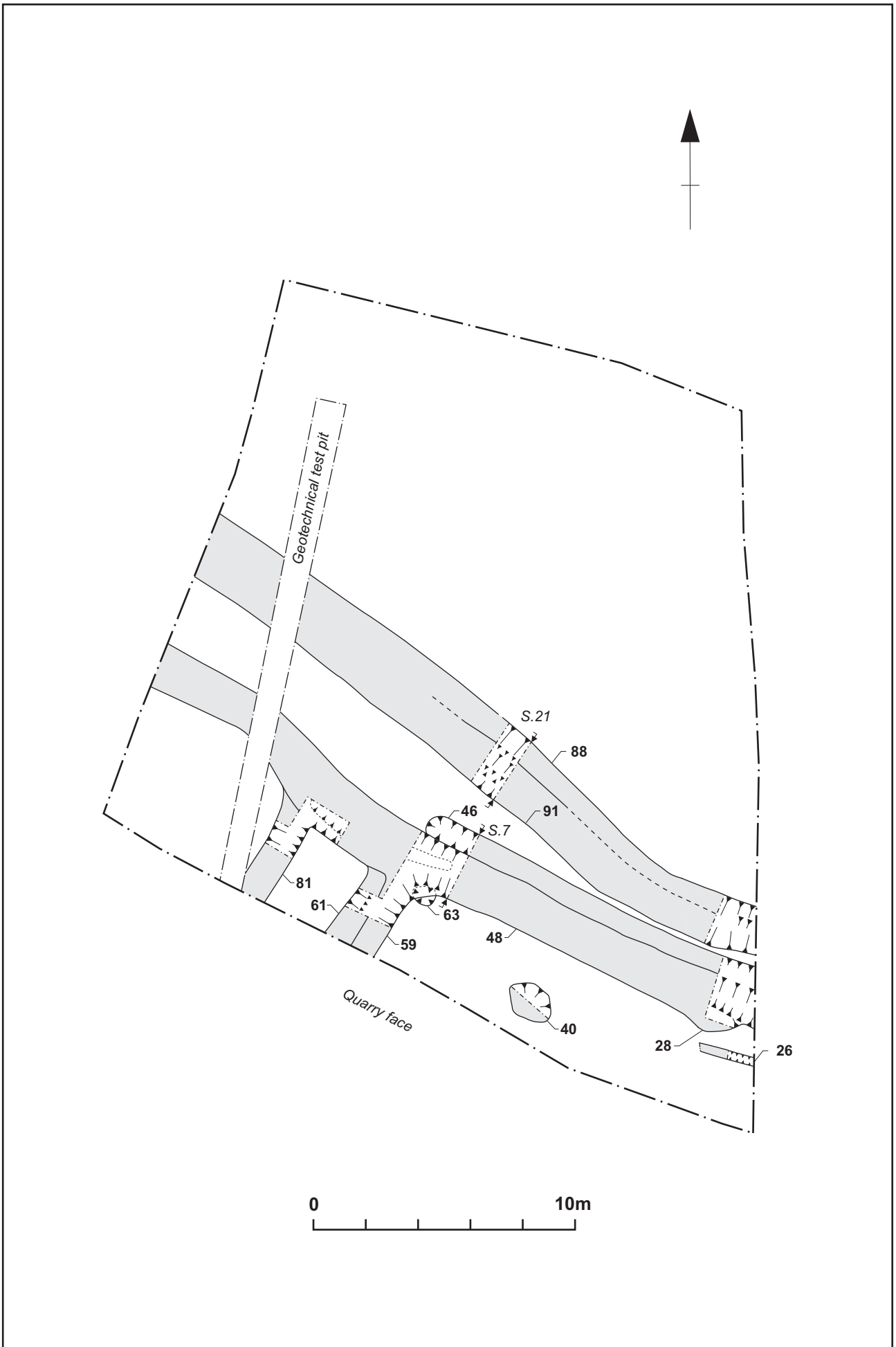
Ditches [46] and [48], looking south-east Fig 3

## 2.2 Area 2

This area was located in the south-western part of the development (Fig 2) and was targeted to investigate ditches and possible pits/postholes identified during the evaluation (Harvey 2011). Natural brashy ironstone was exposed at c 0.44m below present ground surface.

The excavation area exposed a pair of broadly parallel ditches, aligned north to south, and dating to the 1st century AD. They were at least c43m long and between 5.50m and 7.50m apart. A possible late 2nd-century burial had been laid in the upper fill of the eastern ditch. The southern ends of both ditches had been truncated by modern ironstone quarrying. A single subcircular pit was in the south-western part of the excavation area.

In the western ditch, [75] and [86], there was a slightly flared entrance 6.60m wide. The ditch was typically 0.35m deep by 0.75m wide with a U-shaped profile (Figs 2 and 5, Section 19, Fig 6). The fill of the ditch comprised a loose mid brown-orange sandy clay with infrequent fragments of sand/ironstone.

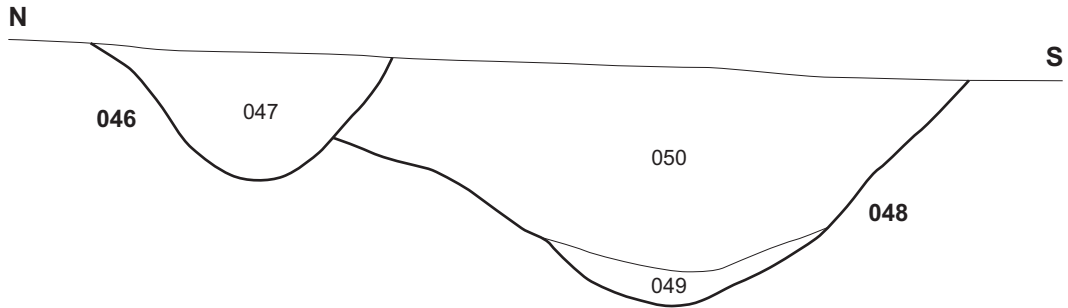


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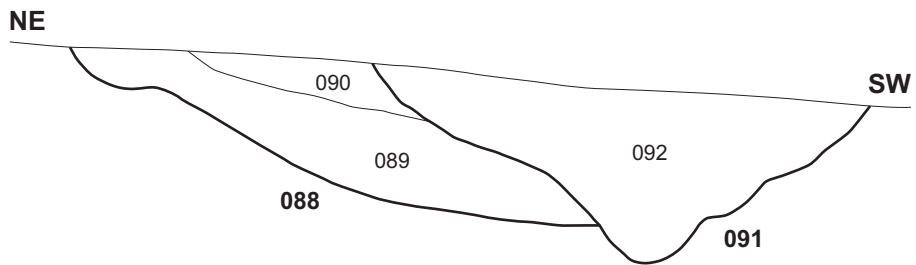
Plan of Area 1 Fig 4

**Area 1, Sections**

**Section 7**

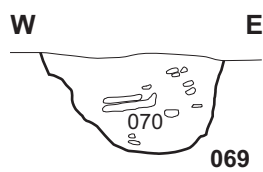


**Section 21**

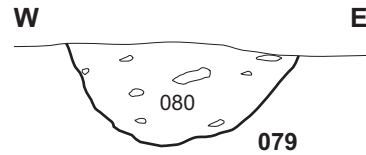


**Area 2, Sections**

**Section 12**



**Section 19**





Ditch terminal [75], looking south

Fig 6

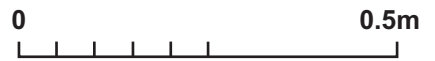
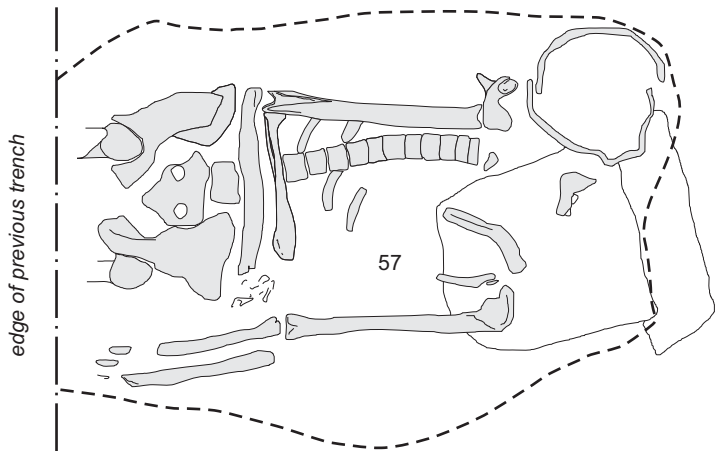
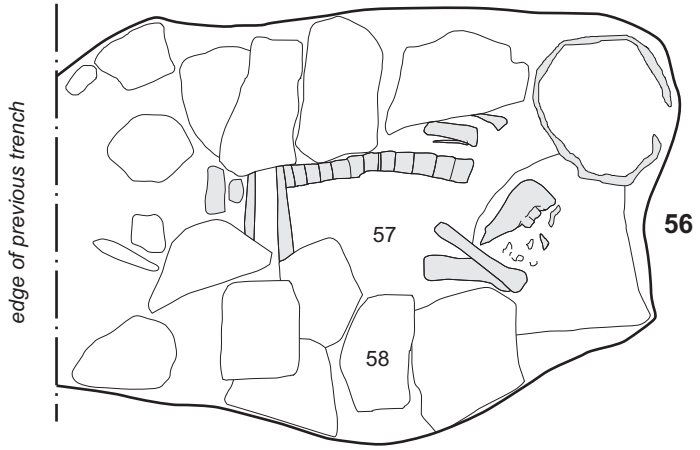
The eastern ditch [71] had a similar profile to the western ditch at its southern end, but at the north was 0.24m deep by 1.12m wide (Figs 2 and 5, Section 12).

The pottery recovered from the fills of the excavated sections suggests that the ditches were infilled in the 1st-century AD.

A pit [73] in the south-western part of the excavated area was 0.30m deep by 1.30m in diameter, with steep sides and a flat base (Fig 2). The fill (74) was compact light orange-brown silty sand. Some burnt stones and a small amount of 1st-century AD pottery were recovered from the fill.

The last phase of Roman activity in Area 2 was the insertion of an inhumation burial in the fill of the eastern ditch. The burial [55], was extended and supine, aligned north-south, with the legs removed, unrecognised, by a previous archaeological investigation (Figs 7, 8 and 9). The left arm was extended and the right arm was flexed so that the lower arm lay over the abdomen. The skull rested on a limestone pillow stone, and the burial was covered with limestone slabs. These may have once rested on a wooden cover. Two sherds of late 2nd-century Nene Valley ware from the fill above the burial (57), indicate that although the ditch had been infilled it may still have been visible as a feature in the landscape, and was recognised as softer ground for the excavation of a grave, rather than the surrounding hard sand/ironstone geology.







The burial, looking north, showing the stone slabs

Fig 8



The burial, looking west, after the removal of the covering stones

Fig 9

A number of solution hollows of geological origin were observed in the natural sand/ironstone.

### 3 FINDS

#### 3.1 Worked flint by Andy Chapman

Two worked flints were recovered as residual finds. From the fill (83) of gully [81], there is a blade struck from a prepared core in a grey translucent stony flint, with edge damage and wear probably from utilisation as a cutting blade. From the fill (92) of ditch [91], there is a blade-like flake in dark grey vitreous flint, with cortex along the back and an edge with irregular damage, probably of more recent origin. It is difficult to propose a date based on only two pieces, but as both are blade-like and struck from prepared cores, they would be most appropriate in an early to middle Neolithic context.

#### 3.2 The Roman pottery by Tora Hylton

In total 483 sherds with a combined weight of 5,815kg were recovered from 24 individual deposits in Areas 1 and 2. Area 1 to the north lies close to the site of a previously excavated pottery kiln (Bunch and Corder 1954; Appendix 1 and Swann 1984). This area produced 48% of the pottery (by weight) and one possible waster sherd was recorded. Area 2 produced 52% of the pottery by weight, much of it deriving from a north-south aligned ditch [71]. In tandem with the material recovered during the evaluation (Harvey 2011) the assemblage spans the mid/late 1st and 2nd centuries. Later wares are represented, but by two sherds of Nene Valley colour-coat, which were recovered from the fill of a grave [57]. Imported wares are represented by four very small sherds of Samian.

Although much of the assemblage comprises undiagnostic bodysherds, few display signs of excessive wear or abrasion. The overall condition of the pottery is good and this is reflected in a mean sherd weight of 12.03g. The analysis included sherd count and weight by fabric type and this has been recorded on an access database. The fabric types have been catalogued according to that developed for the large assemblage from Ashton Roman Town (Aird and MacRobert, unpublished). Where possible, references have been made to Thompson's typology of 'Belgic' Late Iron Age forms (1982).

The assemblage is dominated by locally produced coarsewares in grog-tempered, shell-gritted and greyware fabrics. Chronologically the earliest wares represented are the wheel thrown grog-tempered wares which make up 39.8% of the assemblage. Two broad fabric types were identified, one is more predominant than the other and contains a greater percentage of grog (Fabric A/1), the other is hard fired and contains more quartz (Fabric A/3). The largest deposit was recovered from the fill of ditch [71] in Area 2. However, smaller quantities of grogged pottery were recovered from Area 1, including a rim sherd from a Butt-beaker (Thompson Type G5), the broken edge of which is oxidised, suggesting that it is a waster; it presumably originated from the kiln excavated nearby. Other grog tempered forms include, a jar with plain everted rim and a long neck (Thompson Type B1-4) and channel rim jars (cf. Thompson C5-1), both forms date from the mid/late 1st century. Decorative techniques represented include burnishing, rilling, cordons, vertical combing and lattice motifs.

Vessels manufactured from fossiliferous clays make up 20.4% of the assemblage. Generally they are fired to brown-red surfaces with grey core, they have an irregular/laminated fracture and they are smooth to touch. They are locally sourced, probably originating from the kilns at Harrold, Bedfordshire (cf Brown 1994). Diagnostic forms include a wide mouthed jar (ibid 1994, fig 27, 106) and jars with a lid seating (ibid 1994, fig 27, 116), the forms date to the second half of the 2nd century.

Sandy Greywares makeup 29.3% of the assemblage. They are generally locally produced from the Nene Valley and the stylistic traits represented suggest a late 1st to mid 2nd century date. Forms represented include necked jars and narrow necked jars.

Decorative techniques include girth grooves, cordons, burnished latticing and zig-zag motifs.

Fine wares are represented by two undiagnostic sherds of Nene Valley Colour coat, which post date the mid-2nd century. Imported wares are represented by four sherds of Samian, three undiagnostic fragments and one retaining a vestige of a moulded decoration, possibly originating from a Dragendorff Type 37 hemispherical bowl.

### **Comments**

In terms of composition this small group compares closely with that recovered during the evaluation (Harvey 2011). The earliest stratified material, wheel-thrown grog-tempered wares date to the mid/late 1st century and it is probable that some of the material derived from kilns sited nearby. There are a range of shell-tempered and sandy greywares, which date from the mid/late 1st through to the mid/late 2nd century. With the exception of two sherds of Nene Valley colour-coat, none of the pottery post-dates the late 2nd century.

### **3.3 Worked stone** by Andy Chapman

There are two fragments of worn stone from the secondary fill of ditch [48]. There is an irregular fragment of Millstone Grit that appears to come from the bottom stone of a rotary quern. It retains a fragment of a convex grinding surface from the circumference of a stone with a slightly raised rounded rim at the edge. The other fragment comes from the circumference of a quartzite cobble, 50mm thick, with a worn surface used for grinding.

### **3.4 Kiln bars** by Pat Chapman

There are 71 partial kiln bars, weighing 11.96kg (Table 1). There are 25 ends of bars, indicating a minimum number of 13 bars, but there are no joining pieces. By far the largest number, 32 and 12 pieces, come from the fills (50) and (49) of ditch [48]. These were concentrated in the area close to the junction with gully [59]. The other 11 pieces are from fills of other ditches (Fig 4).

*Table 1: The kiln bars*

<b>Context/feature</b>	<b>No</b>	<b>Wt (g)</b>	<b>Description</b>
47 / [46] ditch fill	5	262	fragments
49 / [48] ditch fill	12	3249	5 ends, square, 1 chamfered 13 ends, 7 round, 6 square, fragments
50 / [48] ditch fill	32	1337	3 ends, square, fragments
53 / [48] ditch fill (=secondary fill)	16	1326	
60 / [59] ditch fill	3	846	2 ends, round, 1 chamfered
62 / [61] ditch fill	1	402	End, square
72 / [71] ditch fill	1	387	end, square, stem imp
82 / [81] ditch fill	1	164	-
<b>Totals</b>	<b>71</b>	<b>11963</b>	

These are tapering kiln bars square in section, c 40-45mm wide at the broadest part, except for two that are chamfered, to give a pentagonal section. The ends of the bars have been either rolled or pinched to a blunt point or shaped to c 25mm square, neatly or carelessly depending on the maker at the time. A length of 200mm from ditch [48], has

had each end sliced cleanly off. The longest surviving length of bar is 205mm. A few bars have plant stem impressions and some have finger impressions on the edges.

Nearly all the bars, with a few exceptions, are made from hard fine clay with inclusions ranging from rare tiny shell to frequent tiny or larger shell with occasional chunks of grog or stone. The bars have a gritty cindery feel caused by exposure to prolonged high temperatures. A third of the bars are a uniform grey in colour, perhaps from the local clay; most of the remainder are a mixture of black, brown, orange or orange-brown surfaces with cores of a different colour (Fig 10). Just four kiln bar fragments are made from fine silty grey, yellow-brown or orange-brown clay.

A pottery kiln, dating to the 1st century AD, was excavated on this site in 1953 and contained very similar kiln or fire bars. They were broken but generally *in situ*, having been laid radiating out from the central pedestal to the kiln wall (Bunch and Corder 1954; Appendix 1). No unbroken bars had survived, although some could be reconstructed, being about 430mm long, roughly 45mm square in section in the centre, with one side of the bar slightly flatter than the others, possibly to support the pottery, and tapering to ends c 25mm square. Finger marks were noticed along some edges. Fragments of two bars were also found during the trial trench evaluation (Cooper 2011, 35).

The kiln bars from the present excavation may have come from the kiln excavated in 1953, although that kiln seems to have been abandoned with its bars still mainly in place. This assemblage either comes from another kiln close by, or an earlier version of the excavated one.



A selection of kiln bars, showing variations in colour and fabric (Scale 10mm divisions)  
Fig 10

### **Other material**

Three small fragments of hard fine orange-brown fired clay with smooth uneven surfaces, weighing 44g, come from Area 1 ditch fills (30), (33) and (72). A larger fragment, from context (50) ditch [48], is semicircular, 50mm in diameter and 20mm thick, with an orange surface. These could be fragments from other kiln furniture or the structure of the kiln.

**3.5 Slag** by Andy Chapman

A bulk soil sample from the fill (72) of ditch [71] produced 450g of small fragments of light and vesicular fuel ash slag, with the largest piece 70mm in diameter. This material has been created by a high temperature fire, and is likely to relate to the firing of the nearby pottery kiln or kilns.

## 4 FAUNAL AND ENVIRONMENTAL REMAINS

### 4.1 The human bone by Chris Chinnock

The remains of a single human skeleton [55] were excavated and recovered from a Roman ditch [71]. The individual was supine with the left arm extended by the left side and the right arm flexed ninety degrees perpendicular to the spine (Figs 7, 8 and 9). The body lay on a north–south alignment, with the skull resting on a limestone ‘pillow’ slab. Additional limestone slabs surrounded and partially covered the individual. The skeletal remains only survive from the skull down to the proximal femur. The lower limbs along with any associated limestone slabs were removed, un-recognised, during a archaeological evaluation (ULAS 2011) and were not available for this study.

#### ***Methodology***

The remains were analysed and recorded according to the procedures outlined by the Guidelines to the Standards for Recording Human Skeletal Remains (Brickley and McKinley 2004) and the English Heritage guide for producing Human Bone assessments and reports (Mays, Brickley and Dodwell 2004). An inventory was established using the guides provided in the aforementioned standards. Age and Sex estimations were taken using the methods described by Buikstra and Uberlaker (1994). Due to the fragmentary nature of the remains only a few of the smaller metric measurements could be taken, and these were taken with an electric sliding caliper.

#### ***Preservation and Completeness***

Although most of the skeletal elements were observable, it should be noted that across most of the elements, the cortical bone had been severely damaged due to the grave conditions. This has hampered pathological analysis in most areas. The exception to this is the upper and lower right arm, which seem to have benefitted to a certain extent from the overlying limestone slabs. Only half of the major areas of articulation are available for study; this can restrict our understanding for common ailments such as Osteoarthritis, most commonly identified at these locations. Over 90% of the lumbar and thoracic vertebrae were assigned to type and position, though the majority of the transverse and spinous processes were not recovered. None of the cervical vertebrae or the smaller carpal bones have survived. Nine maxillary and twelve mandibular teeth were recovered, many of which have suffered severe erosion to the roots due to ground conditions whilst the crowns have survived relatively well.

#### ***Age and Sex***

The individual was aged using the numerical classification of molar wear outlined in Brothwell (1981). Of the other indicators of age only a very small portion of the auricular surface of the ilium was present, too small to give a meaningful estimation.

Both mandibular third molars are present for this individual though only the one on the left side remains *in situ*. Eruption of the third molar indicates that the individual can be described biologically as an adult of at least eighteen years of age (Hillson 1996, 145). Substantial surface wear is noted on all of the molars available for analysis. Whilst it is important to recognize the tooth wear chart created by Brothwell (1981) cannot account for unusual dietary habits or environmental factors, it has been deemed that this system can provide a reasonable estimate of age for this individual. The wear on the molars suggests an age of between 35-45 years of age.

When sexing the individual, pelvic and cranial elements were listed under the following categories: Male, Female, Possible Male, Possible Female and Indeterminate Adult. Some metric analyses were also possible and assigned either to Male or Female.

Dramatic differences between the male and female pelvic skeletal anatomy make it possible to sex an individual through the analysis of these elements (White and Folkens

2005, 392). The most diagnostic area is the sub-pubic region. However, as this was not present in the Cherry Orchard individual, observation of the greater sciatic notch as a secondary indicator was taken instead. This placed the individual in the male category. The robusticity and shape of the acetabulum was also described as male. Secondary to the pelvis for sexual diagnosis is the skull. With the exception of the forehead and bossing which were described as *possibly* male, all other elements were classified as male. Metric analyses of the femoral head diameter, humeral head diameter and the scapula glenoid cavity width all suggest that the individual was male.

Taking all of these elements into consideration the individual can be confidently assigned to the male category.

### ***Pathology***

Due to the poor condition of the cortical bone, no unusual pathology was observed. Those areas of surviving cortical bone did not yield any pathological information.

### ***Osteoarthritis***

Osteophytes and porosity were noted on the superior and inferior bodies on all of the lumbar vertebrae and most of the thoracic vertebrae. Very slight porosity and osteophytes were seen on some of the costal facets. The transverse processes were not recovered. Following Rogers and Waldron (1995) the presence of osteophytes and porosity in the vertebrae is enough to suggest this individual had osteoarthritis to some extent. Both of the acetabulae display significant osteophytes. Most other articulations on the appendicular skeleton have been lost and so the overall impact of the condition for this individual cannot be accurately assessed. It should be noted that the poor grave/soil conditions that have affected the cortical bone so badly are likely to have exaggerated the porosity on the vertebral bodies.

### ***Other***

Calculus can be described as mineralized plaque deposit and slight amounts of supragingival calculus have been noted on all teeth for this individual, on the buccal and lingual surfaces. This cannot be taken as an indicator of dental hygiene, as the amount of calculus present after excavation and cleaning almost certainly does not reflect the amount present during life. One carious lesion appears on the occlusal surface of the left third mandibular molar. Another, more serious lesion appears on a loose tooth tentatively assigned as the first right mandibular incisor. This particular tooth shows much more calculus than the others, both sub and supra-gingival. The root is short and squat. A retained deciduous incisor or a peg incisor are both possible diagnoses. The latter seems more likely, following descriptions for peg incisors in Hillson (1996). As with other parts of the skeleton, caution needs to be taken as the poor soil conditions have caused severe erosion of the roots of the teeth as well as the crowns where the dentine has been exposed due to wear. Occlusal wear has been noted as moderate to severe on all incisors and molars.

### ***Other human skeletal material***

The diaphysis of a femur belonging to an adult was recovered from the fill (50) of ditch [48].

### ***Discussion***

The skeletal remains are those of an adult male aged between 35 and 45 years. No significant pathology nor any potential cause of death could be observed. This may be due to the poor preservation of cortical bone and articulation areas. However, it should also be remembered that the skeletal remains only represent a portion of the individual and much more pathology and/or the cause of death could have affected the soft tissue only, in which case it would not be recognized in this study. The carious lesions represent a poor level of dental hygiene and osteoarthritic symptoms are displayed throughout the



lower spine and hips.

Burials of this type, with covering stone slabs and pillow stones are most commonly associated with the Saxon period; however, it is not uncommon to find these traditions in the Roman period. The north – south alignment and the placement of the burial in the top of a Roman ditch, away from any immediate, known religious centre, would also suggest that this burial belongs to the Roman period. A comparable burial seen at Stanion Roman Villa where a Roman inhumation had been placed into the top of a ditch (Walker 2012). An example of a stone lined grave Roman burial can be seen at Thistleton Quarry (Morris 2006).

#### 4.2 The animal bone by Lazlo Lichtenstein

A total of 271 (NISP) animal bone elements and fragments was collected from a range of features during the excavation, weighing 4.318kg. Some 82.2% of the specimens had been hand-collected during the excavation and the remaining 18.8% were recovered from the sieved environmental samples. Following cleaning and drying all fragments of animal bone were analysed and recorded, using standard zooarchaeological methods. This material was analysed to determine the taxa present, state of preservation and its potential to provide evidence on the function and economy of the site.

##### **Method**

The animal bone was identified using Northamptonshire Archaeology's and the author's vertebrate reference collection, and further guidelines from Schmid (1972), Driesch (1979), Sisson & Grossman (1953) and Feher (1990). Due to anatomical similarities between sheep and goat the criteria set out by J. Boessneck (1969) were used to separate the two species. Ageing data and tooth eruption and wear were categorised according to Bull and Payne (1982), Grant (1982), Hillson (2005) with the identification of juvenilis after Amorosi (1989) and Schmid (1972).

All the animal remains were counted and weighed, and where possible identified to species, anatomical element, fragmentation, side, zone, fusion, cut- or animal teeth marks, age and sex. Bones that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (large ungulate size: cattle or horse sized, small ungulate size: pig or sheep/goat). Presence of large and medium vertebrae and ribs was recorded for each context.

The minimum number of individuals (MNI) was calculated on the most frequently occurring bone for each species and taking into account left and right sides, as well as epiphyseal fusion and tooth wear stage. For the calculation of the number of identified fragments per species (NISP) all identifiable fragments were counted. All teeth and a restricted suite of parts of the postcranial skeleton were recorded and used in counts. All fragments were recorded.

##### **Results**

Employing standard zooarchaeological methodological procedures 190 specimens (70.2% of the total NISP) were identified to taxa and parts of anatomy, representing five mammalian species: *Equus*(horse), *Bos*(cattle), *Sus*(pig), *Ovicaprid*(sheep or goat), *Canis*(dog); one avian: *Gallus*(domestic fowl); one rodent and one amphibian species: *Rana* sp.(common frog) (Table 2). The majority of bones came from cattle (42.4%) and sheep/goat (12.2%) followed by lower number of horse (8.1%). Pig (1.4%), domestic fowl (1.4%) and dog (1.1%) were also represented at the site. Rodentia and amphibian bones were also recovered.

*Table 2: Species present in the animal bone assemblage by fragment count (including teeth) in the early Roman period*

<b>Species/taxa</b>	<b>Number</b>	<b>Percentage</b>
<i>Equus</i> (horse)	22	8.1%
<i>Bos</i> (cattle)	115	42.4%
<i>Sus</i> (pig)	4	1.4%
<i>Ovicaprid</i> (sheep or goat)	33	12.2%
<i>Gallus</i> (domestic fowl)	4	1.4%
<i>Canis</i> (dog)	3	1.1%
Rodent	1	0.3%
<i>Rana</i> (common frog)	9	3.3%
Large ungulate size	72	26.5%
Small ungulate size	4	1.4%
Unidentified	5	1.9%
<b>Totals</b>	<b>271</b>	<b>100%</b>

### ***Taphonomy***

The bones were generally in good condition, the fragmentation was moderate (Table 3), with the majority (54.3%) being less than 50 mm in size. The surface abrasion was low. Some complete long bones were recorded. Measurements were taken according to von den Driessh (1976), using digital calipers. Taphonomic factors affecting the material were recorded including gnawed and recently broken bones. Some bones were smashed in antiquity signifying a chosen method of disposal and some bones showed signs of fresh breaks.

Only one bone of the assemblage had been affected by butchery. Knife marks was noted on fragment of cattle pelvis (76), ditch [75]. Canid gnawing was seen on 0.8% of bone, a very low frequency. Canid gnawing was noted on small ungulate size animal diaphysis fragment of long bone (34), ditch [32] and on a tibia of chicken (76), ditch [75]. Evidence for burning was seen on two bone fragments from sieved sample 4, 0.8% of the assemblage. Evidence for burning was noted on chicken diaphysis fragments of radius (80), ditch [79].

*Table 3: Size of the animal bone assemblage (excluding teeth) in the early Roman period*

<b>Size (mm)</b>	<b>Number</b>	<b>Percentage</b>
<20	32	13%
20-50	102	41.3%
50-100	90	36.4%
100-150	13	5.3%
150-200	3	1.2%
200-250	4	1.6%
250-300	2	0.8%
300-350	-	-
350-400	1	0.4
<b>Total</b>	<b>178</b>	<b>100%</b>

### ***Ageing***

Little ageing data was available from cattle, pig and sheep/goat tooth wear evidence (Table 4).

Severely worn down cattle premolar and molar indicated a mature individual in context (47), ditch [46]. Tooth wear evidence of pigs worn down molars indicated a 31-35 months

old beast in context (60), ditch [59]. A fragment of mandible with premolar and molars indicated an adult sheep/goat in context (50), ditch [48]. Some molars indicated a 3-4 years old sheep/goat in context (68), ditch [67] on the site.

*Table 4: The ageing data after the teeth eruption in the early Roman period*

Context	Species	Age
47	cattle	Mature
50	sheep/goat	Adult
60	pig	31-35 months
68	sheep/goat	Adult TWS F (3-4 years)

The dog mandible with severely worn down premolar and molar was part of a mature animal.

*Table 5: Minimum number of individuals identified in the animal bone assemblage in the early Roman period*

Common name	MNI
Cattle	2
Horse	2
Pig	1
Sheep/Goat	2
Domestic fowl	1
Dog	1
Rodent	1
Common frog	1

### **Discussion**

The state of preservation for bone on the site was generally good, but the fragmentation was high. Many bones were smashed recently, but 91.9% of the assemblage could be identified to species. The assemblage is dominated by cattle 42.4% and sheep/goat (12.2%) followed by lower number of horse (8.1%). Remains of pig bones were relatively infrequent comprising only four fragments (1.4%). The dominance of cattle and sheep/goat is not unusual for this period (Table 5). Its presence is the result of domestic waste disposal.

Domestic fowl and fish were also present on the site. These species may have been consumed on a more regular basis in the Roman period. Domestic fowl is the most common species as at other Roman sites (Maltby 1981, 161). The fish vertebrae cannot be identified to species, but may represent food items.

The dog gnawing was of relatively low frequency (0.8% of the total NISP). The dog bone was found in context (73), pit [74], indicating the presence of only one mature individual. The presence of canid gnawing on bones suggests that they were left with access by dogs before being buried. The evidence for gnawing by dogs supports the skeletal evidence for the presence of dogs at the site. Cut marks were absent on the bones and it is therefore unlikely that the dog had been skinned, dismembered or in any way utilised for meat. Dogs may have been used for different purposes, such as for herding animals, as guard dogs or even as pets. Dogs have been kept as pets and companions for a significant proportion of human history.

Evidence for burning was seen on some small bone fragments in the sieved sample (less than 1% of the total NISP), suggesting that this was not a preferred method of disposal. None of the hand-collected and sieved bones from the contexts shown evidence of pathological condition.

### **Conclusion**

The range of species present is not unusual for early Roman contexts. Cattle were the most important species in terms of food value on account of the much greater carcass weight in this period. There are anatomical similarities between sheep and goats, but in this case the *ovicaprid* remains almost certainly came from sheep. All of the pigs in the assemblage appear to have been domestic.

Horse bone is also common at this period. All horse remains were part of adult animals, which suggest the horses were working animals only and had reached maturity. Measurable bones were used to estimate shoulder heights of two individuals at c 150.1cm and c 134.3cm. Both the bones were of adult individuals.

The species present and their relative proportions appear to be typical for this period. The results showed a range of common domesticates with the dominance of cattle and sheep/goat, lower number of horse, pig, domestic fowl and dog being what is expected for an early Roman landscape.

## **4.3 The environmental evidence** by Val Fryer

### **Introduction and method statement**

Samples for the retrieval of the plant macrofossil assemblages were taken from fills within three ditches (features [71], [81] and [48]), and four were submitted for assessment.

The samples were bulk floated by NA and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed in Table 6. Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern fibrous roots, seeds and arthropod remains were also recorded.

### **Results**

Cereal grains/chaff and seeds of common weeds and wetland plants were recorded within all four assemblages. Preservation was generally good, although some grains and seeds were severely puffed and distorted, probably as a result of combustion at very high temperatures.

Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, with barley and wheat occurring most frequently. The wheat grains were mostly of an elongated 'drop' form typical of emmer (*T. dicoccum*) or spelt (*T. spelta*). Spelt glume bases were also recorded within all four samples, and a single, possible emmer glume base was noted within the assemblage from sample 3, the fill of ditch [48]. Other chaff elements occurred infrequently, but barley rachis nodes were noted along with wheat spikelet bases and rachis internodes. Detached cereal sprouts were noted within the assemblages from samples 1, the fill of ditch [48] and 2, the fill of ditch [81], and the latter sample also included silica skeletons of indeterminate cereal awn. An oat floret base within the assemblage from sample 1, the fill of ditch [71], lacked the diagnostic basal abscission scar, thereby precluding identification to either a wild or cultivated variety. A grain within sample 2, with an elongated embryo and a distinct dorsal ridge, was possibly of rye (*Secale cereale*) type, but poor preservation prevented positive identification.

Seeds from a range of segetal weeds and grassland herbs were recorded within all four samples. Taxa noted included brome (*Bromus* sp.), fat hen (*Chenopodium album*), small legumes (Fabaceae), black bindweed (*Fallopia convolvulus*), goosegrass (*Galium aparine*), nipplewort (*Lapsana communis*), medick/clover/trefoil (*Medicago/Trifolium/Lotus* sp.), poppy (*Papaver* sp.), grasses (Poaceae), knotgrass (*Polygonum aviculare*), dock (*Rumex* sp.) and scentless mayweed (*Tripleurospermum inodorum*). Seeds/fruits of wetland plants, namely sedge (*Carex* sp.), spike-rush (*Eleocharis* sp.) and blinks (*Montia fontana*) were present within the assemblages from samples 1 and 2. Charcoal/charred wood fragments were present throughout, and other plant macrofossils included an indeterminate culm node and inflorescence fragments.

The fragments of black porous and tarry material were all probable residues of the combustion of organic remains (including cereal grains) at very high temperatures. Other remains were scarce, but did include small fragments of bone and globules of vitreous material.

### **Discussion**

Ditches [48] and [81] are both recorded as containing items of kiln furniture, and the excavator has also suggested that both features may contain other kiln detritus in the form of rake-out waste and/or spent fuel. This would certainly appear to be the case with the assemblages from ditch [48] (samples 1 and 3), as both contain charred cereal processing waste in the form of chaff and weed seeds. Although barley grains occur most frequently, the predominance of spelt chaff would appear to indicate that much of this waste was derived from the processing of wheat, with the barley being present as a contaminant of the main wheat crop. Cereal processing waste was often used during the Roman period as kindling or fuel for a range of domestic or light industrial purposes, and the current assemblages would certainly appear to conform to this pattern.

The assemblage from sample 2, ditch [81], also contains cereal processing waste, but in this instance, there is also a high density of cereal grains, many of which have been very severely burnt. As Roman kilns/ovens appear to have been multi-functional structures, being used for a range of both domestic and industrial purposes, it is tentatively suggested that this material may be indicative of cereal drying or parching, a process which frequently resulted in catastrophic fires if not carefully supervised. It is also possibly of note that the same assemblage also contains fragments of bone, some of which are burnt, possibly suggesting that the structure was also used for culinary purposes.

Although relatively sparse, the assemblage from sample 4, ditch [71], does contain further possible processing waste, along with a high density of black porous and tarry residues and vitreous concretions. As all of these are probably derived from the high temperature combustion of organic remains, it would appear most likely that this material is again derived from oven or kiln detritus, although possibly from the flue area, where materials were often heated to very high temperatures on repeated occasions.

### **Conclusions**

In summary, although small (<0.1 litres in volume), the assemblages are comparatively rich and diverse, containing moderate to high densities of chaff, cereals and weed seeds, some of which are probably derived from cereal processing waste. As is common with Roman assemblages, wheat appears to have been the principal crop, although barley and possibly oats were probably being grown locally, with relicts of these crops appearing within the wheat assemblages. The composition of the weed seed assemblages appears to indicate that the crops were mainly being grown on lighter soils, although the presence of occasional seeds/fruits of wetland plants may suggest that

some areas of marginal wet grassland were also coming into cultivation. However, it should be noted that these remains may not be directly indicative of local agricultural practises, as cereal processing waste was commonly used as fuel, and may even have been traded as such (Van der Veen 1999).

Table 6: Charred plant remains

Sample No.	1	3	2	4
Context No.	53	49	82	72
Feature No.	48	48	81	71
Feature type	Ditch	Ditch	Ditch	Ditch
<b>Cereals</b>				
<i>Avena</i> sp. (grains)	x	-	xx	xcf
(floret base)	x	-	-	-
(awn frags.)	x	-	-	-
<i>Hordeum</i> sp. (grains)	xx	-	xx	x
(rachis nodes)	x	x	-	-
<i>Secale cereale</i> L. (grain)	-	-	xcf	-
<i>Triticum</i> sp. (grains)	x	x	xxx	-
(glume bases)	x	x	x	x
(spikelet bases)	x	x	x	-
(rachis internodes)	x	-	x	-
<i>T. spelta</i> L. (glume bases)	xxx	xx	x	x
<i>T. dicoccum</i> Schubl (glume base)	-	xcf	-	-
Cereal indet. (grains)	x	x	xxx xxxfg	x
(detached sprout frags.)	xx	-	x	-
(detached embryos)	-	-	x	x
(silica skeletons)	-	-	xawn	-
<b>Herbs</b>				
Asteraceae indet.	-	x	-	-
<i>Atriplex</i> sp.	-	x	-	-
<i>Bromus</i> sp.	-	x	x	-
<i>Centaurea</i> sp.	-	-	xcf	-
<i>Chenopodium album</i> L.	x	-	x	-
Chenopodiaceae indet.	-	-	x	-
<i>Cirsium</i> sp.	-	-	x	-
Fabaceae indet.	-	x	xx	x
<i>Fallopia convolvulus</i> (L.)A.Love	x	-	x	-
<i>Galeopsis</i> sp.	-	-	x	-
<i>Galium aparine</i> L.	x	x	x	-
<i>Lapsana communis</i> L.	xcf	-	x	-
<i>Lithospermum arvensis</i> L.	-	-	-	x
<i>Medicago/Trifolium/Lotus</i> sp.	xcf	x	x	-
<i>Papaver</i> sp.	x	x	x	-
Small Poaceae indet.	x	x	xx	x
Large Poaceae indet.	x	x	x	x
<i>Polygonum aviculare</i> L.	x	x	x	-

<b>Sample No.</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>4</b>
<b>Context No.</b>	<b>53</b>	<b>49</b>	<b>82</b>	<b>72</b>
<b>Feature No.</b>	<b>48</b>	<b>48</b>	<b>81</b>	<b>71</b>
<b>Feature type</b>	<b>Ditch</b>	<b>Ditch</b>	<b>Ditch</b>	<b>Ditch</b>
<i>Rumex</i> sp.	x	x	x	-
<i>R. acetosella</i> L.	-	x	x	-
<i>Sherardia arvensis</i> L.	-	-	x	x
<i>Stellaria</i> sp.	-	-	x	-
<i>S. graminea</i> L.	x	-	-	-
<i>S. media</i> (L.)Vill	x	-	x	-
<i>Tripleurospermum inodorum</i> (L.)Schultz-Bip	x	x	-	x
<i>Urtica dioica</i> L.	-	-	xcf	-
<i>U. urens</i> L.	-	-	xcf	-
<i>Valerianella dentata</i> (L.)Pollich	-	-	x	-
<i>Veronica hederifolia</i> L.	xfg	-	-	-
<i>Viola</i> sp.	-	-	x	-
<b>Wetland plants</b>				
<i>Carex</i> sp.	-	-	x	-
<i>Eleocharis</i> sp.	x	-	-	-
<i>Montia fontana</i> L.	x	-	x	-
<b>Other plant macrofossils</b>				
Charcoal <2mm	xxx	xxx	xxxx	xx
Charcoal >2mm	x	-	xxx	x
Charcoal >5mm	-	-	x	-
Charred root/stem	x	x	x	x
Indet.culm node	x	-	-	-
Indet.inflorescence frags.	xx	-	x	-
Indet.seeds	x	x	xx	-
<b>Other remains</b>				
Black porous 'cokey' material	xx	-	xx	xxx
Black tarry material	x	-	x	xx
Bone	-	-	x xb	x
Burnt/fired clay	-	-	x	-
Small coal frags.	x	x	x	x
Vitreous material	-	x	x	xx
<b>Sample volume (litres)</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>
<b>Volume of flot (litres)</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>	<b>&lt;0.1</b>
<b>% flot sorted</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Key to Table**

x = 1-10 specimens; xx = 11-50 specimens; xxx = 51-100 specimens; xxxx = 100+ specimens  
 cf = compare; fg = fragment; b = burnt

## 5 DISCUSSION

Excavation at the former Cherry Orchard School has found further evidence of Roman activity in this area. The ditches, which together may have formed a larger enclosure or field system, appear to have been in use at the same time as the previously excavated kiln and were maintained until the mid/late 2nd century AD. A grave was later dug through the fill of one of the ditches, probably in the later 2nd or 3rd centuries AD.

Evidence from the pottery kiln led the authors to surmise that it had been fired only once and even then to fire-harden the clay-lining (Bunch and Corder 1954). It appeared that no pottery had ever been fired with the kiln. Therefore, the significant quantity of kiln bars found in the ditch fills probably derived from another kiln in the vicinity. The kiln dated from around the middle of the 1st century and while pottery from the ditches appears to suggest that they were open by this date, they appear to have been in use until at least the mid-2nd century.

Significant quantities of charred grain and the bottom stone from a rotary quern from the ditches indicate that cereal processing was also being undertaken close by, possibly using the same kilns. While kilns were often placed at the edge of settlements, crop processing evidence and finds from the wider area suggests that there was settlement close by.

This excavation has provided evidence that more than one kiln was present close by, which has probably been lost to previous quarrying. The kilns probably still only represent part of a small-scale local pottery industry. Small clusters of kilns are found on both sides of the Nene Valley from Upton (Walker 2010) and Duston to the west, Hardingstone to the south and Ecton, Grendon and Bozeat to the east. These kilns all appear to have produced predominantly local wares. While none of the pottery found during the excavation can be categorically linked to the nearby kilns, much of it came from local kilns, including those at Harrold, Bedfordshire.

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APPENDIX 1: REPORT FROM *THE ANTIQUARIES JOURNAL* 1954, 134, 218-224A ROMANO-BRITISH POTTERY KILN AT WESTON  
FAVELL, NEAR NORTHAMPTON

By BRIAN BUNCH, A.R.I.B.A. and PHILIP CORDER, M.A., LITT.D.

## THE SITE

THE village of Weston Favell is situated on high land to the north of the river Nene, some  $2\frac{1}{2}$  miles to the north-east of the centre of Northampton. On the north side of the Wellingborough Road at this point the Northampton Education Committee are erecting the Cherry Orchard School. In April 1953, during the filling in of a disused quarry preparatory to building, one of the writers noticed sherds of Roman pottery in a disturbed patch in the quarry face (Nat. Grid 5237.2819). Further examination disclosed two large burnt stones protruding from it, which proved on excavation to be the cheeks of the stokehole flue of a small pottery kiln.

The quarry was some 16 to 18 ft. deep, and had been used to get the local limestone. The field to the south of it shows disturbance of the surface over a considerable area. Overlying the stone hereabouts is an extensive layer of grey clay, which may well have served as the raw material of the potters. It contains pockets of whitish sand similar to that which gives the clay of the local ware its characteristic texture.

## THE KILN (fig. 1.)

The kiln proved to be of normal updraught type, but the exceptional preservation *in situ* of much of its kiln furniture gives it special significance.

It consisted of a stokehole flue or fire tunnel about a foot wide constructed of large stones. The original length of the flue is unknown, for most of it, together with the stokehole pit itself, had been destroyed by quarrying, and only the two stones nearest to the kiln remained. The flue was about 14 in. high, its roof, at least the surviving portion of it, being formed of firebars of standard type (see p. 220), three of which were still in position, though broken. The use of firebars for this purpose has not been previously recorded.

The stokehole flue led into a circular furnace. This was of normal type consisting of a barrel-shaped hole, 3 ft. 1 in. in diameter, dug in the sandy subsoil, and plastered inside with clay. In a number of places this lining had been reinforced with flat stones and firebars placed on end (pl. xxiii *a*). The floor was formed by the natural layer of dense grey clay already mentioned, which extends across the site about 4 ft. or so from the surface.

Special interest attaches to the arrangements made by the potters for providing a raised oven floor upon which the pottery was to be stacked for firing. A central column, 1 ft. 2 in. high, was formed of three flat stones, capped by a roughly circular clay plate some 9 in. in diameter (pl. xxiii *b*). The stones chosen for this were pebbles that would stand the heat better than the local limestone. They appeared to have been plastered with clay so as to form a part of the permanent structure of the kiln.

ROMANO-BRITISH POTTERY KILN AT WESTON FAVELL 219

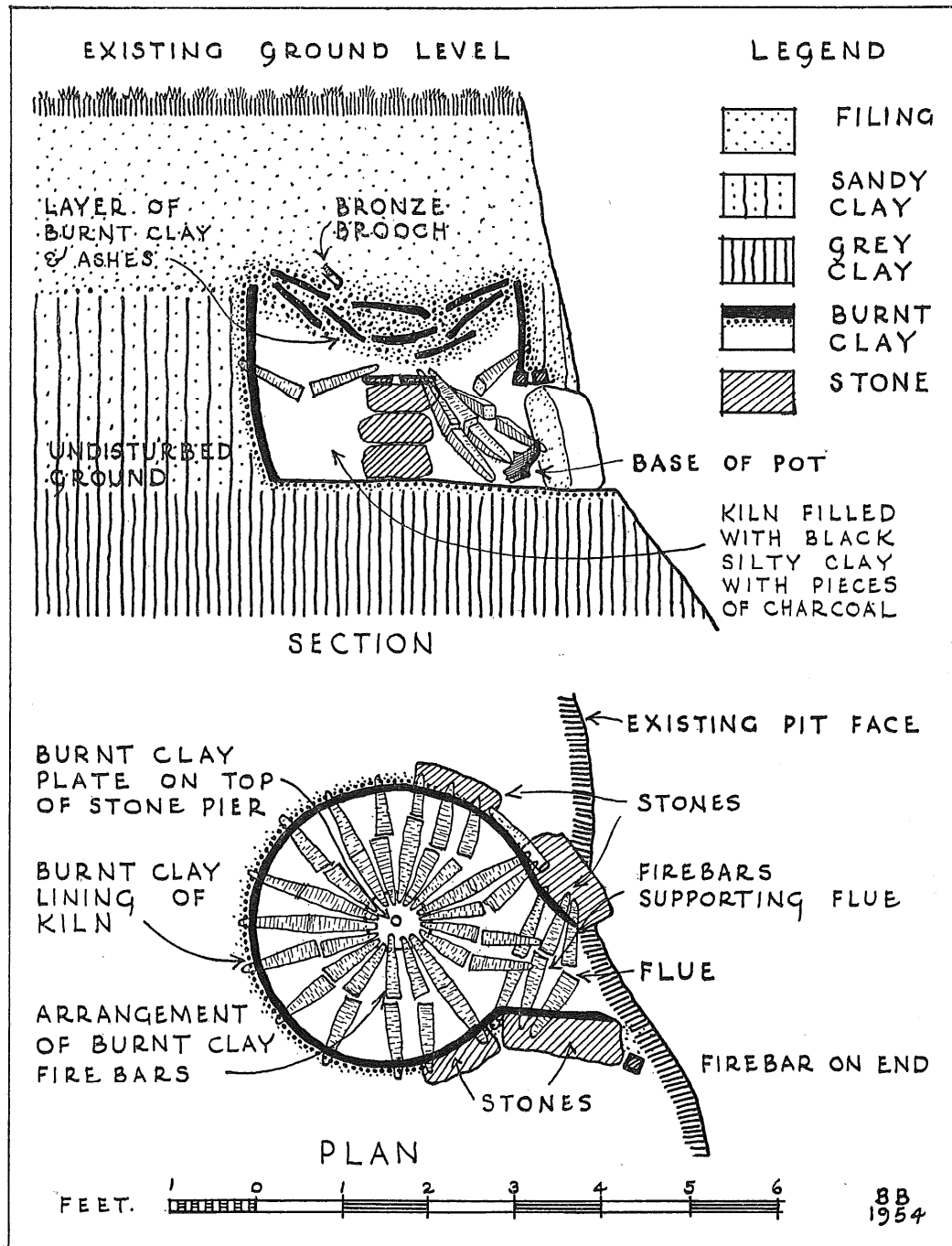


FIG. 1. Plan and section of the Romano-British pottery kiln at Weston Favell, near Northampton

Pottery firebars (*infra* and pl. xxiii *b*), of a uniform length of 17 in., had been disposed like the spokes of a wheel radiating from the central column. One end of each had rested on the clay plate, the purpose of which is thus seen to have been to provide a level top to the central column. The outer ends of the bars appeared to have been pushed into the clay walls of the kiln while these were still soft, for, as will be seen in the section (fig. 1), the walls of the kiln were carried up more than a foot above the level of the platform formed by the firebars. This extraordinary arrangement calls for some explanation, for in other kilns, as for example Lincoln Racecourse<sup>1</sup> and Earls Shilton,<sup>2</sup> where radiating firebars are known to have been used as an oven floor, the permanent walls of the kilns ended on a level with the top of the central support and were roughly rounded off by hand to provide a seating for the outer ends of the firebars. Further evidence that the kiln wall had originally stood even higher above the platform was provided by the lumps of collapsed walls that lay upon it. As will be seen from the section (fig. 1), no unbroken firebar remained *in situ* though all appeared to have been so before the collapse of the kiln. The pressure of earth and broken sides of the kiln had resulted in the fracture of the bars in the middle (pl. xxiii *b*), the point of greatest stress. It is noteworthy that very little pottery was found in the kiln, and this in a fragmentary state. If the kiln had been loaded when abandoned, the crushed remains of whole pots would have been found between the fallen kiln walls and the layer of collapsed firebars. This was not the case. There seems to be only one explanation of the facts. It is clear that the firebars had all been baked elsewhere before they were used in this kiln, for, as has already been mentioned, some were employed as roof to the stokehole flue and others to reinforce the sides of the furnace. They must already have been in a hard state to have been pushed into the clay walls of the kiln. It is evident, therefore, that the whole permanent structure of the kiln was complete, as if in preparation for the firing of a batch of pots. Yet no pots were found in it. It cannot be that these had been removed and the kiln abandoned before the firebars were lifted for cleaning out the furnace, for the kiln walls must still have been soft and unbaked when the outer ends of the firebars were pushed into them. The kiln must then have been a new one, and the firing that had certainly taken place was in fact the first firing, the purpose of which had been to harden the walls and convert the central column into a permanent fixture. As the clay of the kiln walls shrank slightly it would have been possible to withdraw the ends of the firebars, leaving a series of holes into which they could again be fitted when the platform was reconstructed in subsequent firings.

KILN FURNITURE (pl. xxiii *b*)*Firebars*

The firebars, of which a complete example is illustrated, had been made in uniform lengths of about 17 in. They were of roughly square section, tapering from 1 $\frac{3}{4}$  in. square in the middle to flattened ends about 1 in. square. What was

<sup>1</sup> Corder, *A Romano-British Pottery Kiln on Lincoln Racecourse* (University of Nottingham, 1950), pp. 8–9 and pl. iii *b*.

<sup>2</sup> Clarke, *A Roman Pottery Kiln at Earls Shilton* (Leicester, Edgar Backus, 1950).

## ROMANO-BRITISH POTTERY KILN AT WESTON FAVELL 221

intended to be the upper surface on which the pots would be stacked for firing was somewhat flatter than the other three sides. They had been shaped by hand from puddled clay, though a few small whitish pebbles had remained in the paste, and they had become hard and brittle through use. There was no evidence that a knife had been used in shaping the ends to a standard size as in those from the Lincoln Racecourse kiln,<sup>1</sup> and some fingermarks were to be detected on their edges. No unbroken example was found, for all had cracked across in the middle at the point farthest from the supported ends, showing that the increased section at this point had been insufficient to stand the additional stress.

*Circular clay plate*

Part of a roughly circular clay plate, in the form of a flat bun about 9 in. in diameter and  $\frac{1}{2}$  to  $\frac{5}{8}$  in. in thickness, was found resting upon the central pillar of stones. It was evidently designed to form a flat surface for the support of the inner ends of the firebars. The upper side was flatter and smoother than the lower, and its outer edge had been bent down slightly all round by the potter's fingers to provide a shallow flange which would keep it in position and prevent it from slipping off the central pillar. In its centre was a hole  $\frac{7}{8}$  in. square, made by the potter's fingers pushed through the plate from the top. The hole cannot have been intended to provide a passage for the heat as it was blocked below by the central pillar, but must have been to facilitate handling or storing the plate. It is to be noted that a similar pierced circular clay plate was found in the Lincoln Racecourse kiln,<sup>2</sup> but this was conjectured to have rested upon the inner ends of the larger firebars and to have served as a baffle-plate upon the central support, which in that case was a hollow cylinder.

## THE POTTERY FOUND IN THE KILN (fig. 2)

If we are right in supposing that the kiln was a new one fired for the first time, the little pottery found in it cannot be claimed as its product. All the vessels illustrated in fig. 2 are, however, of a fairly uniform local fabric, several are wasters, and all can confidently be ascribed to the Weston Favell pottery. The ware is uniformly very hard. The vessels are for the most part plain without smoothed or burnished surfaces. The clay is plentifully charged with fine crystalline sandy particles which give it the characteristic rough texture. All vessels are wheel-made. Their colour, as is to be expected, is less uniform, varying from dull brick-red, through muddy brown to various shades of grey. The redder sherds have nearly always a grey core. Unless it is stated to the contrary all the vessels described below are in this local fabric.

*Pottery from inside the kiln near the stokehole*

1. A wide-mouthed bowl with heavy outspayed rim of rectangular section. A slight internal groove at the lip provided seating for a lid. A cracked waster. The high shoulder and general outline relate it to *Cam.* 230,<sup>3</sup> which occurs 'normally in rather crude native fabrics' (A.D. 10-43).

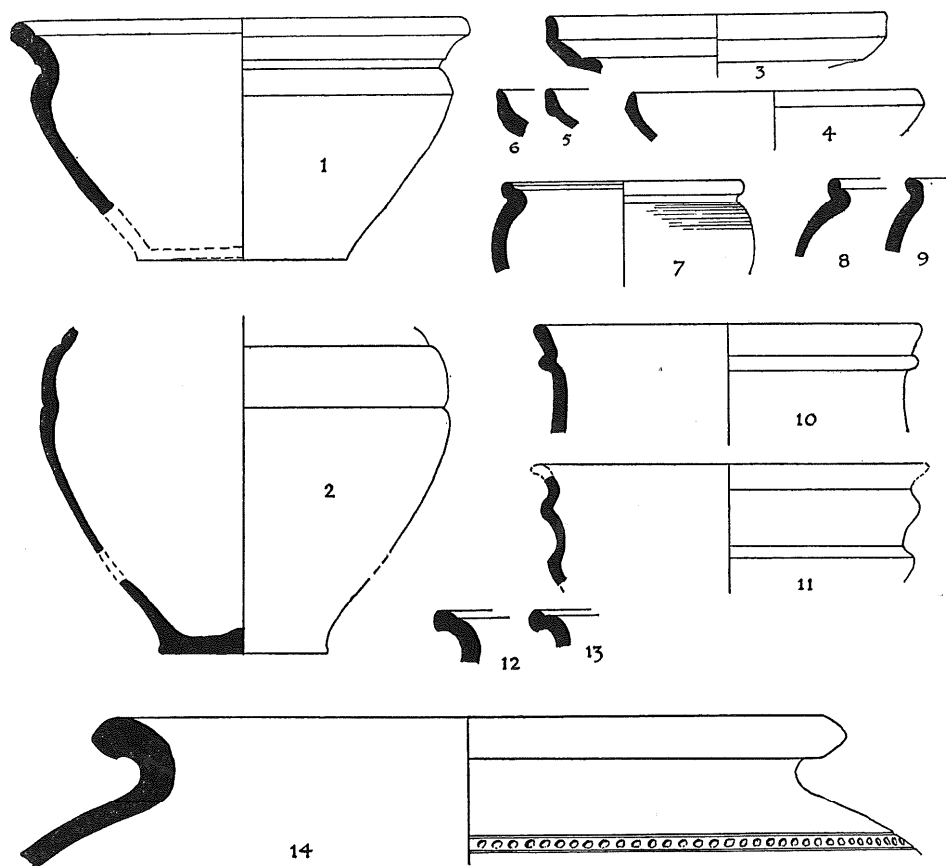
<sup>1</sup> *Op. cit.*, pp. 8-9.

<sup>2</sup> *Ibid.*, pp. 9, 11, and fig. 2.

<sup>3</sup> Hawkes and Hull, *Camulodunum* (Soc. Ant.

Research Rep. no. 14 (1947)); hereinafter referred to as *Cam.*

2. The base and part of the side of a deep bowl with a wide bulge or cordon on the shoulder. Though no part of the rim was found, the vessel is probably to be related to *Cam.* 220. This bowl also is overfired and is certainly a local product.



P.C. 1954

FIG. 2. The pottery from the kiln. (4)

*Fragmentary vessels found in excavating the kiln*

- 3-6. Imitation Gallo-Belgic dishes, perhaps better described as 'sub-Belgic'.  
 3. Sandy grey-brown in ware similar to that of 1 and 2. There is a wide quarter-round moulding at the junction of wall and base. Cf. *Cam.* 24 (c. A.D. 49-65).  
 4. Salmon-pink with grey core.  
 5. Crude pale pinkish ware, with a dirty white slip coating (?).  
 6. Coarse grey with dull brick-red exterior.

To quote *Cam.*, pp. 221-2, 'The native potter rarely attempted the neat angular mouldings and footings of the Gallo-Belgic forms: his versions of the mouldings are generally scamped. . . . Their incidence is mainly post-conquest.'

- 7-9. Small jars of bead-rim type.



## ROMANO-BRITISH POTTERY KILN AT WESTON FAVELL 223

7. Small cooking-jar. Heavy grey ware, reddish-brown internally but burnt black on the rim and exterior, which bears a series of horizontal grooves or rillings on the shoulder, made on the wheel. Grooved for a lid inside the rim. Such jars were not common in Belgic Verulamium, but became commoner in the 'quarter-century following the Claudian invasion' (*Ver.*,<sup>1</sup> fig. 21, no. 66*b*: cf. *Cam.* 251, without the lid seating at the rim).
8. Similar but larger. The ware is light grey, and, unlike the others, is copiously charged with powdered shell grit.
9. Indeterminate hard grey jar, reddish-brown internally. The surface is cracked through overfiring.
10. Fragment of the rim and upper part of a large bowl in pale pinkish-drab ware, with a prominent cordon below the rim. Probably part of an imitation girth beaker. No exact parallel can be quoted.
11. Part of the side of a wide-mouthed corrugated urn in dull red ware. This undoubtedly belongs to the same rare class of vessel as Swarling, type 11,<sup>2</sup> which comes from a grave dated 50–51 B.C. The rim, which is missing, has been restored on analogy with this Swarling urn. The only British parallels are from Aylesford<sup>3</sup> and Allington, Kent.<sup>4</sup> They appear to be copies in clay of the late Halstatt bronze cordoned bucket. An intermediate form from the Bellozanne cemetery in the Rouen Museum is illustrated by Hawkes and Dunning.<sup>5</sup>
- 12, 13. Rims of two bowls or jars in dirty brown to drab ware with grey core. The fragments are too small for the diameters to be ascertained with certainty. Both have grooves as seatings for lids.
14. Large storage-jar in pinkish-buff ware, fired to light grey on the shoulder. The ware contains a good deal of calcitic grit, but it is hard and lacks the characteristic soapy surface of the Belgic jars. There is no combing on the body, but a band of stabbed indentations between grooves on the shoulder.

A large sherd from a similar vessel with the same type of decoration was found outside the kiln. The shoulder and neck of another in the same ware has a swelling on the neck like *Ver.*, fig. 10, no. 2, and fig. 19, no. 61*b*—a Belgic characteristic. Two large sherds from similar vessels found in the kiln have fine vertical combing on the body. The closest parallel to no. 14 is *Cam.* 270 B with similar stabbing on the shoulder. This is the commonest form at Camulodunum, A.D. 49–65.

The rest of the pottery from the kiln consists of indeterminate sherds of similar wares, but too fragmentary to allow of illustration. Two complete bases from the stokehole add nothing to our knowledge of the forms made in the kilns.

The group is so small that no reliable statistics can be deduced from it as to the forms manufactured here, but that they include large storage-jars, sub-Belgic platters, and small bead-rim jars is evident.

*The date of the pottery*

In spite of the small amount of pottery recovered it is possible to draw certain conclusions as to its date. All the vessels are wheel-made and Roman in fabric, though their forms have a Belgic flavour. Claudian parallels have been cited for several of them, and there can be little doubt therefore that the Weston Flavell pottery was active in the middle of the first century A.D.

<sup>1</sup> R. E. M. and T. V. Wheeler, *Verulamium field at Swarling, Kent* (Soc. Ant. Research Rep. (Soc. Ant. Research Rep. No. 11 (1936)), hereinafter referred to as *Ver.* no. 5 (1925)) = *Swarling*.

<sup>3</sup> *Arch.* lii, 332, pl. viii, 7. <sup>4</sup> *Swarling*, p. 19.

<sup>2</sup> Bushe-Fox, *Excavation of the Late-Celtic Urn-*

<sup>5</sup> *Arch. Journ.* lxxxvii (1930), fig. 15, no. 43.

*The brooch*

A bronze brooch was found during the excavation of the kiln, lying among the lumps of fallen kiln wall (see section, fig. 1). Though not sealed by any structure, it was nevertheless stratified, and may well have been dropped shortly after the kiln was fired.

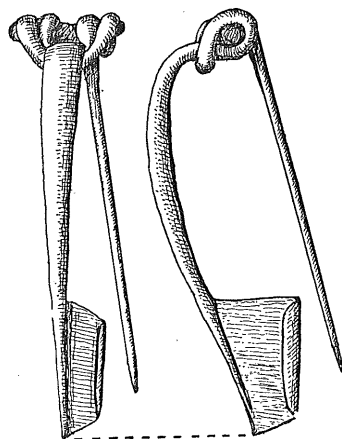


FIG. 3. Bronze brooch found in the kiln. ( $\frac{1}{2}$ )

It is a plain one-piece brooch (fig. 3) of La Tène type III, but doubtless of early Roman date (Collingwood type B).<sup>1</sup> The bow of plain oval section is flattened at the head and is of one piece with the spring and pin. The other end is bent out into a plain catch-plate. The spring has four coils round an iron pin, and the chord passes beneath the head of the bow.

Similar brooches in iron occur at Swarling<sup>2</sup> and the Harlow temple.<sup>3</sup> There is part of one from the early occupation at Newstead<sup>4</sup> and another with a tail knob from Wroxeter.<sup>5</sup> Cf. also Alchester<sup>6</sup> and Camulodunum,<sup>7</sup> probably from period III, A.D. 43-48. The type is common at Hofheim<sup>8</sup> up to A.D. 60. Our specimen is doubtless contemporary with the pottery from the kiln and may be assigned to a date certainly not later than the third quarter of the first century A.D., and quite possibly a decade or two earlier.

<sup>1</sup> Collingwood, *Archaeology of Roman Britain* (1930), 246, fig. 60, 3.

<sup>2</sup> *Op. cit.*, pl. XII, 1.

<sup>3</sup> *Antiq. Journ.* viii (1928), 308, fig. 4, 1.

<sup>4</sup> Curle, *Newstead*, pl. LXXXV, 1.

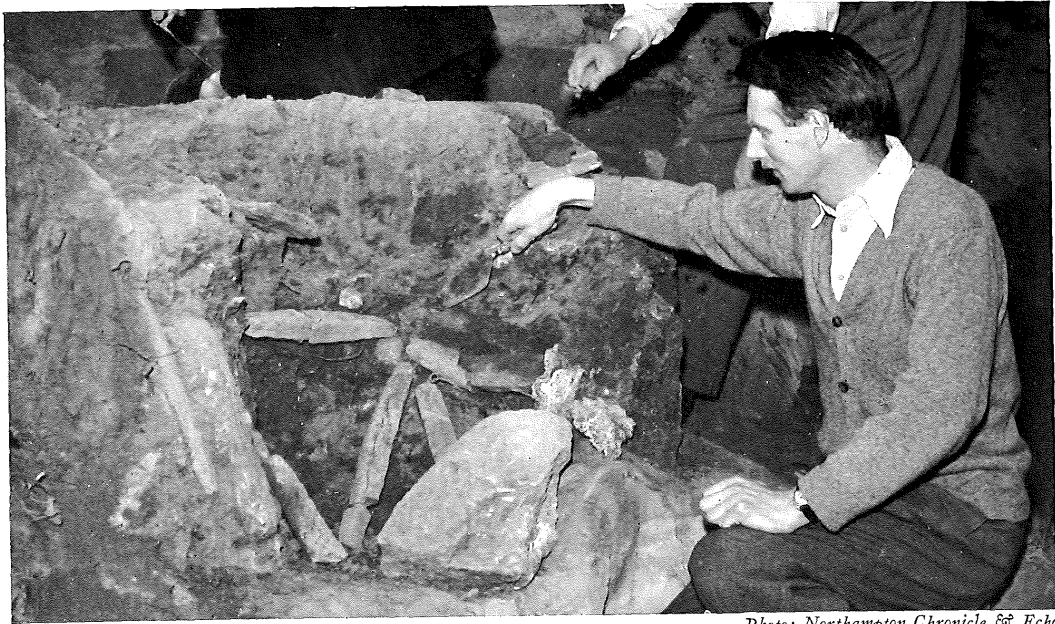
<sup>5</sup> Bushe-Fox, *Third Report . . . Wroxeter*, 1914

(Soc. Ant. Research Rep. no. 4), pl. xv, 1.

<sup>6</sup> *Antiq. Journ.* XII (1932), 65, and pl. XVII, 4.

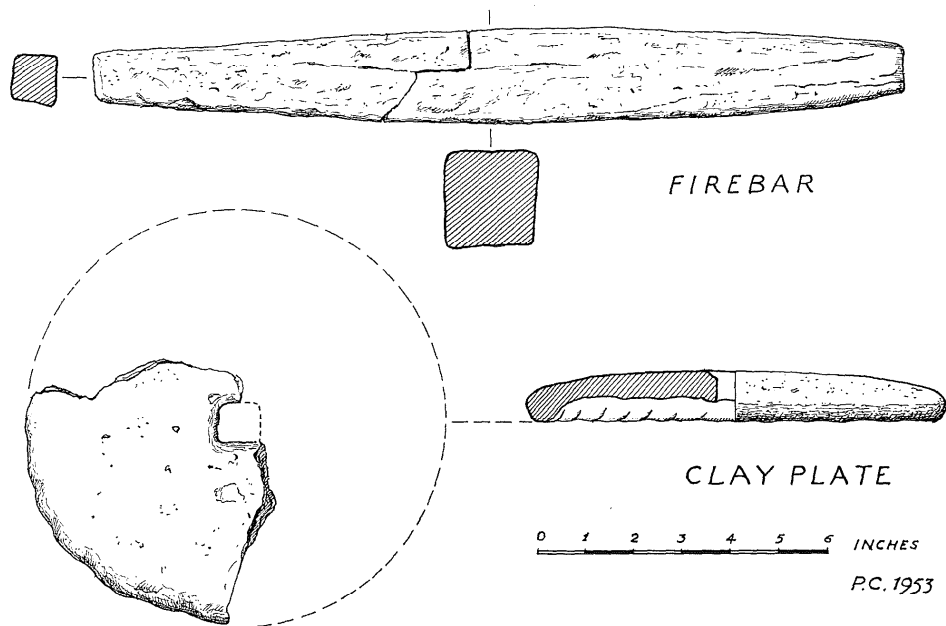
<sup>7</sup> *Op. cit.*, pl. LXXXIX, 4.

<sup>8</sup> Ritterling, *Das frühromische Lager bei Hofheim* (Annalen des Vereins für nassauische Altertums-kunde, 1913).



*Photo: Northampton Chronicle & Echo*

a. The Romano-British pottery kiln at Weston Favell, near Northampton, during excavation



b. Kiln furniture from the Romano-British pottery kiln at Weston Favell, near Northampton. ( $\frac{1}{4}$ )



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