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ARCHAEOLOGICAL SERVICES

An archaeological evaluation on former garages, Hare & Hounds Lane, Heath End, Nuneaton, Warwickshire.

Nathan Flavell & Vicki Score

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ULAS Report No 2023-019

Site Name:	Former Garages, Hare and Hounds Lane, Nuneaton
Grid Ref:	SP 35038 90818
Author:	Nathan Flavell
Client:	David Granger Design
Planning Authority:	Nuneaton and Bedworth Borough Council
Planning Ref:	NB17_035295.2b
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Cover photo: One of the exposed kilns

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Contents

OASIS Information 4
Summary 5
Introduction 5
Location, Topography & Geology 5
Historical and Archaeological Background 7
Aims and Objectives 8
Research Objectives 8
Methodology 8
Results 9
Trench 1 11
Trench 2 14
The Pottery and Tile – *Alice Forward* 19
Discussion 21
Bibliography 23
Appendix 1: HER data 24
Appendix 2: Context List 33

Figures

Figure 1: Location of site 6
Figure 2: Detail of development area and proposals. Provided by client. 7
Figure 3: Location of Trenches 01 and 02. 10
Figure 4: Trench 1 plan 11
Figure 5: Trench 01 looking north-east. 12
Figure 6: Trench 01 Kiln [17]. 12
Figure 7: In Situ burning (23), [24] in section 13
Figure 8: Layer (1) in section looking south 13
Figure 9: Detail of layer (1) in section looking south (Pit [5], posthole [7] and gully terminus [9]) 14
Figure 10: Trench 2 plan 15
Figure 11: Trench 2 looking north-west 16
Figure 12: Possible kiln [28] looking south 16
Figure 13: in situ burning [33] looking north-east 17
Figure 14: Pit [36] looking north-east 17
Figure 15: Pit [30] looking south-west 18
Figure 16: Location of known pottery kilns (from Wilson 2015, fig 2) 21

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OASIS Information

PROJECT DETAILS	**Oasis No**	universi1-513738		
	Project Name	Archaeological Evaluation: Hare and Hounds Lane Nuneaton		
	Start/end dates	23-26/01/2023		
	Previous/Future Work	Unknown		
	Project Type	Evaluation		
	Site Status	None		
	Current Land Use	Parking		
	Monument Type/Period	Kilns (medieval), postholes (medieval), pits (medieval)		
	Significant Finds/Period	Pottery and tile (13-15th century)		
	Reason for Investigation	NPPF		
	Position in the Planning Process	Planning Condition 038896		
	Planning Ref.	NB17_035295.2b		
PROJECT LOCATION	**County**	Warwickshire		
	Site Address/Postcode	Hare and Hounds Lane, Heath End, Nuneaton, Warwickshire CV10 7JA		
	Study Area	635m²,		
	Site Coordinates	SP 35038 90818		
	Height OD	100m aOD		
PROJECT CREATORS	**Organisation**	University of Leicester Archaeological Services		
	Project Brief Originator	Warwickshire Planning		
	Project Design Originator	University of Leicester Archaeological Services		
	Project Manager	Vicki Score		
	Project Director/Supervisor	Nathan Flavell		
	Sponsor/Funding Body	David Granger Design		
PROJECT ARCHIVE		Physical	Digital	Paper
	Recipient	Warwickshire Museum	Warwickshire Museum	Warwickshire Museum
	ID (Acc. No.)	T/2007	T/2007	T/2007
	Contents		Photographs	Report / Trench & context sheets, photo, context & drawing indices.
PROJECT BIBLIOGRAPHY	**Type**	Grey Literature (unpublished)		
	Description	Developer Report A4 pdf		
	Title	An archaeological evaluation on former garages, Hare & Hounds Lane, Heath End, Nuneaton, Warwickshire.		
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Nathan Flavell

Summary

This report details the results of an archaeological evaluation carried out by University of Leicester Archaeological Services on former garages, Hare and Hounds Lane, Heath End, Nuneaton. The work was undertaken between 23rd – 26th January 2023 on behalf of David Granger Design in advance of the erection of four terraced dwellings

Two trenches were excavated across the area revealed medieval activity in the area in the form of pottery kilns and associated features with pottery dating to the 13-15th centuries. These probably relate to the Chilvers Coton pottery industry.

The archive will be deposited with Warwickshire Museums under the accession number T/2007.

Introduction

This document forms the report for a phase of archaeological evaluation by trial trenching at the former garages, Hare and Hounds Lane, Heath End, Nuneaton, CV10 7JA. This is in accordance with the National Planning Policy Framework (NPPF), Section 16 Conserving and Enhancing the Historic Environment (MHCLG 2021). The work was carried out by University of Leicester Archaeological Services (ULAS) on behalf of David Granger Design.

Planning Permission (Ref. 038896) has been granted for the demolition of the garages and the erection of four terraced dwellings at Hare and Hounds Lane, Nuneaton. The garages have recently been demolished. Due to the archaeological potential, the Planning Archaeologist for Warwickshire as advisor to Nuneaton and Bedworth Borough Council has requested a phase of archaeological evaluation comprising trial trenching.

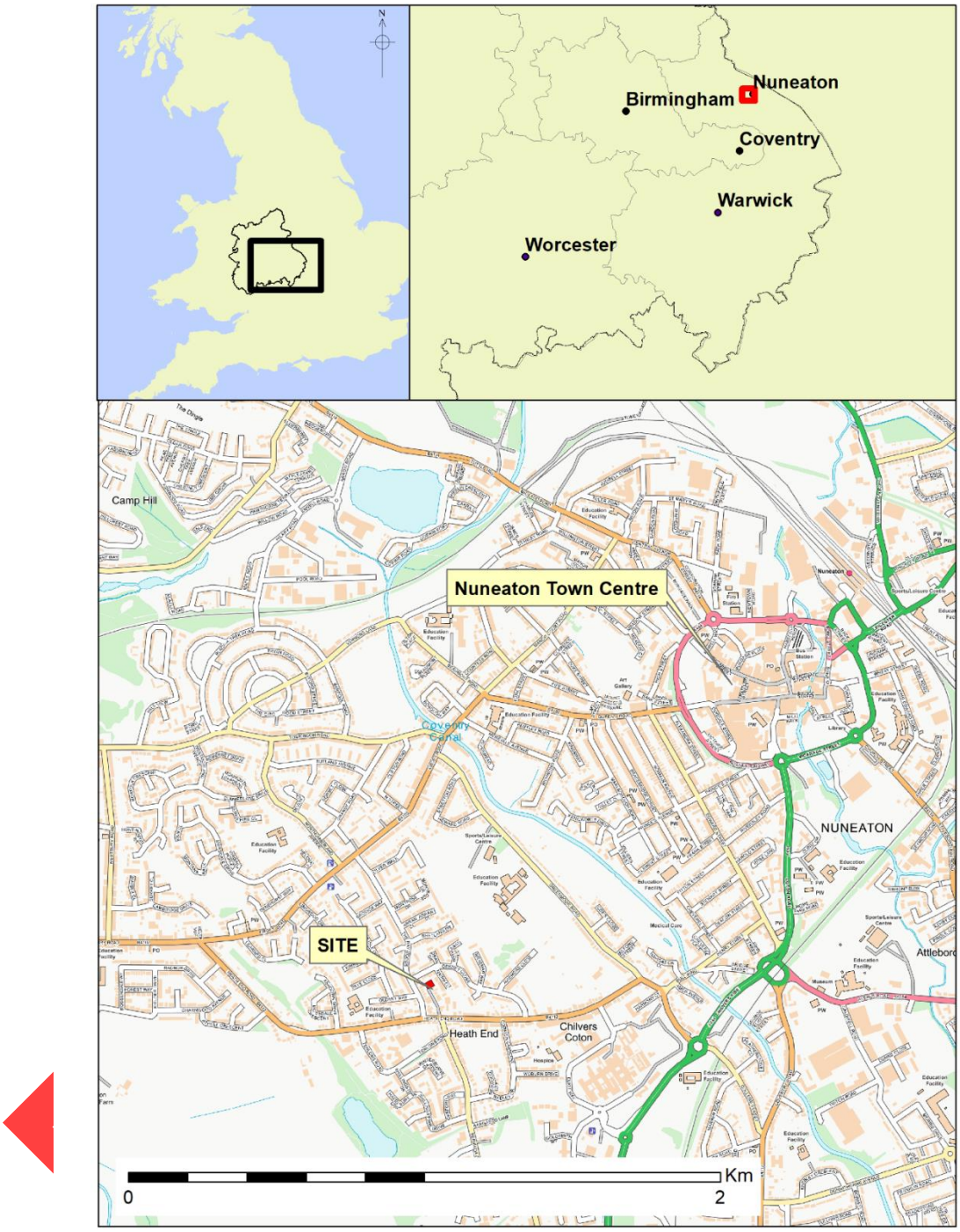
Location, Topography & Geology

The proposed development area (PDA) consists of a rectangular site between residential dwellings, which formerly contained two groups of garages and an area of hard standing located at the end of Hare and Hounds Lane within the Heath End area of the town of Nuneaton, around 1.5km south-west of Nuneaton town centre (Figure 1).

The area covers 635m², is flat and lies at a height of around 100m aOD (**Error! Reference source not found.**).

The British Geological Survey website indicates that the underlying geology is likely to be Thrussington Member Diamicton overlying Pennine Middle Coal Measures: Mudstone, Siltstone and Sandstone. The Soilscape website indicates that the soils, will be slightly acid loamy and clayey soils with impeded drainage, (Soilscape 8).

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Figure 1: Location of site
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Figure 2: Detail of development area and proposals. Provided by client.

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Historical and Archaeological Background

The site of the proposed development is in an area of significant archaeological potential, within an area known for medieval pottery production at Chilvers Coton, Nuneaton (Warwickshire Historic Environment Record MWA 7370). Archaeological excavation in the area in 1971 identified eight 13th century pottery and tile kilns and a further six 14th – 15th century pottery kilns on sites lying adjacent to the east (MWA5039: MWA5145) and approximately 20m north (MWA5144) of the proposed development site. There are several others in the vicinity (for example MWA5040 and MWA5041). The ceramic evidence indicated that production began in the 13th century with fine white wares, and continued into the 17th century, producing a range of goods, including Midlands Purple, Cistercian and Slip Wares.

Kiln sites contain important evidence for the industrial process of pottery manufacture. Archaeological deposits can include kilns and waste pottery dumps. There is therefore a potential for the site to contain important evidence for the industrial process of pottery manufacture in this area and is likely to impact upon deposits associated with activity from the medieval period and later.

The early Ordnance Survey maps of the area show the site as formerly lying on agricultural land close to the local school and the Hare and Hounds public house. The 1901 edition shows former coal shafts close to the study area. Housing appears along Hare and Hounds Lane in the 1950s, and the area is fully developed, including the garages by the 1975 edition.

The HER plans for the site are shown in Appendix 1.

Aims and Objectives

The main objectives of the archaeological work are:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range and significance of any surviving archaeological deposits.
- To establish the ecofactual and environmental potential of any archaeological deposits and features encountered.
- To provide sufficient information on the archaeological potential of the site to assess the impact of the proposed development on cultural heritage and to help formulate a mitigation strategy
- To record any archaeological deposits and produce an archive and report of any results.

The results of the evaluation will provide information in order for the local planning authority to make informed recommendations and to identify an appropriate mitigation strategy if required.

Research Objectives

The WSI identified that there is potential for archaeology within the study area, particularly from the medieval period. A large amount of evidence for medieval pottery kilns has been revealed in the local area through previous archaeological work and there are several known kilns close to the site. The evaluation therefore has the potential to contribute to the following research aims derived from the *West Midlands Regional Research Framework* (2021).

7. HIGH MEDIEVAL (1066–1485):

7.6.1: How and where was post-Conquest pottery manufactured and distributed, and what communication systems were employed?

7.6.3: Can we identify, investigate and date sites associated with the region's key extractive industries?

7.6.4: Can we develop a typological classification of buildings associated with medieval industrial and commercial activities and can we identify sub-regional and chronological patterning?

Methodology

All work followed the procedures set out in the approved *Written Scheme of Investigation* (WSI) for the project (ULAS 2022) and was carried out in accordance with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for Archaeological Field Evaluation* (2020), adhering to their *Code of Conduct* (2022a).

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A temporary site code has been assigned to the work (**ULAS_22388**). This will be used to identify all records and artefacts in lieu of a final accession code which will be issued by Warwickshire County Council following deposition.

Two trenches, one 17.5m and the other 13.3m in length, were excavated using a JCB 3x with a 1.8m ditching bucket (Fig. 3). Each trench was mechanically excavated until the first archaeological feature or natural deposit was encountered.

For the purpose of this work very few of the archaeological features were excavated, instead they were simply recorded on ULAS trench recording and context sheets as being present within the area of excavation. Where considered necessary hand-drawn plans were created. All features and trenches were recorded by digital photography.

Due to the volume of pottery encountered within the waster dump, a decision was taken to recover only a representative sample of the sherds from this specific context (see below for more details). All finds were hand collected, placed in bags labelled with the assigned context number and returned to the ULAS post-excavation lab for processing.

Monitoring

A site visit was undertaken with the Project Manager and the Planning Archaeologist once both trenches were open. Following the site visit, the trenches were fully recorded and backfilled.

Results

Both trenches encountered a significant amount of modern made ground as detailed in Tables 1 and 2. Natural substrata was recorded in Trench 1 at approximately 1m deep at the north-east end and 1.2m deep at the south-west. Trench 2 was deeper with natural substrata being identified at approximately 1.4m at the northern end of the trench. The made ground appeared to comprise levelling layers for the current ground surface above a possible garden soil. These layers contained post-medieval/modern brick, glass and pottery. Both trenches recorded archaeological features beneath the made-ground deposits which appear to be related to the medieval pottery industry in the area.

Table 1: Detailing depths of main depositional changes in Trench 1

Trench 1							
	OD Height NE	**0**	**5m**	**10m**	**15m**	**17.5m**	**OD Height SW**
Top of trench	102.04						101.98
Thickness of modern Overburden		0.4	0.33	0.38	0.4	0.4	
Thickness of PM garden soil/levelling		0.53	0.66	0.58	0.76	0.80	
Depth of natural below surface	100.94	1.1	0.99	0.96	1.16	1.2	100.78
Depth of base of trench below surface	100.84	1.09	1.1	1.26	1.35	1.35	100.63

Table 2 Detailing depths of main depositional changes in Trench 2

Trench 2						
	OD Height N	**0**	**5m**	**10m**	**13.3m**	**OD Height S**
Top of trench	102.07					102.09

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Thickness of modern Overburden		0.58	0.42	0.48	0.5	
Thickness of PM garden soil/levelling		0.86	1.03	0.99	0.87	
Depth of natural below surface	100.63	1.44	-	-	-	-
Depth of base of trench below surface	100.63	1.44	1.45	1.47	1.37	101.53



Figure 3: Location of Trenches 01 and 02.

Trench 1

Trench 1 was aligned north-east to south-west, measuring 17.5m long (Fig. 4). Natural geology consisting of pale mottled yellow sandy clay was uncovered at a depth of between 1-1.2m below ground level. Cut into this were several pits and postholes (Figs 4-5; [5], [7], [9], [11], [13], [15] & [19] [21]; Fig. 4). Near the middle of the trench was a key-hole shaped feature with evident burning probably a kiln [17] (Fig. 6). This appeared to have a possible working area or raking out layer at what might be the flue end of the kiln, to the south-east, seen in section. Another area of in situ burning was noted in the northern section at the north-east end of the trench [24] which could indicate another kiln or an oven/hearth feature (Fig. 7).

At the north-east end of the trench in the southern section was a mixed grey-brown silty clay layer and pottery (1) (Figs 8-9), approximately 0.2m thick. This could represent levelling of a pottery waste heap.

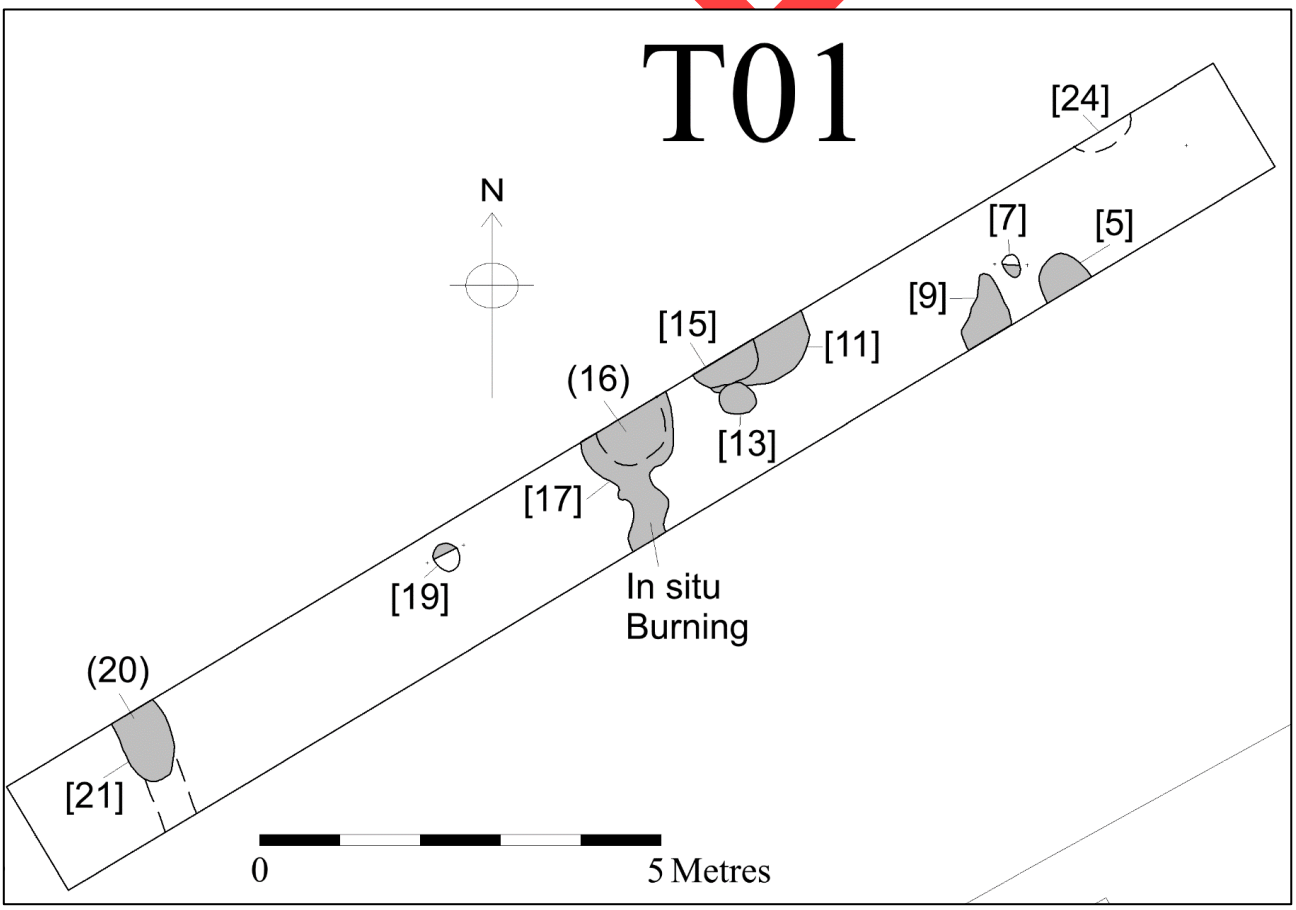


Figure 4: Trench 1 plan



Figure 5: Trench 01 looking north-east.



Figure 6: Trench 01 Kiln [17].



Figure 7: In Situ burning (23), [24] in section



Figure 8: Layer (1) in section looking south



Figure 9: Detail of layer (1) in section looking south (Pit [5], posthole [7] and gully terminus [9])

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Trench 2

Trench 2 was aligned north-west to south-east, measuring 13.3m long (Figs 10-11). The natural geology was the same as in Trench 1 but only observed at the north-west end of the trench at a depth of approximately 1.44m (Fig. 12). Cut into the natural substrata at the north-west end was a probable kiln [28], oval shape in plan, and with stone and tile suggesting structural elements (Fig.13). Surrounding it was a possible raking out layer (25) consisting of black-grey ash-soil.

Another small area of in situ burning [33] was noted towards the centre of the trench on the eastern edge (Fig. 13). This could be another kiln feature or over/hearth. This appears to have been sealed by a working/trample layer (31) comprising grey silty clay with charcoal and pot inclusions, approximately 0.17-0.2m thick.

At the south-east end of the trench was a pit or structure with a mixed stone and clay lining [36] (Fig. 14). Another possible pit [30] in the centre of the trench appeared to truncate some of the post-medieval layers and is likely to be a later feature, possibly a quarry pit of some kind (Fig. 15).

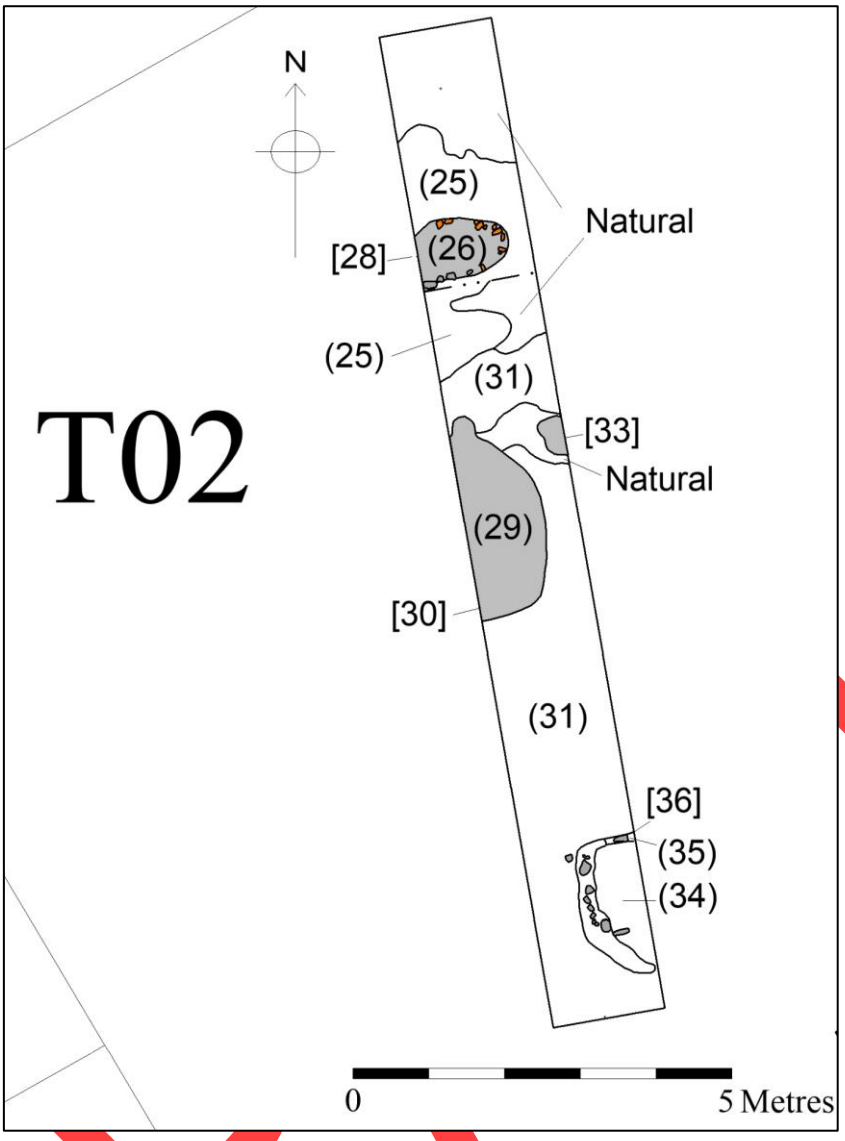


Figure 10: Trench 2 plan

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Figure 11: Trench 2 looking north-west



Figure 12: Possible kiln [28] looking south



Figure 13: in situ burning [33] looking north-east



Figure 14: Pit [36] looking north-east



Figure 15: Pit [30] looking south-west

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The Pottery and Tile – *Alice Forward*

March 2023

Introduction

An assemblage of medieval pottery and tile was presented for assessment following trial trenching on land off Hare and Hounds Lane, Nuneaton. In total 196 sherds weighing 4,527g were recovered. The largest group of material from Context 001 is a hand-collected representative sample of the material from that context rather than 100% collection. This report forms a brief assessment of the material.

Methodology

The assemblage has been recorded in accordance with *The Pottery Standards* (Barclay et al 2016), quantifying the assemblage by sherd count and weight within each context. The CIfA *Toolkit for Specialist Reporting* has also been followed (2022b). For the purpose of this assessment report a detailed study of the sherds by fabric has not been carried out but in quantifying the assemblage it appears that the sherds are all Chilvers Coton fabric types.

Results

The results of the general quantification are detailed below in Table 3.

Trench 1

The majority of the assemblage is from context 001, a dump of material found within Trench 1. The sherds for the most part appear to be waster material, some of which are over-fired, others under-fired with fractured clay and burnt glaze. The sherds collected are a sample of what was present in the context. In total 146 sherds were recovered and include rim sherds and handles with slashed decoration from glazed jugs, as well as a large sherd from a saggar (kiln furniture). Additionally small amounts of roof tile and fired clay were recovered as part of this assemblage.

Overall, the material from Trench 1 appears medieval rather than later medieval in date from the glaze and form of the sherds. There is a higher proportion of jug sherds including slashed handle sherds and green glazed body sherds.

Trench 2

The assemblage from Trench 2 is slightly different in profile. From context 31 the sherds are not clearly wasters, and appear later in date to those from Trench 1, with bowl, jar and jug sherds.

Context 26 is notably different to the other parts of the assemblage as it only consists of tile. Two of the fragments of tile are over-fired and burnt.

Table 3: quantification of pottery by context

Trench	Context	Total no. sherds	Total weight (g)	Other comments
1	001	146	3,057	Forms include part of a saggar, jugs (handles, rims and glazed body sherds). Tile is also represented within this group. Medieval

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1	002	12	194	Joining sherds all from a single vessel plus other jug sherds, plus a fragment of fired clay. Medieval
1	006	4	23	Later med low-fired sherd
1	010	1	31	Handle with slashed dec and green glaze. Medieval
1	016	1	46	Jug green glazed sherd. Medieval
1	018	2	8	Jug sherds. Medieval
2	026	5	378	Group of tile – looks later in date. Later medieval/early post-med
2	031	25	790	A group of sherds that don't have the same 'waster' character. Bowls, jugs and jars present. Later medieval
Total		**196**	**4,527**	

Discussion and recommendations

The assemblage of pottery excavated from the site at Hare and Hounds Lane, Nuneaton, includes the remains of pottery kiln waster material, overfired and distorted pottery sherds and kiln furniture (saggar), with Context 001 forming the major dump. The sherds, from the brief assessment, appear to be 13th to 14th century in date, which is known to be the earliest phase of the medieval ceramic industry at Chilvers Coton (Mayes and Scott 1984, 40-41). Further detailed fabric work, which is more indicative of date, would better determine the phasing for this group.

There is a concentration of waster material within Trench 1 which differs from the material in Trench 2 with Context 31 containing sherds that are not kiln wasters. However, the small group of tile from Context 26 is burnt and overfired which correlates with the backfill of a possible pottery kiln.

The evaluation trenches have been located in an area of significant archaeological features that are likely to be part of the well-known Chilvers Coton medieval and post-medieval ceramic industry. The inclusion of tile amongst the vessels within this assemblage is replicated within the assemblages found at other sites within the Chilvers Coton complex (Mayes and Scott 1984).

If further excavations were to happen in this area it is strongly recommended that a suitable pottery specialist be included in the WSI writing stage and that time be allocated for them to carry out an assessment of the material on-site as a selection process will be necessary. This is in line with the Historic England guidance on the excavation of pottery kilns (2015) and the CIfA *Toolkit for Selecting Archaeological Archives* (2022c). This is due to the high likelihood of further waster dumps and other features associated with medieval pottery production being found, as typically production sites contain a high volume of ceramic material.

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Discussion

The evaluation has identified archaeological features in both trenches relating to the medieval pottery industry beneath approximately 1 – 1.4m of post-medieval/modern levelling layers. The number of features in Trench 2 suggests that there is a concentration of activity in the northwest area of the site continuing beyond the trench sections with associated activity to the east. However, it is likely that the whole of the proposed development area contains a density of archaeological activity.

The area evaluated for this scheme of work lies adjacent to Sites 2 and 3 from the 1971 excavations (Myers and Scott 1984). Both sites contained extensive evidence for the production of medieval pottery with six and eight kilns excavated in these areas respectively. Large assemblages of pottery, tile and kiln furniture were recovered from both sites and the results of the current work would suggest that the proposed development site is likely to produce similar quantities of archaeological features and material associated with the production of pottery and tile.

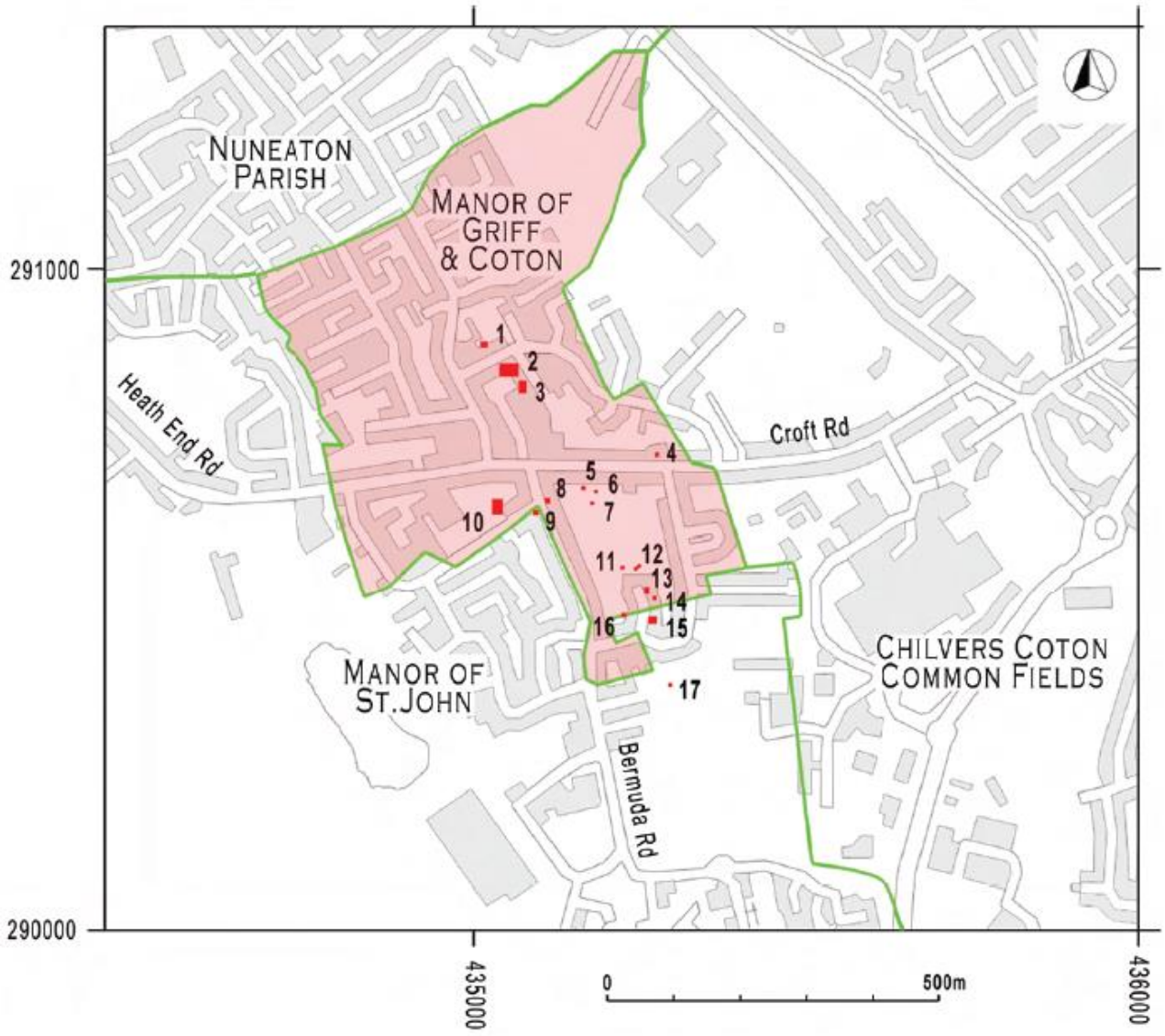


Figure 16: Location of known pottery kilns (from Wilson 2015, fig 2)

This is further supported by the results of a watching brief at No 8 Hare and Hounds Lane carried out in 2005 (Hancox 2005), which identified similar stratigraphy with up to 1.2m of modern overburden with the natural deposits visible at 0.7m at the rear of the property (east side), but not exposed at the front (west side). Although no cut archaeological features were recorded, a mid/dark brown silty-clay layer, heavily charcoal flecked, and containing small fragments of unfired or under fired clay fragments and medieval pottery was recorded – c .0.2m deep to the rear of the property and 0.4-0.5m deep at the front.

The pottery recovered dated to the 13th-15th century and represented a variety of wares. Most of it was underfired, and consequently very abraded. There was also a blistered fragment and 8 badly, or over fired fragments as well as 2 fragments of kiln superstructure. No sooting was noted suggesting that the vessels had never have been used and were probably therefore wasters (Hancox 2005).

The evaluation suggests that this area contains further activity relating to the medieval pottery industry with the identification of at least two kilns, associated features and suggestions of further kilns within the site. An archaeological mitigation strategy will need to be agreed with the Planning Archaeologist for Warwickshire, prior to construction although the exact work is likely to depend on the design of the foundations.

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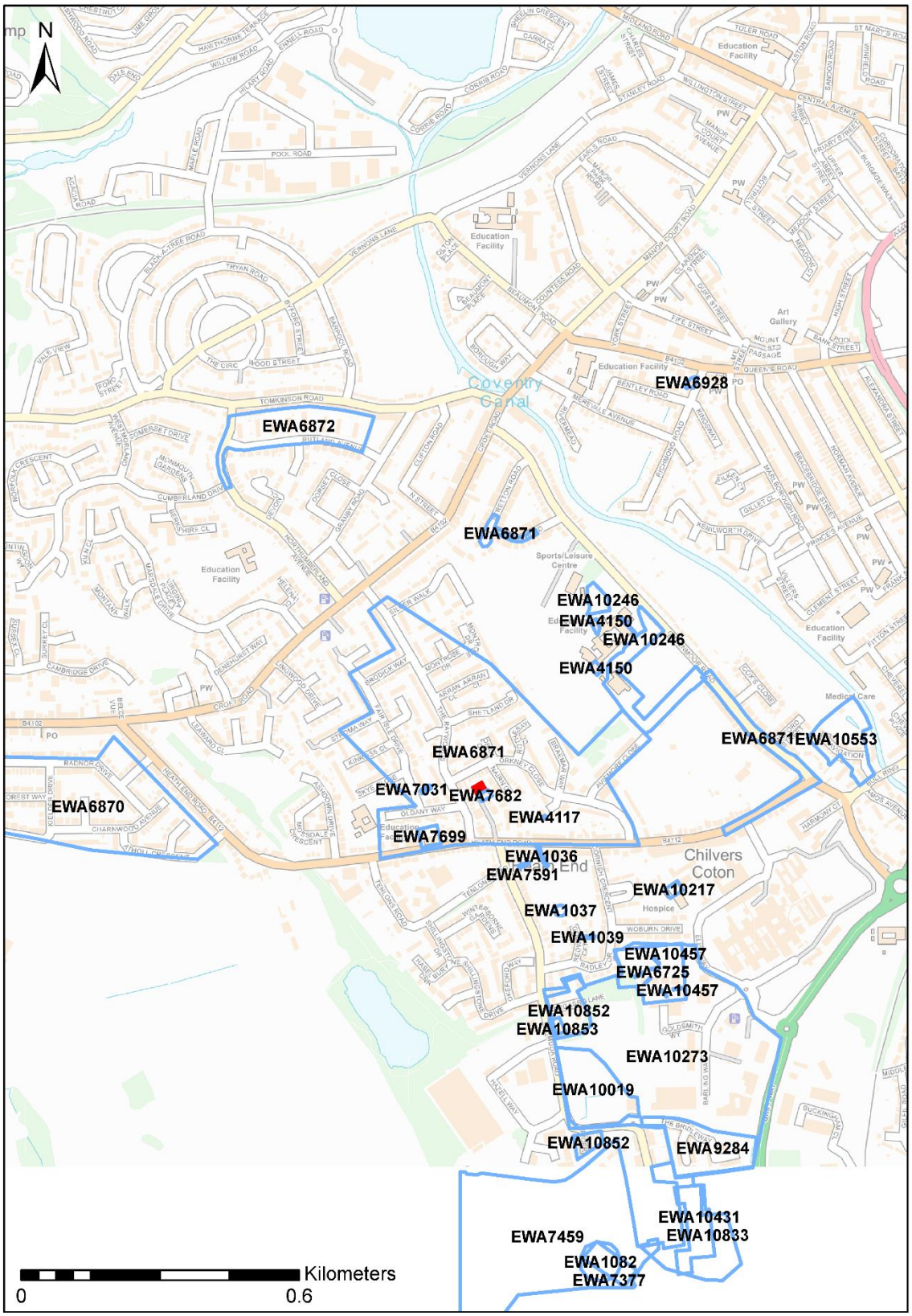
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Appendix 1: HER data



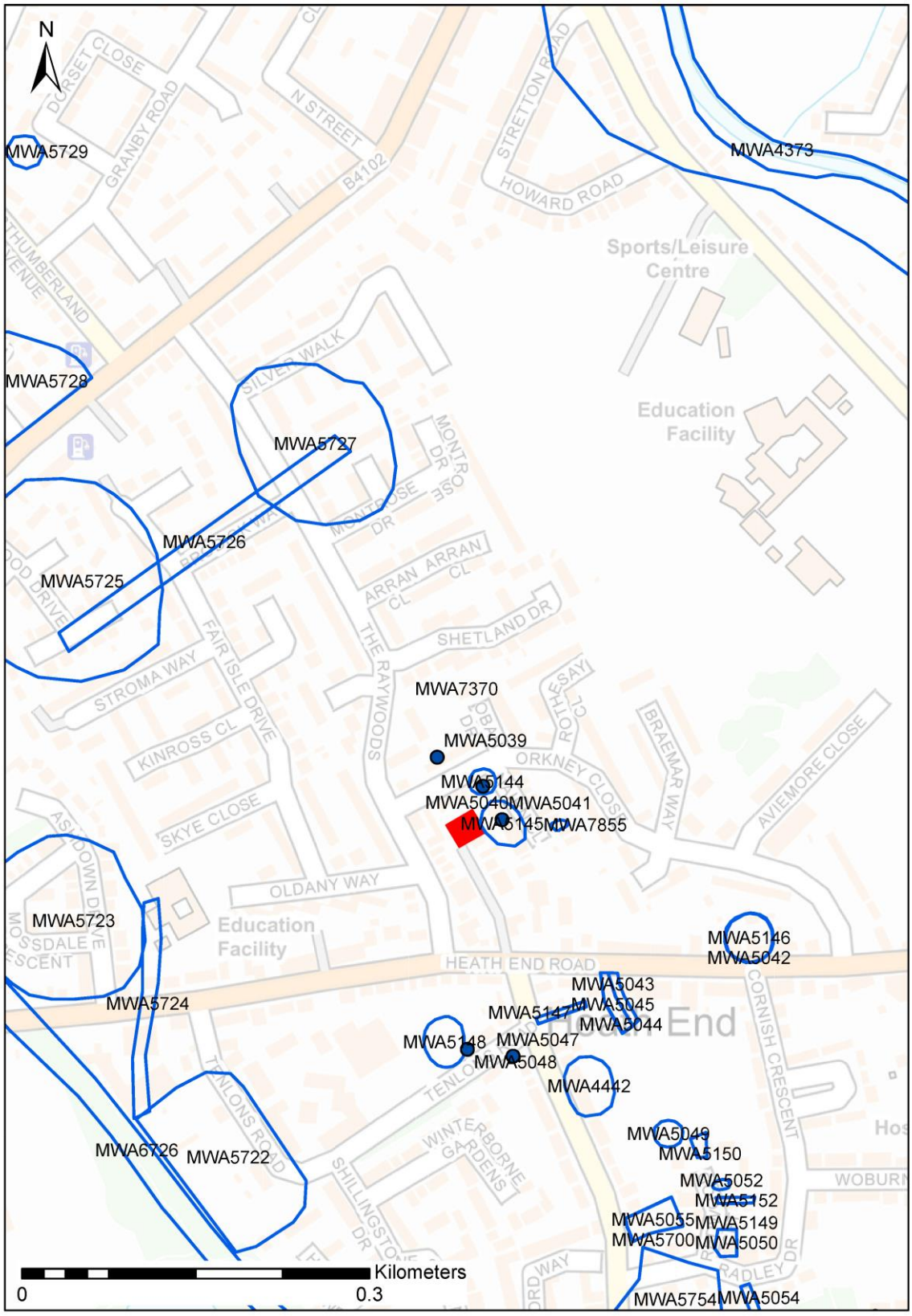
Events listed on the Warwickshire HER. Proposed Site shown in red.

EvUID	Record Type	Name	Location	DispDate
EWA6870	WB	Archaeological Observation centering on Radnor Drive, Nuneaton	Radnor Drive, Chardwood Ave, Atholl Crescent	1996-1997
EWA6871	WB	Archaeological Observation north of Heath End Road, Nuneaton	The Raywoods, north of Heath End Road.	1997
EWA6871	WB	Archaeological Observation north of Heath End Road, Nuneaton	The Raywoods, north of Heath End Road.	1997
EWA6872	WB	Archaeological Observation North of Croft Lane, Nuneaton	North of Croft Lane, Nuneaton	1997
EWA6928	WB	W/brief, land off Ricmond Rd, Nuneaton	Richmond Road, Nuneaton	September 2000
EWA7031	WB	120 Fair Isle Drive, Nuneaton	120 Fair Isle Drive, Nuneaton	
EWA6871	WB	Archaeological Observation north of Heath End Road, Nuneaton	The Raywoods, north of Heath End Road.	1997
EWA7377	EX	A Medieval Settlement at Bermuda Village, Nuneaton. Research Investigations 1996-7	Bermuda Village, Nuneaton	1996-1997
EWA7459	EV	Bermuda Park, Nuneaton, 2004	Bermuda Park, Nuneaton	May 2004
EWA7591	WB	Watching Brief at 12 Bermuda Road, Nuneaton	12 Bermuda Road, Nuneaton	February 2004
EWA7682	WB	Watching Brief at No 8 Hare and Hounds Lane, Stockingford, Nuneaton	No 8 Hare and Hounds Lane, Stockingford, Nuneaton	April-May 2005
EWA7699	WB	Archaeological Recording at Heath End Road, Chilvers Coton, Nuneaton	Heath End Road, Chilvers Coton	August 2005
EWA4150	SR	Archaeological Observation at St. Thomas More RC School, Nuneaton	St Thomas More RC School, Nuneaton	January 1996
EWA4150	SR	Archaeological Observation at St. Thomas More RC School, Nuneaton	St Thomas More RC School, Nuneaton	January 1996
EWA9284	ASS	An Archaeological Desk Based Assessment of Eliot Park, Nuneaton, Warwickshire	Eliot Park, Nuneaton, Warwickshire	January 2005
EWA4117	SR	Archaeological Observation at 47 Orkney Close, Chilvers Coton, Warwickshire	Orkney Close, Chilvers Coton, Warwickshire	June 1993
EWA10019	EV	Evaluation on Site A at Bermuda Village, Nuneaton	Land at Bermuda Village, Nuneaton, Warwickshire	2011-2012
EWA10217	EV	Evaluation at Mary Ann Evans Hospice, Nuneaton	Mary Ann Evans Hospice, Nuneaton	July-August 2013
EWA10246	WB	Watching Brief at St Thomas More School, Greenmoore Road, Nuneaton	St. Thomas More School, Greenmoor Road, Nuneaton, Warwickshire	
EWA10246	WB	Watching Brief at St Thomas More School, Greenmoore Road, Nuneaton	St. Thomas More School, Greenmoor Road, Nuneaton, Warwickshire	

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EWA10273	DS	Archaeological Desk-Based Assessment for the Proposed Development at Paradise Farm, Bermuda, Nuneaton	Paradise Farm, Bermuda, Nuneaton	1998
EWA10431	GS	Geophysical survey at Bermuda Park	Bermuda Park, Nuneaton	12 October 2012
EWA6725	GS	An Archaeological Evaluation at Paradise Farm, Bermuda, Nuneaton	Paradise Farm, Bermuda, Nuneaton	May-Oct 1998
EWA10457	EV	Archaeological Evaluation of the Proposed Development at Paradise Farm, Bermuda, Nuneaton, Warwickshire	Paradise Farm, Bermuda, Nuneaton, Warwickshire	October 1998
EWA10553	EV	Evaluation at The Wharf, Boot Bridge, Nuneaton	The Wharf, Boot Bridge, Nuneaton	May 2016
EWA10833	EV	Evaluation at Bermuda Village (Site C), Nuneaton	Bermuda Village (Site C), Nuneaton	January 2013
EWA10852	EV	Evaluation at Bermuda Village, Nuneaton	Bermuda Village, Nuneaton	August 2011
EWA10852	EV	Evaluation at Bermuda Village, Nuneaton	Bermuda Village, Nuneaton	August 2011
EWA10853	SMS	Strip, Map and Sample Excavations, Bermuda Village, Nuneaton	Bermuda Village, Bermuda Road, Nuneaton	August to November 2011
EWA1036	EX	Excavations at Heath End Road, Chilvers Coton	Heath End Road, Chilvers Coton	1967
EWA1037	EX	Excavations at Redwood Croft, Nuneaton	16 Redwood Croft, Nuneaton	1967
EWA1039	EX	Excavations at No 7 Redwood Croft, Nuneaton	No 7 Redwood Croft, Nuneaton	1967
EWA1082	EX	Excavations at Westeria Way, Bermuda, Nuneaton	Westeria Way, Bermuda, Nuneaton	1970

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Monuments listed on the Warwickshire HER. Proposed Site shown in red.

MonUID	Record Type	Name	Summary	MonType	Period
MWA5047	MON	Medieval Features at 11 Bermuda Road	A Medieval ditch was excavated in the area of Bermuda Road, Chilvers Coton. Sherds of Medieval pottery were recovered from the ditch.	DITCH; FINDSPOT	Medieval
MWA5039	MON	Site of Medieval Pottery Kilns at 4 Orkney Close	The site of eight pottery kilns dating from the Medieval period. The location was in the area of Orkney Close, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5048	MON	Site of Medieval Pottery Kiln W of 9 Tenlons Road	The site of a Medieval pottery kiln which was excavated. The site was located in the area of Tenlons Road, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA10140	FS	Find of a stone axe in Bermuda, Nuneaton	Find of a stone axe from the prehistoric period in the Harefield Lane area of Bermuda.	FINDSPOT	Early Lower Palaeolithic to Late Iron Age
MWA10196	FS	Find of pottery sherds at Heath End, Nuneaton.	Potsherds dating to the post medieval or Imperial period were found on allotments to the south of Atholl Crescent, Heath End.	FINDSPOT	Post-medieval to Imperial
MWA1654	FS	Findspot - Roman coin hoard	Findspot - a coin hoard dating to the Roman period, its exact find location is unknown.	FINDSPOT	Romano-British
MWA5040	MON	Site of Med Pottery Kilns, Orkney Close/Nairn Close	The site of six pottery kilns of Medieval date which were excavated. They were situated in the area of Orkney Close, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5041	MON	Site of Medieval Pottery Kilns W of Nairn Close	The site of eight Medieval pottery kilns which were excavated. They were situated in the area of Nairn Close, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA20553	ACR	Crash Site of Dornier 217E near Burmuda Village, Nuneaton	Crash Site of Dornier 217E near Burmuda Village in January 1942.	AIRCRAFT CRASH SITE; DORNIER	Modern
MWA6255	MON	Excavation of Post Medieval Manor House at Bermuda	During an excavation the remains of a manor house were found. The house was probably built during the Medieval period. It was located at Bermuda.	HOUSE; MANOR HOUSE; TIMBER FRAMED HOUSE	Medieval to Post-medieval
MWA1666	MON	Possible Site of Knights Templars' Manor at Bermuda	The possible site of a Medieval manor house belonging to the Knights Templar. The site has been excavated and lies 300m south west of Bermuda.	MANOR HOUSE; HOUSE; TEMPLARS CHURCH?	Medieval to Post-medieval
MWA5721	MON	Site of Mine Shaft W of Spring Kidden Wood	The site of a mine shaft which dates from the Imperial period. It was situated 500m south west of Heath End.	MINE; MINE SHAFT	Imperial
MWA1790	MON	Site of Post Medieval Lime Kilns 300m E of The Lawn	The site of lime kilns dating to the Post Medieval period. They were situated 600m south east of Coton Lawn.	LIME KILN; KILN	Post-medieval
MWA8138	MON	Site of Brick Yard off Arbury Road	The site of a brickyard dating to the Imperial period. It was situated 600m north west of Heath End.	BRICKYARD	Imperial
MWA5722	MON	Site of Griff Colliery at Heath End	The site of Griff Colliery, where coal was mined. The colliery was in use from the Imperial period and was situated at Heath End.	MINE; COLLIERY	Imperial
MWA5723	MON	Site of Griff Brick and Tile Works at Heath End	The site of Griff brickworks, where bricks were manufactured. It was in use during the Imperial period, and was marked on the Ordnance Survey map of 1887. It was situated at Heath End.	BRICKWORKS	Imperial
MWA5724	MON	Site of Griff Mineral Railway at Heath End	The site of Griff Mineral Railway at Heath End, which was built during the Imperial period. It is marked on the Ordnance Survey map of 1887.	MINERAL RAILWAY	Imperial to Modern
MWA7856	MON	Site of Mine Shaft S of Croft Middle School	The site of a coal mine shaft dating to the Imperial period. It was situated 100m south of Croft Middle School.	MINE	Imperial

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MWA5728	MON	Site of Midland Brick and Tile Works at Heath End	The site of Midland Brick and Tile Works at Heath End, which were in use during the Imperial period. They were marked on the Ordnance Survey map of 1887, and were located in the area of Denehurst Way.	BRICKWORKS; TILE WORKS	Imperial
MWA5725	MON	Site of Brick and Tile works at Heath End	The site of a brick and tile works at Heath End which was in use during the Imperial period. The works were marked on an Ordnance Survey map of 1913, and were situated in the area of Lingwood Drive.	BRICKWORKS	Imperial
MWA5727	MON	Site of Clay Pit at Heath End	The site of a clay pit at Heath End from which clay was extracted during the Imperial period.	CLAY PIT	Imperial
MWA5726	MON	Site of Tramway at Heath End	The site of a tramway at Heath End which was in use during the Imperial period.	TRAMWAY	Imperial
MWA5729	MON	Site of Old Shaft at Heath End	The site of a mine shaft known as Old Shaft at Heath End. It was in use during the Imperial period.	MINE; MINE SHAFT	Imperial
MWA5144	MON	Site of Med Tile Kilns at Nairn Close/Orkney Close	The site of six Medieval tile kilns which were excavated. They were located in the area of Nairn Close and Orkney Close, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5145	MON	Site of Tile Kilns W of Nairn Close	The site of eight tile kilns of Medieval date which were excavated. They were situated in the area of Nairn Close, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5042	MON	Site of Medieval Pottery Kilns at 155 Heath End Roa	The site of two Medieval pottery kilns which were excavated. They were situated in the area of Heath End Road, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5146	MON	Site of Medieval Tile Kilns at 155 Heath End Road	The site of two Medieval tile kilns which were excavated in the area of Heath End Road, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5043	MON	Medieval Features at 252 Heath End Road	The site of a Medieval ditch which was excavated. It was situated in the area of Heath End Road, Chilvers Coton.	DITCH	Medieval
MWA5044	MON	Post Medieval Features at 250 Heath End Road	A group of Post Medieval pits was excavated in the area of Heath End Road, Chilvers Coton, and some 17th century pottery was recovered.	PIT	Post-medieval
MWA5045	MON	Site of medieval and post-medieval pottery kiln at 252 Heath End Road, Chilvers Coton	The site of a pottery kiln dating to the medieval and Post-medieval periods was excavated in the area of Heath End Road, Chilvers Coton.	POTTERY KILN; KILN	Medieval to Post-medieval
MWA5046	MON	Site of Medieval Pottery Kilns at 10 Bermuda Road	The site of three Medieval pottery kilns which were excavated. The site was located in the area of Bermuda Road, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5147	MON	Site of Medieval Tile Kilns at 10 Bermuda Road	The site of three Medieval tile kilns which were excavated in the vicinity of Bermuda Road, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5148	MON	Site of Medieval Tile Kiln W of 9 Tenlons Road	The site of a Medieval tile kiln which was excavated in the vicinity of Tenlons Road, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA4442	MON	Excavation of Medieval Settlement at Bermuda Road	Evidence of Medieval occupation and a kiln was found during excavations at Bermuda Road, Chilvers Coton.	OCCUPATION SITE; DITCH	Medieval
MWA5049	MON	Site of Medieval Pit N of 16 Redwood Croft	The site of a Medieval pit which was excavated. It contained a fragment of 13th century pottery, and was situated in the area of Redwood Croft, Chilvers Coton.	PIT	Medieval
MWA5051	MON	Site of Medieval Pottery Kiln at 23 Redwood Croft	The site of a Medieval pottery kiln which was excavated. It was situated in the area of Redwood Croft, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5050	MON	Site of Med Pottery Kilns at 10 and 12 Radley Drive	The site of two Medieval pottery kilns which were excavated. They were situated in the area of Radley Drive, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5149	MON	Site of Medieval Tile Kiln at 10 and 12 Radley Driv	The site of two Medieval tile kilns which were excavated in the vicinity of Radley Drive, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5151	MON	Site of Medieval Tile Kilns W of 11 Redwood Croft	The site of two Medieval tile kilns which were excavated in the vicinity of Redwood Croft, Chilvers Coton.	TILE KILN; KILN	Medieval

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MWA5052	MON	Site of Medieval Pottery Kilns W of 11 Redwood Croft	The site of a Medieval pottery kiln which was excavated. It was situated in the area of Redwood Croft, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5152	MON	Post Medieval Features found at 7 Redwood Croft	The site of a pit of Post Medieval date which was excavated in the vicinity of Redwood Croft, Chilvers Coton.	PIT	Post-medieval
MWA5053	MON	Site of Medieval Pottery Kiln at 7 Redwood Croft	The site of a Medieval pottery kiln which was excavated. It was situated in the area of Redwood Croft, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA5150	MON	Site of Medieval Tile Kiln at 23 Redwood Croft	The site of a Medieval tile kiln which was excavated in the vicinity of Redwood Croft, Chilvers Coton.	TILE KILN; KILN	Medieval
MWA5054	MON	Medieval Pit found at 13 Radley Drive	The site of a group of Medieval pits which were excavated. They were situated in the area of Radley Drive, Chilvers Coton.	PIT	Medieval
MWA5756	MON	Site of Foundry in Chilvers Coton	The site of a foundry used for casting metal. It dated to the Imperial period and was situated west if the Bull Ring, Chilvers Coton. It is marked on the first edition Ordnance Survey map of 1887.	FOUNDRY	Imperial
MWA5770	MON	Site of Brick Works on Queens Road, Nuneaton	The site of a brick works where bricks were manufactured during the Imperial period. The site was located on Queens Road, Nuneaton, and is marked on the first edition Ordnance Survey map of 1887.	BRICKWORKS	Imperial
MWA5769	MON	Site of Lime Kilns in Chilvers Coton	The site of several lime kilns which were used to make lime during the Imperial period. They were located 100m north of Bridge Street, Chilvers Coton, and are marked on the first edition Ordnance Survey map of 1887.	LIME KILN; KILN	Imperial
MWA5768	MON	Site of Canal Wharf in Chilvers Coton	The site of a canal wharf dating to the Imperial period, where vessels would have loaded and unloaded goods. It was situated on the north side of Bridge Street, Chilvers Coton, and it is marked on the first edition Ordnance Survey map of 1887.	CANAL; CANAL WHARF	Imperial
MWA5755	MON	Site of Nuneaton Union Workhouse	The site of Nuneaton Union Workhouse which provided work and lodgings for the poor people of the parish during the Imperial period. It was situated on the west side of College Street, Chilvers Coton, and is marked on the first edition Ordnance Survey ma	WORKHOUSE; HOSPITAL	Imperial
MWA5780	MON	Site of Chilvers Coton Station	The site of Chilvers Coton railway station which was built during the Imperial period. The station was located 100m north east of College Street, Chilvers Coton, and is marked on the first edition Ordnance Survey map.	RAILWAY STATION	Imperial
MWA5751	MON	Site of Griff Brick and Lime Works	The site of Griff Brick and Lime Works which were in use during the Imperial period. The site was located on the west side of Bermuda Road and is marked on the first edition Ordnance Survey map of 1887.	BRICKWORKS; LIME WORKS	Imperial
MWA5750	MON	Site of Mine Shaft at Heath End	The site of a mine shaft, from which coal was extracted during the Imperial period. It was situated 100m west of Bermuda Road, Chilvers Coton. The mine shaft is marked on the first edition Ordnance Survey map of 1887.	MINE; MINE SHAFT	Imperial
MWA5753	MON	Site of Clay Pit at Griff Brickworks	The site of a clay pit at Griff Brickworks, from which clay was extracted during the Imperial period. The site is marked on the first edition Ordnance Survey map of 1887.	CLAY PIT	Imperial
MWA5752	MON	Site of Tramway at Griff Brick Works	The site of a tramway at Griff Brick Works which was in use during the Imperial period. It was situated to the east of Bermuda Road, Chilvers Coton and is marked on the first edition Ordnance Survey map of 1887.	TRAMWAY	Imperial
MWA5754	MON	Site of Mine Shaft to the east of Bermuda Road, Nuneaton	The site of a mine shaft which was in use in the 18th-19th centuries. An evaluation to the south of the mine shaft in 2011 identified a series of gullies which are thought to be associated with the mine.	MINE SHAFT; PIT; GULLY; MINE	Post-medieval to Imperial

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MWA5700	MON	Site of Medieval Tile Kiln at 54 Bermuda Road	The site of a Medieval tile kiln which was excavated in the area of Bermuda Road, Chilvers Coton.	POTTERY KILN; TILE KILN; KILN	Medieval
MWA5055	MON	Site of Medieval Pottery Kiln at 54 Bermuda Road	The site of a Medieval pottery kiln which was excavated. It was situated in the area of Bermuda Road, Chilvers Coton.	POTTERY KILN; KILN	Medieval
MWA7370	MON	Medieval Pottery Industry, Chilvers Coton	The site of pottery kilns of Medieval origin which represent the pottery industry of Chilvers Coton, situated east of Stockingford.	POTTERY KILN; KILN	Medieval to Post-medieval
MWA1792	MON	Site of Medieval Pottery Kilns at Chilvers Coton	The site of numerous Medieval pottery and tile kilns which were situated at Chilvers Coton.	POTTERY KILN; TILE KILN; KILN	Medieval
MWA9748	MON	Chilvers Coton Medieval Settlement	The probable extent of the medieval settlement based on the first edition Ordnance Survey map of 1888.	SETTLEMENT	Medieval
MWA7855	MON	Site of Mine Shafts N of Heath End Road	The site of a mine shaft which was in use during the Imperial period. It was situated 100m north of Heath End Road, Chilvers Coton.	MINE; MINE SHAFT	Imperial
MWA12846	MON	Possible site of a pottery kiln	Pot Kiln Close on First Edition.	POTTERY KILN	Medieval to Post-medieval
MWA13188	BLD	Post-medieval building at Bermuda Village, Nuneaton, Warwickshire	Post medieval features revealed during trial trenching including late post-medieval brick and tile demolition rubble.	BUILDING; GULLY	Imperial to Modern
MWA7857	MON	Site of lime kilns S of Nuneaton football ground	The site of several lime kilns which date to the Imperial period. They were located to the south west of Nuneaton football ground.	LIME KILN; KILN	Imperial
MWA6676	MON	Site of Brickworks SW of Bermuda	The site of a brickworks where bricks were made during the Imperial period. The brickworks is marked on the Ordnance Survey map of 1902. It was situated 300m west of Bermuda.	BRICKWORKS	Imperial
MWA1879	BLD	Colliery Village, Bermuda	A settlement or colliery village called Bermuda which was built during the Imperial period to house workers of the nearby colliery. It is situated 300m east of Harefield Lane.	SETTLEMENT	Imperial
MWA5730	MON	Site of Brick Works at Heath End	The site of a brick works, where bricks were manufactured during the Imperial period. It was situated at Heath End, and marked on the Ordnance Survey map of 1887. The site was in the area of Kiln Close.	BRICKWORKS	Imperial
MWA5730	MON	Site of Brick Works at Heath End	The site of a brick works, where bricks were manufactured during the Imperial period. It was situated at Heath End, and marked on the Ordnance Survey map of 1887. The site was in the area of Kiln Close.	BRICKWORKS	Imperial
MWA6726	MON	Site of Griff Branch Line	The site of Griff Branch Railway Line which dates to the Imperial period. It was situated 500m west of Stockingford, and is marked on the Ordnance Survey map of 1887.	RAILWAY	Imperial
MWA30332	BLD	Merchants House, No 6, Bull Ring, Nuneaton	A 19th century house and attached building with a symmetrical front.	DETACHED HOUSE; WORKSHOP	Imperial to Modern
MWA30456	MON	Site of the 19th century Park Farm, Bermuda Road, Nuneaton	The remains of the 19th-20th century buildings of Park Farm where identified during an evaluation in 2011.	FARM; WALL; FLOOR; DRAIN; GULLY	Imperial to Modern
MWA30497	MON	Site of a Mission Church, Croft Road, Stockingford	The site of a late 19th to early 20th century mission church on Croft Road.	CHAPEL; MISSION CHURCH	Imperial to Modern
MWA31552	MON	Boot Bridge over Coventry Canal	Boot Bridge over Coventry Canal	CANAL BRIDGE	Imperial to Modern
MWA31553	MON	Catgallows Bridge over Coventry Canal	Catgallows Bridge over Coventry Canal	CANAL BRIDGE	Imperial to Modern
MWA31554	MON	Wash Lane Bridge over Coventry Canal	Wash Lane Bridge over Coventry Canal	CANAL BRIDGE	Imperial to Modern
MWA4373	MON	The Coventry Canal	The Coventry Canal, a waterway for transporting goods, was built during the Imperial period.	CANAL	Imperial

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MWA4379	MON	Wharves, off Croft Road, Nuneaton	Documentary evidence suggests that there were two canal wharves, where vessels would have loaded and unloaded goods, located to the east of Croft Road, Nuneaton, during the 19th century. A coal wharf was marked on the Ordnance Survey map of 1835.	CANAL; CANAL BASIN; CANAL WHARF; WEIGHING MACHINE	Imperial
DWA866	LB	Merchant House and attached building to the Rear	II		

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Appendix 2: Context List

Context	Cut	Below	Trench	Description
01	-	Levelling layer	1	Waster pot levelling layer
02	-	01	1	Buried subsoil
03	-	02	1	Kiln raking out deposit
04	05	02	1	Mottled pale grey sandy clay
05	05	04	1	Pit
06	07	02	1	Light brown-grey sandy clay
07	07	06	1	Posthole
08	09	02	1	Mid brown grey sandy clay
09	09	08	1	Gully terminus?
10	11	13, 15	1	Mixed grey silty clay
11	11	10	1	Pit
12	13	02	1	Dark grey sandy clay
13	13	12	1	Posthole
14	15	02	1	Dark brown-black silty clay
15	15	14	1	Pit
16	17	02	1	Mixed grey sandy clay
17	17	16	1	Kiln with in situ burning
18	19	02	1	Mixed grey silty clay
19	19	18	1	Posthole
20	21	02	1	Black-grey charcoal/clinker
21	21	20	1	Ditch or tree throw
22	24	02	1	Mixed grey-black silty clay
23	24	22	1	Burnt orange sandy clay
24	24	23	1	Oven/hearth?
25	-	Clay levelling?	2	Kiln raking out deposit
26	28	Clay levelling?	2	Mixed grey silty clay
27	28	26	2	Burnt stones and tile structure
28	28	27	2	Kiln?
29	30	Levelling layer	2	Mixed pink and yellow clays
30	30		2	Pit
31	-	Clay levelling	2	Grey silty clay working or trample layer
32	33	31	2	Burnt orange-brown clay

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33	33	32	2	Oven/hearth?
34	36	31?	2	Mid grey silty clay
35	36	34	2	Clay and stone lining
36	36	35	2	Stone lined pit?

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Medieval Pottery

For a useful general reference: J. Haslam, 'Medieval Pottery' Shire Archaology

Late Saxon c.850- c.1150AD

quartz tempered/sandy

1. **Stamford Ware c.850-1250AD**
Very fine bodied - the inclusions are barely visible to the naked eye. Thin walled and generally, but not always, wheel thrown. The body colour varies between black, white, grey, buff, orange or pink, with occasional pale yellow, orange, yellowish green or blue green lead glaze, the transparent glaze reflecting both the colour of the body and the firing conditions. More rarely, mottled green black or green copper glaze is found. Sometimes the external surface are knife trimmed and/or sooted. The ware is made in a wide range of forms - bowls, cooking pots/storage jars, spouted pitchers, jugs, pedestal dishes, bottles, lamps, crucibles etc.

The earlier forms include the cp/stjs, large storage jars and bowls - in quite a sandy fabric, often black, grey, buff or pink - but sometimes also white - in colour, occasionally decorated with roller stamping or rouletting on the rim or upperbody. A much finer fabric - often white or pale buff, appears from c.1050/1075 together with collared cp/stjs and spouted pitchers. The very finest fabric dates from c.1150, and occurs in table ware forms such as jugs and tubular spouted pitchers, bottles and dishes - from about the same time the copper is sometimes added to the transparent lead glaze. Decoration also becomes increasingly complex - often in the form of applied clay strips, stamps, thumbing, stabbing, incising and combing - from the mid to late 12th century.

This pottery can be quite easily confused with some Roman wares - such as the white flagon ware, but the presence of glaze and decoration, sooting and 'random' knife trimming will all point to a particular sherd being medieval rather than Roman, and the shape of the rim, or vessel form where known, should also help with the identification.

Stamford ware is the most commonly found late Saxon ware in Leicester and the county, the Stamford ware industry goes out of production during the first half of the 13th century.
(Kilmurry, K., 1980. 'The Pottery Industry of Stamford, Lincs. AD850-1250, British Archaeological Reports (British Series) 84.)

2. **Thetford Type Ware c.850-1200AD**
This is a hard fired, wheel thrown, smooth to sandy ware, grey in colour and unglazed, but occasionally roller stamped or rouletted. Made in a range of forms including cp/stjs, large jars with multiple handles and applied and thumbed clay strips, spouted pitchers, bowls, lamps and costrels.

The pottery can be confused with Roman grey wares save for the decoration and for the vessel forms, where identifiable.

Only very small quantities of this pottery are found in Leicestershire, and it is known as a 'type ware' because it was apparently not made at the Thetford kilns, but by itinerant potters working within the Thetford tradition. This pottery probably lies within a 10th to early 12th century range.
(Rogerson, A., and Dallas. C., 1984. 'Excavations in Thetford, 1948-59 and 1973-80'. East Anglian Archaeology 22.)

3. **Torksey Type Ware c.850-1200AD**
Another 'type ware', this pottery is grittier than Thetford type ware and is grey or black on the surfaces, with a reddish brown core or margins, giving a sandwich effect. The wheel thrown pots occur most commonly as cp/stj, but bowls, cresset lamps, storage jars and spouted pitchers also occur - with rouletted or thumbed decoration.

Again this pottery is relatively rare in Leicester and the county. The pottery can be confused with Roman Black Burnished or Grey Wares. It probably dates between c.900-1150 AD when found in the city or county.
(Barley, M.W., 1964. 'Medieval Borough of Torksey Excavations 1960-2', Antiquaries Journal XLIV.)
(Barley, M.W., 1981. 'Medieval Borough of Torksey Excavations 1963', Antiquaries Journal LXI, part II.)

4. **Leicester Ware c.800-1100 AD**

Another grey, gritty and generally wheel thrown ware - the range of known forms is limited to cp/stj and storage jars, some knife trimmed around the exterior base, and with thumbed applied clay strip decoration or simple thumbing on the handles of the jars. A single shallow, hand made bowl or platter was also recovered from the kiln site. Rare, only a few sherds have been tentatively identified to date from excavations in Leicester. The pottery is dated to the 9th or 10th to the late 11th century.

Also easily confused with Roman grey wares, save for the thumbing, knife trimming and the vessel forms. (Hebditch, M., 1967-8. 'A Saxo Norman Pottery Kiln Discovered in Southgate Street, Leicester 1964', Transactions Leics. Archaeological and Historical Society, XLIII, 4-9)

calcite gritted/shelly ware

5. **Lincoln/Lincs Shelly Wares c.850-1100AD**
This pottery is tempered with rough shell, is generally wheel thrown and fired in a clamp or bonfire kiln, leading to a wide variation in surface colouration which ranges from brown to red or purple/black. usually with a dark grey or black core. Vessel forms include cp/stjs, bowls - often with inturned rims, lamps and storage jars, sometimes decorated with roller stamping or rouletting, incised wavy lines, thumbed applied clay strips and thumbing. Liquid containers such as spouted pitchers or jugs do not occur in this ware because it could not be fired at a high enough temperature to become water tight - the shell would burn out.

Small quantities of this and the virtually indistinguishable St Neots type ware (although the latter is, apparently, never rouletted) are found in Leicester - and the county. Once again, easily confused with Roman shelly wares - though the latter have flat bases and often show wheel marks, or evidence of surface 'rilling' on the exterior. (McCarthy M., 1979. 'The Pottery' in J.H. Williams 1979, St Peter's Street, Northampton: Excavations 1973-76, Northampton Development Corporation Archaeol. Mon. 2, 151-229)

Other wares dating from this period include Reduced and Oxidised Sandy wares and Calcite Gritted wares - which serve as a 'catch all' for pottery which cannot be more closely identified.

Early Medieval c.1100/1150 - c.1250 AD

Stamford ware continued in production and was the most common glazed pottery in Leicester and the county during the 12th and early to mid 13th centuries. However, this period also saw the emergence of new, often rurally based, pottery industries - and a general decline in the standards of pottery manufacture.

rock tempered

1. **Potters Marston Ware c.1100-c.1300 AD**
The major inclusions in this pottery was originally thought to be limestone, but has subsequently been identified as an igneous rock - syenite - an outcrop of which is known near the site of the kilns at Potters Marston, 12 km south west of Leicester. The pottery appears to have been the most common ware in Leicester and in the south west of the county by the mid to late 12th century, apparently gradually taking over from Stamford ware in importance.

Potters Marston is generally hand or coil built, buff coloured with a grey core. However marked colour variations - including black and reddish patches on the surface - suggests that the earlier pottery was fired in clamp or bonfire kilns. The 12th century pots are often narrow bodied and sloping shouldered, and often highly decorated. The later pottery tends to be more rounded and squat in form. The initially relatively restricted range of vessel forms - cp/stjs, storage jars, bowls, lamps and jugs, was extended during the 13th century to include wide mouthed bowls, dripping dishes, fire covers and ridge tiles - when single flued kilns were also introduced, which made the surface colour of the pottery much less variable. At their best, the potters produced fine walled, often highly decorated vessels - comparable to Stamford ware in terms of the sheer variety and range of decoration - especially during the early period of production, in spite of the constraints imposed by the potters having to work with such a coarse bodied clay.

The industry was finally superseded, probably towards the end of the 13th century by the finer, wheel thrown and glazed products of industries based at Chilvers Coton in Warwickshire, Nottingham and elsewhere. (Davies, S., and Sawday, D., 1991. 'The Post Roman Pottery' in A. Connor and R. Buckley 'Roman and Medieval Occupation in Causeway Lane, Leicester' Leicester Archaeology Mon 5.)

(Haynes, J., 1952. 'A 13th century kiln site at Potters Marston', Trans Leics Archaeological and Historical Society, XXVIII.)
(Sawday, D., 1991. 'Potters Marston Ware', Trans Leics Archaeol Hist Soc LXV.)

calcite gritted/shelly

2. **Stanion/Lyveden Type Ware c.1100-c.1400 AD**
The Saxo Norman Lincoln/Lincs shelly ware and St Neots type ware gradually gave way to the rurally based medieval Lincolnshire and Stanion Lyveden type shelly wares, the latter industry being based in north Northamptonshire. The Stanion Lyveden type wares - hand made and buff coloured - only occur in small quantities in the city, but becomes increasingly common to the south and east of the county. The earlier forms include sloping shouldered jugs with flared rims, often decorated with rouletting or incised lines, later cp/stjs become more rounded with thumbing at the rim. During the 13th century, the industry developed a wider range of forms and a distinctive style of decoration - including the use of white slip under a green glaze, and grid stamped applied white clay pads.
(McCarthy, M., 1979. 'The Pottery' in J.H. Williams 1979.)

quartz tempered/sandy

3. **Splashed Ware c.1100-1250 AD**
This ware gets its name from the effect of the powdered lead glaze on the body of the pot after firing, when it acquired a pitted appearance. It was probably made in Leicester, as well as at Nottingham and Derby and elsewhere in the midlands. The surfaces are generally buff coloured with a grey core, the glaze firing to an orange or orange/green. Leicester Splashed ware is generally hand or coil built, at Nottingham the finer Splashed wares are often wheel thrown. The range of forms appears to be fairly limited - cp/stjs, bowls and jugs are common, but lamps, fire covers, tripod pitchers and ridge tiles are also known in this ware in Leicester, where the pottery was probably fired in simple single flued kilns.

Both local and Nottingham Splashed wares are found in small quantities in Leicester, the former becoming more common to the north of the county. The Leicester Splashed wares have a distinctive range of decoration including jugs with rod handles (round in section) decorated with incised chevron patterns, and cordons round the body. Applied clay zoomorphic decoration (depicting animals) - though very rare - is also found on this ware.

(Sawday, D., 1998. 'Post Roman Pottery' in L. Cooper 1998, New Evidence for the Northern Defences of Roman Leicester: An archaeological excavation at Cumberland Street, Trans Leics Archaeol Hist Soc, LXXII: 92-109.)

Small quantities of hand made or wheel thrown pottery in Oxidised and Reduced Sandy wares also occur during this period.

Medieval c.1200/1250 - c.1450 AD

A period of economic expansion - reflected in the rise of new large scale pottery industries such as that at Chilvers Coton in Warwickshire, where over 68 kilns have been excavated.

quartz tempered/sandy

1. **Chilvers Coton ware c.1200/1250 - 1450/1475 AD**
The most common pottery in Leicester and frequently found to the west of the county during this period, these generally fine bodied white, buff or pink, wheel thrown wares dominate in the early period - the mixed lead and copper glazes firing mottled yellow and green. Early forms include cp/stjs, bowls, dripping dishes and jugs - later forms - pipkins, skillets, urinals and cisterns. The 13th century jugs in particular can be highly decorated with an overall glaze, applied iron rich clay strips or pads, with stamps, notching and rouletting etc. The often elegant early forms give way during the later 14th century to more pedestrian plain shapes, with a general decline in the use of glaze and decoration and the increasing use of red firing clays. The latter were more able to withstand the higher firing temperatures achieved by the gradual transition, from the 13th to the 15th centuries, from single flued to multi flued kilns. The later vessels often had only a token splash of brown or brownish black glaze around the upper portion of many of the pots as decoration, whilst the glaze on jugs was often limited to a 'bib' around the pouring lip and down to the shoulder of the vessel.

A coarser version of this ware, generally buff bodied and crudely made, also exists, but its distribution tends to be restricted to a limited area around the kiln source.

(Mayes, P., and Scott, K., 1984. 'Pottery Kilns at Chilvers Coton, Nuneaton', Society for Medieval Archaeology, Mon. 10.)

2. **Medieval Sandy Ware c.1200/1250 - 1450/1475 AD**
This white or pale buff pottery is similar to the Chilvers Coton wares, but the inclusions are larger, ranging up to 2.5mm as opposed to a maximum size of approximately 1mm, for the comparable Chilvers Coton wares - and the pottery feels and looks coarser. However the Medieval Sandy wares share the same general overall characteristics and patterns of development as the Chilvers Coton wares and are apparently fairly local in origin. Some are thought to be products of the Burley Hill kilns at Duffield north of Derby, and others may in fact be coarser products of the Chilvers Coton kilns. The later, more hard fired pottery possibly originates from the Ticknall kilns on the border of Derbyshire and Leicestershire.

Other green glazed wheel thrown sandy wares are also found in smaller quantities in Leicester, becoming more common in the county nearer the kiln source, such as the Nottingham green glazed wares. The mid 13th century and later Nottingham jugs in particular being characterised by a particularly good quality dark green glaze. To the east and in Rutland the wheel thrown Bourne wares dominate.

calcite gritted/shelly

3. **Stanion Lyveden Type Ware c.1100 - 1400+ AD**
This pottery continues to appear in Leicester, albeit in lesser quantity than the Chilvers Coton and medieval sandy wares. Cooking pots/storage jars, bowls and glazed jugs with applied grid stamped pads and slip decoration occur during the 13th and 14th centuries, the pottery becoming plainer and more functional by the later 14th century.
(Bellamy, B., 1983. 'Medieval Pottery Kilns at Stanion', Northamptonshire Archaeol 18.)
(Mc Carthy, M.R., 1979. 'The Pottery' in J.H. Williams 1979.)

Late Medieval c.1400 - c.1550 AD

Technological change had been gathering momentum at Chilvers Coton during the 14th century with the increasing use of coal instead of wood to fire the kilns, whilst the 15th century saw the introduction of first four, and then five flued kilns - meaning that the pottery could be much more highly fired - sometimes almost to the point of vitrification. These changes both at Chilvers Coton and elsewhere led to the development of the so called Midland Purple wares. The Nottingham and Lyvden Stanion industries had ceased production by the mid 15th century.

quartz tempered/sandy

1. **Midland Purple Ware c.1375 - c.1550 AD**
An exceptionally hard, almost vitrified, wheel thrown ware with a dark reddish purple, grey or brown body. Vessel forms are utilitarian and include - jars, cisterns, pipkins, bowls, skillets, urinals and jugs, generally with minimal decoration save for a dark brown or purple and sometimes metallic looking glaze, usually on the upper part of the vessel. The interior of the cisterns and of flat ware forms such as bowls and skillets are also frequently glazed. Pottery cooking pots are much more unusual as most people could afford metal vessels by this time. Midland Purple is common throughout the midlands during this period.

Individual sherds may be confused with the 'pimply' Roman Derbyshire ware - but the latter is more usually pale grey or brown in colour, sometimes with a reddish core, and is never glazed. Local sources include Chilvers Coton and Ticknall in Derbyshire.
(Woodland, R.R., 1981. 'The Pottery' in J.E. Mellor and T. Pearce, The Austin Friars, Leicester, CBA Res. Rep. 35, 81-129.)

2. **Cistercian Ware c.1475-1550**
This pottery has a very fine sandy dark red or brown body, is thin walled, wheel thrown and lead glazed. The glaze fires a dark brown or purple/black over the body. However the vessels are often highly decorated with trailed white slip or applied white clay pads, and stamps. The transparent lead glaze fires to a pale yellow over this applied clay decoration. Cistercian was made in a wide range of table ware forms - most notably cups - (during most of the medieval period wood, metal or horn was most commonly used for drinking vessels). Chafing dishes, posset pots, jugs, table salts, costrels and candlesticks are also found in this ware. Stacking evidence on some of the Midland Purple cistern bases suggests that they were initially used as saggars to protect the more delicate Cistercian ware vessels, which were stood on the inverted base of a cistern with another cistern stacked upside down on top of the fine ware vessel before the kiln firing took place.

Common in Leicester and the county, much of this pottery seems to share the same sources as the Midland Purple noted above, namely Chilvers Coton and Ticknall.
(Woodland, R.R., 1981. 'The Pottery' in J.E. Mellor and T. Pearce, The Austin Friars, Leicester, CBA Res. Rep. 35, 81-129.)

3. **Surrey Whiteware c.1400 - c.1600+**
This is a very fine, white or buff bodied and thin walled, ware with a shiny green or greenish yellow, lead and copper glaze - which may be confused with copper glazed Stamford ware. The pots were biscuit fired before glazing, and made in a variety of forms, most notably cups - including lobed and pedestal types - as well as jugs, bowls, ink pots etc. Some local copies of this ware occur at Chilvers Coton and elsewhere, but much of the pottery found in Leicester and the county seems to derive from Surrey or the Surrey Hampshire border. The bright green glaze originally earned this pottery the name 'Tudor Green'.
(Moorhouse, S., 1984. 'Late Medieval Fine Ware' in West Midlands Pottery Research Group Newsletter 3.)
(Pearce, J.E., Vince, A.G. *et al*, 1988. 'A Dated Type Series of London Medieval Pottery Part 4: Surrey Whitewares. Museum of London and Middlesex Archaeological Society.)

The post Roman Pottery from the forum evaluation A10 1999 - notes for the display

The excavations demonstrated that in spite of intensive activity on the site during the throughout the historic and modern periods there are areas where levels relating to the late Saxon and medieval town still survive relatively undisturbed.

context (440) two Lincoln/Lincs shelly ware cooking pot/jar rims, wheel thrown & sooted externally, one is also rouletted on the exterior rim. This pottery comes from a floor layer in a building fronting on to that part of the old High Street, now known as Applegate. The High St was the major thoroughfare of the medieval town. The pottery dates from the late 9th or 10th centuries.

(114) (112) (115) fragments of wheel thrown Stamford and hand made Potters Marston cooking pot/jar rims and a hand made Leicester Splashed ware body sherd dating from the later 11th and/or 12th centuries. From road deposits on the medieval Hotgate, now Thornton Lane.

(200) a wheel thrown cup or tyg, with a white body and a vertical double looped strip, decorated with applied iron rich clay pads and feathered iron rich trailed slip, the transparent lead glaze firing brown and yellow over the different coloured clays. The vessel would probably have had several handles and double looped strips. A rare find in Leicester. Probably dated to the mid 17th century.

(333) late medieval and post medieval pottery - all wheel thrown - from a layer north of the parish boundary wall, including (Tudor Green) a green glazed Surrey Whiteware pedestal cup, two Midland Purple cistern rims and a range of Cistercian ware cup fragments and misc decorated sherds probably also associated with cups or jugs, and a Midland Blackware pedestal cup fragment & a Midland Yellow chafing dish (prob all from Ticknall in Derbyshire - though the origins of the MB are slightly more uncertain than the rest of the pot), also a fragment of a slip ware bowl, and part of a stoneware jug - the wire cut base suggests that this vessel originates in Frechen in the Rhinelands where it dates from c.1550+ The large number of drinking vessel fragments recovered from this context suggests that there was a tavern, or perhaps even a merchant hall in the area - where entertaining was carried out on a large scale

(338) a fragment of a hand made/moulded medieval ridge tile in Potters Marston ware, found in a wall - dating from the late 13th century - the presence of ceramic roofing tiles on the excavation (which were quite heavy) suggests that there were buildings of some quality in the area - not a surprising find in the heart of the med town.

From the Jewry Wall collection
A Frechen stoneware mug
3 Cistercian/Midland Blackware cups
A Midland Yellow ware jar (the grey/green glaze is a result of the pot being fired in a reducing (oxygen deprived) atmosphere in the kiln - the yellow glazed vessels have been fired in an oxygen rich atmosphere.)

UNIVERSITY OF LEICESTER
Archaeological Services

Written Scheme of Investigation for Archaeological Field Excavation

Site: Land at Spittlegate Level, Grantham, Lincolnshire

NGR: SK 9184 3278

Client: Glencar Construction

Planning Authority: South Kesteven District Council

Planning Ref: Pre-app

ULAS Job No: 24-107

Acc No: 2023.63 SPLG23

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Contents

1. Introduction 1
Definition and scope of the project *1*
2. Background 1
Context of the Project *1*
Topography and Geology *1*
Historical and Archaeological Background *3*
3. Aims and Objectives 5
Research Objectives *5*
4. Constraints 5
5. Methodology 6
Contingency Provisions *8*
Monitoring *9*
6. Finds 10
Treasure *11*
Human Remains *11*
7. Environmental Samples 11
Scientific Dating *12*
8. Timetable and Personnel 12
9. Post Excavation Analysis and Reporting 13
Publication and dissemination of results *14*
10. Public Engagement and Publicity 14
11. Health and Safety 14
12. Insurance 14
13. Quality Assurance 14
14. Staff Training and CPD 15
15. Bibliography 15

Figures

Figure 1: Location of site 2
Figure 2: Proposed site plan. Provided by client. 3
Figure 3: Mitigation excavation area plan 10

Written scheme of investigation for Archaeological Field evaluation

1. Introduction

Definition and scope of the project

1.1 This document is a Written Scheme of Investigation (WSI) for a programme of archaeological excavation Land at Spittlegate Level, Grantham, Lincolnshire in accordance with *National Planning Policy Framework (NPPF): Section 16 Conserving and Enhancing the Historic Environment* (MHCLG 2021) and will be submitted to the Planning Archaeologist for approval prior to any archaeological work taking place.

1.2 The archaeological advisor (for South Kesteven District Council) at Heritage Lincolnshire has advised that six areas require archaeological excavation. This WSI was commissioned by Glencar Construction and details the fieldwork and post-excavation analysis required, intended to provide a record of the archaeological remains in mitigation of the impact of the proposed development. It addresses the requirements of the Local Planning Authority for a scheme of work comprising archaeological excavation.

2. Background

Context of the Project

2.1 The Proposed Development Area (PDA) is located c.1.2 kilometres north of Little Ponton and around 3.5 kilometres south of Grantham town centre (Fig.1).

2.2 Planning permission is being sought for a mixed Business, General Industrial and Storage facility (Fig. 2). A desk-based assessment was undertaken for the PDA (Kipling & Beamish 2020) that concluded that there is high potential for remains of Bronze Age and Iron Age date. This was followed by geophysical survey (Fradgley 2021, Mawdsley 2023), that showed likely archaeological features within the PDA. In early 2023 a trial trench evaluation confirmed several areas of archaeological deposits, mostly of Iron Age date (Huxley 2023). Consequently, the Planning Archaeologist at Heritage Lincolnshire has advised South Kesteven District Council that a mitigation strategy comprising archaeological excavation is required within six areas of the PDA. This WSI details the strategy.

Topography and Geology

2.3 The site comprises two arable bounded by the A1 (The Grantham Bypass) to the west, and Spittlegate, The Great North Road (B1174) to the east.

2.4 The eastern side of the fields appear relatively flat, with a slight fall to the south. The western side of the north field drops moderately towards the A1. The land falls slightly to the south from around 95m aOD to 79m aOD. The River Witham lies some 500m to the east of site flowing from south to north. No streams are mapped within the proposed area.

2.5 The British Geological Survey website indicates that the underlying geology of the assessment area is likely to be Lower Lincolnshire Limestone Member overlain by Mid Pleistocene Glaciofluvial Deposits of sand and gravel. The Soilscape website indicates that the soils, will be freely draining slightly acid loamy soils (Soilscape 6) and Shallow lime-rich soils over chalk or limestone (Soilscape 3) http://www.landis.org.uk/soilscapes.

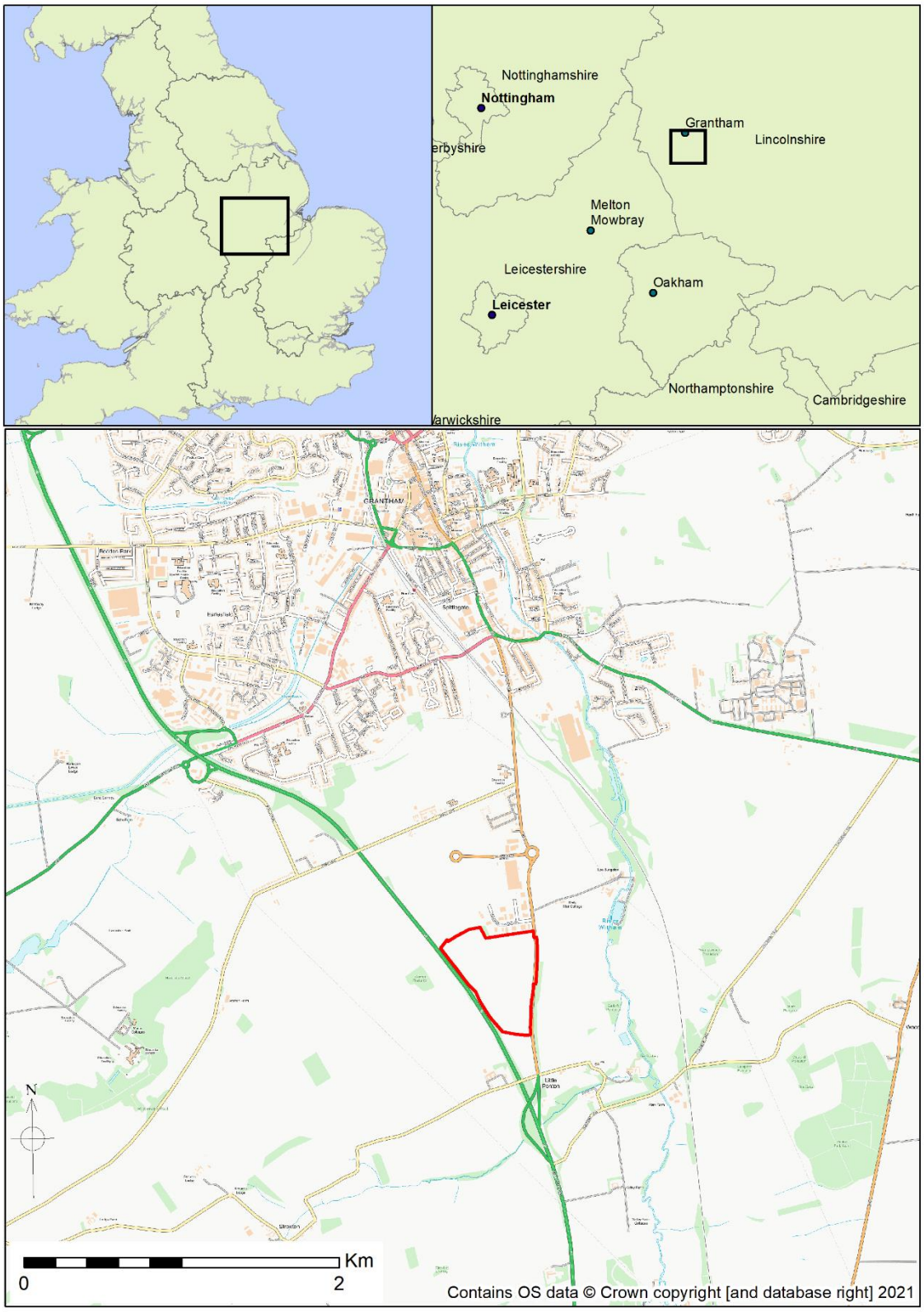


Figure 1: Location of site

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Figure 2: Proposed site plan. Provided by client.

Historical and Archaeological Background

2.6 A desk-based assessment has been undertaken for the site (Kipling & Beamish 2020) which concluded that there is high potential for remains of Bronze Age and Iron Age date. The following is a summary of the key results:

- The nearest intrusive work to the site was undertaken in the adjoining field to the north-west of the study area as part of the present scheme of development and consisting of preliminary archaeological survey in 2008, follow up field evaluation and full excavation in 2018 (Collins 2018), which revealed Iron Age occupation. Further Iron Age activity was recorded 900m to the north in 2001 (ELI1735, ELI1944).

- A prehistoric bowl barrow (Scheduled Monument List Entry 1013900) is located 150m to the south-east of the proposed area and northwest of St Guthlac's Church on the western slope of the valley of the River Witham. It is prominently situated on the crest of the slope. The grassy mound has a rounded summit and gently sloping sides and shows no sign of any disturbance. It is c.50m in diameter and stands to a height of approximately 2m above the surrounding pasture. The monument was the subject of geophysical survey in 2004-7 Geophysical survey has been undertaken on a Scheduled Monument, a Bronze Age bowl barrow, some 120m south-east of the proposed area.

- In the south of the proposed area, and extending to the south bounded by the line of the Great North Road and the Grantham bypass are a series of cropmarks recorded in 1982 in oblique aerial photos, and mapped in the National Mapping Programme. These have tentatively been interpreted as a possible oval enclosure with double ditches, and the ring ditch from a Bronze Age round barrow. Other cropmarks include an enclosure and a linear feature. The cropmarks of further

probable Bronze Age barrows have been recorded 650m north-east, and 250m north-east of the proposed area. Ring ditches possibly from further burial monuments are recorded from cropmarks 650m north and 450m to the south-east. A probable barrow with double ditch and a possible causeway is known from a cropmark 880m south-east.

- Undated features and the cropmark of an enclosure are recorded 900m to the north. A cropmark of a double-ditched round enclosure has been recorded 750m north-west of the application area. A flattening of the southern side and rows of adjacent ditches have been interpreted as possible defended entrance. The cropmarks of another enclosure are recorded 280m north-east.
- Roman burials were excavated 600m to the northeast in 1995 with historic excavations between 1885 and 1915 further to the east. Evaluative work alongside 'Salters Way' on the west side of the River Witham was undertaken in 1993 and 1997. A Roman small town 'Saltersford' has been identified from excavation and finds spots to the north-east of the proposed area. Archaeological investigation has identified evidence of buildings and road surfaces 550m to the northeast of the study area and including an inhumation cemetery located just outside the western limit of the town and in use during the 3rd century when the town appears to have undergone a major expansion. Evidence of the settlement has been found on both sides of the River Witham.

2.7 Within the proposed area, Geophysical survey (Fradgley 2021) has identified the clear remains of a rectangular enclosure 30m x 22m, with south-west facing entrance. The survey suggested the presence of post pits at the entrance to the enclosure and also within the enclosure. Much less strong indications of a second enclosure were recorded to the immediate north. A number of linear and curvilinear features were identified across the site, possibly the remains of field systems. A follow up geophysical survey in 2023 in the southern part of the site located several linear trends of uncertain origin have been detected in the northern and eastern parts of the site, as well as discrete pit-like anomalies. A faint partial rectangular response also has an uncertain origin, and various bands of increased response have been detected across the site which are likely to be of natural origin (Mawdsley 2023).

2.8 A trial trench evaluation was undertaken for the site in June 2023 by ULAS (Huxley 2023). A total of 117 trenches were machined across two fields. The trenches targeted both anomalies and blank areas identified during a geophysical survey. Seventeen trenches contained archaeological features and four contained possible archaeological features. In the northern field, prior to the scheme of Trial Trenching, the area where a small rectangular enclosure had been identified during the geophysical survey was subject to a Metal detector survey. The survey produced a handmade iron nail, two fragments of medieval window lead and modern artefacts.

The trial trenching subsequently confirmed the geophysical anomaly as a ditched enclosure dating to the mid-late Iron Age. Concentrations of domestic waste, slag and other artefacts were found in the enclosure ditch and internal pit. Features were also found outside the enclosure suggesting the activity was not confined within it. Iron Age pits were also found to the north which resemble quarry pits. Elsewhere in Area, the presence of a large modern quarry pit and a modern field boundary, that were recorded on the First edition OS map, were confirmed through the trenching.

A north-west to south-east orientated ditch identified during the geophysics was confirmed in both fields. It contained Iron Age pottery, and animal bone. The ditch is likely to be a land division. In the north-eastern corner of the southern field it truncated

a buried soil layer containing Iron Age pottery and worked flints. An undated ditch was found in the north-western corner of the southern field and nearby were two intercutting pits containing Iron Age pottery and animal bones. In the south-western corner of the southern field a small group of trenches contained ditches, pits and post holes dated to the Iron Age. Free-threshing wheat was found in one feature which may be associated with elite culture. Iron Age pits and undated ditches were also found in the centre of the southern field. A small undated pit and a gully were found in the south and shallow undated linear features in the south-east. These were either shallow ditches or deep furrows and contained heated ironstone.

3. Aims and Objectives

3.1 The main aim of the investigation is to mitigate the effects of the development by providing evidence to understand the nature, date, function, and character of the archaeological remains present at the site in their cultural and environmental setting and to preserve them by record.

3.2 The objectives of the archaeological work are:

- To identify the presence/absence of any archaeological deposits and provide evidence of the nature and extent of surviving archaeological remains on the site.
- To characterise the extent, date range, character, condition and significance of any archaeological deposits to be affected by the proposed ground works.
- To excavate and record significant archaeological deposits whose future integrity may be compromised by groundworks associated with the proposed construction works.
- To record any archaeological deposits and produce an archive and report of any results.
- To advance understanding of the heritage assets

Research Objectives

3.3 The earlier archaeological investigations show that excavation of the archaeological remains present on the site has the potential to contribute towards research objectives set within *The Historic Environment Research Frameworks for the East Midlands*: https://researchframeworks.org/emherf/, particularly:

4. Iron Age
- 4C Characterise the Late Bronze Age and Early Iron Age settlement resource and investigate intra-regional variability
- 4E Assess the evidence for the evolution of settlement hierarchies
- 4F Investigate intra-regional variations in development of fields and linear boundaries
- 4G Study the production, distribution and use of artefacts

3.4 These research aims have been identified based on the current state of knowledge within the area of the scheme. The research aims will be re-assessed and updated during the course of the fieldwork.

4. Constraints

4.1 There are no known underground or overhead services present, service checks were undertaken by the client.

4.2 There is a known badger sett in the middle of the site. This is well away from most of the excavation and operating areas, with the exception of Area 4. Client to confirm

status of badgers. Avoid all operations within a 30m area. There are no other known ecological constraints.

5. Methodology

5.1 All work will be carried out in accordance with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for Archaeological Field Excavation* (CIfA 2020c), and adhere to their *Code of Conduct* (CIfA 2021).

5.2 Any significant variations to the proposed methodology set out below will be discussed and agreed with the planning archaeologist and client in advance of implementation.

5.3 The accession number (2023.63 SPLG23) will be used to identify all records and artefacts.

5.4 Prior to machining of the areas, general photographs of the site will be taken.

5.5 The excavation area will be set out on OS National Grid (NGR) co-ordinates using GPS.

5.6 Six areas will be excavated, approximately 2.8ha, containing mainly Iron Age features, such as an enclosure, linear boundaries, and other archaeological features (Figure 3).

Table 1 Details of archaeological excavation areas

Area	Type	Location	Size	Archaeology	Heritage Lincolnshire archaeological advisor comments
1	Open-area excavation	T60+61	72x67m c.4800m2	Iron Age enclosure (29m x 25m)	Minimum buffer around the enclosure ditch of 20m. To be extended if further archaeological features on edge of strip.
2	Open-area excavation	T55	45x70m c.3200m2	Area of the pit/quarry	20m buffer around in order to understand the nature of the activity.
3	Strip, map, sample	T83	55x47m c.2600m2	Hollow with buried soil and Iron Age ditch	Includes a sample stretch along the boundary ditch either side and to include the 'break' in the geophysical anomaly.
4	Strip, map, sample	T90, 91, 100	c.7755m2	Iron Age ditches and other features	Extend from known archaeology to east to see if T100 ditch continues north (has a relationship with the E-W boundary). If no further archaeology seen after 20m from ditch reduce strip size down.
5	Strip, map, sample	T94, 96	92x45m c.4200m2	Two pits and ditch	A strip to determine if these are isolated features or if there are elements of a field system / land division suggested by the geophysical survey but often not seen in the trenches.
6	Strip, map, sample	T77-78	85x65m c.5700m2	Iron Age pits, post-hole, ditch	A strip to include features seen in these trenches and to include a stretch of the possible linear detected on the geophysical survey but not seen in the trenches.
			28,255 ha		

5.7 Excavation will be carried out with a machine, appropriate for the work fitted with a flat-bladed bucket to expose the underlying strata. The machine will not track over any surfaces until the archaeologist has inspected and cleared the area.

5.8 The project will involve an initial phase of machine stripping of the topsoil and any overburden across the areas defined following the results of the geophysical survey and evaluation supervised by an experienced professional archaeologist.

5.9 The archaeologist will control and supervise the topsoil and overburden stripping in order to obtain an adequate record of any archaeological deposits or finds which would be disturbed or exposed by groundworks associated with the development.

5.10 Topsoil and overburden will be removed carefully in level spits, under continuous archaeological supervision. The assessment area will be excavated down to the top of archaeological deposits or natural undisturbed ground, whichever is reached first. Where structures, features or finds appear to merit preservation in situ, they will be adequately protected from deterioration.

5.11 The ULAS recording manual will be used as a guide for all recording. Individual descriptions of all archaeological strata and features excavated or exposed will be entered onto pro-forma recording sheets.

5.12 A record of the full extent in plan of all archaeological deposits encountered will be made using an appropriate system related to the Ordnance Survey National Grid. Measured drawings of all archaeological features will be prepared and tied into the overall site plan. Relevant OD heights will be taken as appropriate.

5.13 A photographic record of the investigations will be prepared. This will include photographs illustrating in both detail and general context the principal features and finds discovered. The photographic record will also include 'working shots' to illustrate more generally the nature of the archaeological work.

5.14 All photographs (except general or publicity shots) will be taken with a high-resolution digital camera and will include a suitable scale bar, north arrow and information to identify the site and where appropriate the context.

5.15 The photographic record will follow the standards set out in Historic England 2015, Digital Image Capture and File Storage and the standards required by Archaeology Data Service (ADS) for storage and archiving: https://archaeologydataservice.ac.uk/advice/Downloads.xhtml

5.16 This record will be compiled and checked during the course of the excavations, and all site records and finds will be kept securely.

Areas 1-2 Specific Methodology 'Open-Area Excavation'

5.17 All exposed features will be investigated. Any archaeological deposits encountered will be recorded and excavated using standard ULAS procedures. Particular emphasis will be placed upon retrieving a stratigraphic sequence and upon obtaining details of the phasing of the site. Sufficient proportions of any archaeological features or deposits will be hand excavated in order to provide the stratigraphic and chronological sequence of deposits, recognising and excavating structural evidence and recovering economic, artefactual and any environmental evidence.

5.18 The following sample excavation strategy will include:

Discrete archaeological features (e.g. postholes, slots, pits)	50% of will be excavated unless their common / repetitious nature suggests they are unlikely to yield significant new information or unless their size or content suggests that 100% would be preferable.
Linear features (boundary features, ditches, trackways, pathways etc.)	10% although work will only be undertaken as necessary to advance the understanding of the significance of the asset. In areas outside the main foci of interest, where the nature and significance of remains is understood, the sampling rate may be considerably reduced in agreement with the Planning Archaeologist. All excavation slots will be at least 1m wide and will include intersections and terminals. A flexible approach will be adopted to the location of excavation samples e.g. areas with higher artefact or ecofact content may be targeted.

Bulk horizontal deposits	10% after which a decision may be taken in conjunction with the Planning Archaeologist to remove the remainder with machinery. Priority will be attached to features which yield sealed assemblages which can be related to the chronological sequence of the site.
Stone structures or other buildings	These will be excavated in sufficient detail to establish their construction sequence and sequence of repairs or extensions. All stratigraphic associations will be recorded.
Funerary/ritual activity and domestic/industrial deposits including potential ovens and hearths	Fully excavated and sampled for analysis. Furnaces or kilns are not anticipated but should these be encountered they will be left in situ until a strategy for their excavation has been developed.
Tree throw holes/ possible natural or geological features	A sample will be excavated sufficient to establish the nature of the features.

Areas 3-6 Specific Methodology 'Strip, Map, Sample'

5.19 All areas will be marked out prior to any construction, to ensure that no inadvertent damage (for example, from enabling works, access routes, temporary compounds / storage, services/ drainage) is caused to any areas highlighted for archaeological mitigation prior to the investigation taking place. The areas will be clearly marked out and protected. All site contractors will be made aware of this.

5.20 All exposed features will be investigated. Should significant archaeological remains be identified a programme of excavation and recording may be necessary, using additional personnel as necessary. Archaeological deposits encountered will be recorded and excavated using standard ULAS procedures. The areas will be mapped. A select sample of archaeological features or deposits will be hand excavated in order to provide the stratigraphic and chronological sequence of deposits, recognising and excavating structural evidence and recovering economic, artefactual and environmental evidence.

5.21 Standard sample excavation within Areas 3-6 will include:

- 50% of most discrete pit-like features, postholes, etc.
- 5% of each linear feature, targeting terminals and intersections, with slots measuring at least 1m. in width wherever possible.
- 100% of special features/deposits including burials, structural remains, kilns, etc.

Contingency Provisions

5.22 While ULAS attempts to foresee and make allowances for all possible site specific constraints, there may on occasion be unusual circumstances which have not been included in the programme or quote, which may entail additional costs and/or time for the client. These could include: unavoidable delays due to bad weather, vandalism, poor ground conditions, areas requiring shoring or stepping, unknown contamination or services, further work required by the Planning Archaeologist (e.g. extensions to excavation area, extra areas or changes to excavation sample sizes) or significant archaeological deposits that may require specialist input.

5.23 In the event of potentially significant archaeological deposits being found or further work being required for which the resources allocated are not sufficient or which are of sufficient significance to merit an alternative approach the archaeologist will inform the client, the planning archaeologist and the planning authority in order for detailed discussion between all relevant parties to take place. Following assessment of the archaeological remains ULAS shall, if required, implement an amended scheme of investigation on behalf of the client as appropriate.

Monitoring

5.24 Notification of the start of the site works will be made to the Planning Archaeologist prior to commencement of the archaeological work in order that monitoring arrangements can be made. All monitoring shall be carried out in accordance with the CIfA *Standard and Guidance for Archaeological Field Excavations* (2020c).

5.25 Internal monitoring procedures will be undertaken including visits to the site by the project manager. These will ensure that project targets are met and professional standards are maintained. Provision will be made for external monitoring meetings with the Planning Archaeologist, Planning Authority and the Client, if required, subject to the health and safety requirements of the site.

5.26 Monitoring points are expected to be as follows:

- Notice of the start date of fieldwork
- Following stripping of the topsoil/overburden
- Regular visits during excavation of archaeological features
- Following completion of excavation and before sign off/backfilling.
- Completion of the draft report
- Production of the final report and deposition of the archive



Figure 3: Mitigation excavation area plan, with trial trenching and geophysical survey results

6. Finds

6.1 All finds and samples will be bagged separately, marked with the accession number/site code and related to the context record. All artefacts will be recovered and retained for processing and analysis in accordance with *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2020a, 2020b).

6.2 All identified finds and artefacts are to be retained, although certain classes of building material will, in some circumstances, be discarded after recording with the approval of the Planning Archaeologist.

6.3 All objects or remains of archaeological interest, discovered in or under the Site during the carrying out of the project by ULAS or during works carried out on the Site by the Client other than articles subject to the Treasure Act, shall be deemed to be the property of ULAS provided that ULAS after due examination shall transfer ownership of all Archaeological Discoveries unconditionally to the appropriate authority for storage in perpetuity.

Treasure

6.4 In the event of discovery of artefacts that might constitute Treasure under the definition of The Treasure Act 1996 and its revisions (Treasure (Designation) Order 2002), these will be excavated and removed to a safe place. The client, Coroner, the Planning Archaeologist and the Finds Liaison Officer (FLO) will be informed immediately. A treasure receipt will be completed and submitted to the Coroner's Office and the FLO within 14 days.

Human Remains

6.5 If human remains are encountered they will be left in situ. ULAS will inform the client and the Planning Archaeologist immediately. If excavation of human remains is required ULAS will obtain a Ministry of Justice License (Section 25 of the Burial Act 1857). All excavation and post-excavation will also be in accordance with the standards set out in CIfA *Technical Paper 7: Guidelines to the Standards for Recording Human remains* (CIfA 2004) and *Updated Guidelines to the Standards for Recording Human Remains* (CIfA 2017). The final placing of human remains following analysis will be subject to the requirements of the Ministry of Justice License.

7. Environmental Samples

7.1 All environmental work will be undertaken in accordance with Historic England guidelines (*Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation*, 2011).

7.2 The following environmental sampling strategy will be adopted, following consultation with the ULAS Environmental Officer.

- A range of features to represent all feature types, areas and phases will be selected on a judgmental basis. The criteria for selection will be that deposits are datable, well-sealed and with little intrusive or residual material.
- Any buried soils or well-sealed deposits with concentrations of carbonised material present will be intensively sampled taking a known proportion of the deposit.
- Spot samples will be taken where concentrations of environmental remains are located.
- Waterlogged remains, if present, will be sampled for pollen, plant macrofossils, insect remains and radiocarbon dating provided that they are uncontaminated.
- Waterlogged remains, if present, will be sampled for pollen, plant macrofossils, insect remains and radiocarbon dating provided that they are uncontaminated.

7.3 All collected samples will be labelled with the accession number/site code, context and sequential sample numbers.

7.4 Appropriate contexts (i.e. datable) will be bulk sampled (50 litres or the whole context depending on size) for the recovery of carbonised plant remains and insects.

7.5 Recovery of small animal bones, bird bone and large molluscs will normally be achieved through processing other bulk samples or 50 litre samples may be taken specifically to sample particularly rich deposits.

7.6 Wet sieving with flotation will be carried out using a sieving tank with a 0.5mm mesh and a 0.3mm flotation sieve. The small size mesh will be used initially as flotation of plant remains may be incomplete and some may remain in the residue. The residue >0.5mm from the tank will be separated into coarse fractions of over 4mm and fine fractions of >0.5-4mm. The coarse fractions will be sorted for finds. The fine fractions and flots will be evaluated and prioritised; only those with remains apparent will be sorted. The prioritised flots will not be sorted until the analysis stage when phasing information is available. Flots will be scanned and plant remains from selected contexts

will be identified and further sampling, sieving and sorting targeted towards higher potential deposits.

7.7 Where evidence of industrial processes are present (e.g. indicated by the presence of slag or hearth bases), samples will be taken for the analysis of industrial residues (e.g. hammer scale).

Scientific Dating

7.8 Due care will be taken to identify deposits and structures which may have potential for scientific dating. Suitable samples for radiocarbon dating will be subsampled from the processed and identified plant remains in the bulk samples and monolith sample (if taken) as deemed appropriate. Consideration will also be given to the use of Dendrochronology, Archaeomagnetic dating, Thermoluminescence and Optical Luminescence Dating (TL and OSL). Specialists will be consulted in this regard and where deemed appropriate to provide advice and where necessary supervise sampling, take readings and undertake post-excavation reporting.

8. Timetable and Personnel

8.1 The start date is likely to be Autumn 2023 for Areas 1+2, subsequent areas 3-6 will follow during construction. This is subject to approval of the WSI.

- Areas 1+2 prior to any development on the PDA
- Areas 3-6 ('strip, map and sample' excavation) are to be undertaken prior to the commencement of any development in those areas of the site (although construction may proceed in other areas outside of these). The site stripping to be carried out under archaeological supervision and control as set out in this WSI.

8.2 This project will be under the management of Dr Gavin Speed (MCIfA). The Project Manager will direct the overall conduct of the excavation as required during the period of fieldwork. Day to day responsibility will rest with the Site Supervisor who will be on-site throughout the project.

8.3 The site supervisor will carry out the post-excavation work, with time allocated within the costing of the project for analysis of any artefacts found on the site by the relevant in-house specialists at ULAS.

8.4 ULAS uses in-house and external specialists for post-excavation work as follows:

Environmental analysis and reporting:	Rachel Small MA Will Johnson MA
Prehistoric and Roman Pottery:	Nicholas Cooper BSc, Dip post-ex, FSA, MCIfA Elizabeth Johnson BSc MA (Roman pottery) member SGRP
Post-Roman Pottery:	Paul Blinkhorn BA (external)
Animal bone	Jennifer Browning BA, MA, MCIfA (Animal Bone) Rachel Small MA Will Johnson MA
Human bone	Jennifer Browning BA, MA, MCIfA Rachel Small BSc York Oesteological Unit (external)
Small Finds	Nicholas Cooper BSc, Dip post-ex, FSA, MCIfA
Industrial residues and building materials	Heidi Addison BA
Wood/Geoarchaeology	Matthew Beamish, MA (cantab), MCIfA
Lithics	Wayne Jarvis MA MCIfA

9. Post Excavation Analysis and Reporting

9.1 Following completion of fieldwork, all artefacts and samples will be processed, assessed, conserved and packaged in accordance with CIfA (2020b), ULAS procedures, and the relevant Museums for transferring archaeological archives (Jennings 2019, *Lincolnshire County Council Archaeological Handbook*, Section 17 and Appendix). This includes the results and finds from the trial trench evaluation, the results of which will be integrated into the mitigation post-excavation report, including review or re-examination of the cultural material from the evaluation as required. Reference will be made to the recommendations made in the specialist reports from the evaluation stage (Huxley 2023).

9.2 A draft version of the assessment report will normally be presented within six months of completion of site works. The full report in A4 format will usually follow within eight months. Copies will be provided for the client and the Local Planning Authority and deposited with the Historic Environment Record.

9.3 A draft assessment report will include:

- A non-technical summary
- Introduction (location, topography, background)
- The aims and methods adopted in the course of the excavation
- Summary of the excavation results
- A quantitative and qualitative assessment of the potential of the archive for further analysis leading to full publication, following guidelines in *Management of Archaeological Projects* (English Heritage).
- Updated project design
- Proposal for analysis, publication, and archive
- OASIS record

9.4 Following assessment, the finds and stratigraphic record will be subject to full analysis, as detailed in the assessment report. The full report will include:

- A non-technical summary
- Introduction (location, topography, background)
- Archaeological and historical background
- The aims and methods
- The nature, location and extent of any structural, artefactual and environmental material uncovered.
- Reports on the artefacts, specialist reports and a consideration of the evidence within its local, regional, national context.
- Appropriate illustrative material including maps, plans, sections, drawings and photographs.
- Discussion
- The location and size of the archive.
- OASIS record

9.5 A draft digital version of the report will be provided for the client, the Planning Archaeologist and the Local Planning Authority for approval. Once approved the final report will be deposited with the Historic Environment Record on the understanding that it will become a public document after an appropriate period of time.

9.6 An indexed site archive will be prepared and deposited with the agreed museum in accordance with Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation (Brown 2011), CIfA 2020, Standard and guidance

for the creation, compilation, transfer and deposition of Archaeological Archives, and the relevant museum guidelines (Jennings 2019, *Lincolnshire County Council Archaeological Handbook*, Section 17 and Appendix).

Publication and dissemination of results

9.7 The copyright of all original finished documents shall remain vested in ULAS and ULAS will be entitled as of right to publish any material in any form produced as a result of its investigations.

9.8 Arrangements will be made for an appropriate level of academic publication of the results of the excavations. A summary report will be published in the local journal where available. Where wider dissemination is appropriate and the significance of the results warrant, a full copy of the report in an appropriate format shall be submitted for publication in relevant academic journals.

9.9 ULAS supports the Online Access to the Index of Archaeological Investigations (OASIS) project. An online OASIS form will be completed detailing the results of the project. Once a report has become a public document following its incorporation into the HER it will be uploaded onto the web-site.

10. Public Engagement and Publicity

10.1 The work is not anticipated to be suitable for public involvement or participation during the course of the fieldwork. However, the results will be made available via the ADS website, publication and if significant archaeological deposits are found talks and presentations to the local population can be provided.

10.2 ULAS shall acknowledge the contribution of the Client in any displays, broadcasts or publications relating to the site or in which the report may be included.

11. Health and Safety

11.1 All work will be conducted in accordance with the Health and Safety at Work Act 1974 and all subsequent Health and Safety legislation, University of Leicester Statement Of Safety Policy Health and Safety and Environmental policies as well as any Principal Contractor's policies or procedures. A site specific Risk Assessment and Method Statement (RAMS) will be formulated prior to commencement of fieldwork. This will be monitored on site and updated as necessary.

11.2 The safety of ULAS staff will take priority over the desire to record archaeological deposits.

12. Insurance

12.1 All ULAS work is covered by the University of Leicester's Public Liability, Professional Indemnity and Employers Liability Insurance as documented in the RAMS.

13. Quality Assurance

13.1 ULAS is a Registered Organisation (RO) with the Chartered Institute for Archaeologists. All ULAS Project Managers hold Member status and all ULAS Projects are overseen by the Project Manager who is responsible for the quality of the project.

14. Staff Training and CPD

14.1 All ULAS staff are subject to University of Leicester's Personal Development Discussion (PDD) strategy which reviews personal performance, identifies targets and areas for improvement and identified the need for appropriate. All members of staff are required to maintain a Personal Development Plan and log.

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Medieval pottery production at Chilvers Coton, Warwickshire

Re-examination of the archaeological evidence and the historic landscape context

Martin D. Wilson*

This study reopens the book on the Chilvers Coton medieval ceramics 'industry'. It explores the character of the historic landscape where pottery kilns have been found. It examines evidence of land ownership and land use, casting new light on the possible origins of the industry and its context and spatial extent within the medieval landscape. It considers, for the first time, the archaeological evidence of pottery production at Chilvers Coton in the light of revised ceramic dates.

In doing so, and although not the initial purpose, the study addresses a major aspect of one of the current regional research aims for Warwickshire, namely: 'WM21: Reassessment of, and further work on, the Chilvers Coton production site; the Nuneaton industry is large but its extent is not known' (Irving 2011, 36).

Introduction

In the late 1960s and early 1970s more than 44 medieval pottery kilns were found at Heath End, on the west side of Nuneaton, Warwickshire (Fig. 1). The discoveries were made sporadically, over a wide area, largely as a result of ground work for new houses. Seventeen areas of medieval archaeology were investigated, with pottery kilns, either singly or in groups, at twelve of the sites (Fig. 2: 1–5, 7–8 and 12–16); and a single, seemingly isolated tile kiln (Fig. 2:10). The kilns were dealt with by a series of 'rescue' excavations, separately and independently led by Philip Mayes and Keith Scott. The results of the work were eventually brought together in a single corpus in 1984 (Mayes and Scott 1984). The evidence has since become widely renowned as the Chilvers Coton medieval pottery industry (Irving 2011; Whittingham 2010), named after the historic parish in which the kilns were found.

The report authors stated that all of the kiln sites were located within the manor of Griff and Coton, one of three manors at Chilvers Coton during the medieval and post-medieval periods, although it is uncertain how they arrived at this conclusion, since none of the kilns were actually mapped in relation to their historic manorial context. The report provides only a distribution of kiln sites and other associated excavation areas in relation to the 1970s landscape. A historical study of clay-working in the Nuneaton area was incorporated into the report (Gooder 1984, 8), in which a single possible clay worker of 13th century date was found at Chilvers Coton, while a few medieval potters were suspected from surnames in the adjacent parishes.

Since the 1970s further evidence of kiln sites at Heath End has been slight; it is now largely a densely urbanised zone.

The medieval manors of Chilvers Coton

It has long been accepted that there were originally two manors in the late Saxon period: Griff and Coton, each named after its 'township', or hamlet (*cf.* Dugdale 1656, 770). By the time of the Conquest the manors had been combined to form the manor of Griff and Coton. In the second half of 12th century the manor was split into three, by its lord, Ralph de Sudeley, grandson of Harold de Ewyas. Roughly one third of the manor was used to found an Augustinian priory, which took the name of Erdbury (today Arbury), which presumably derived from an ancient site upon which it was built. The foundation of the house is thought to have occurred early in the reign of Henry II (*c.* late 1150s–1160s). The parish of Chilvers Coton was elongated, *c.* 6 km east-west by *c.* 1.8–3.4

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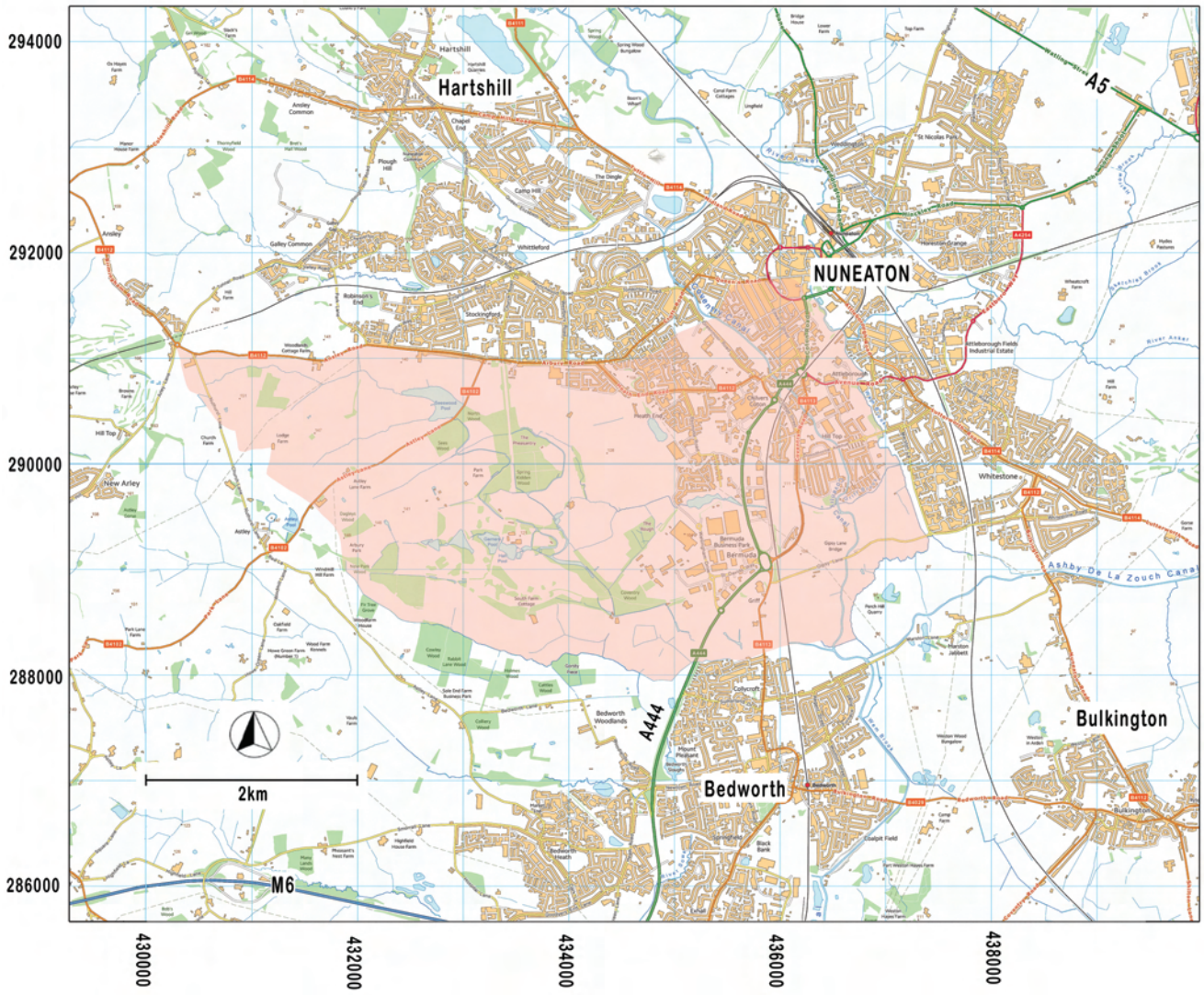


Figure 1. Location of the ancient parish of Chilvers Coton (light red). (Contains Ordnance Survey data © Crown copyright and database right 2018. All rights reserved. Licence number AL 100015565).

km, north-south. The manor of Erdbury occupied the southern third of the parish, bordering the parish of Bedworth. The extent of the manor of Erdbury is shown in Fig. 3.

Another third of the ancient manor was donated by de Sudeley in 1185 to the Knights Templars (Lees 1935, 32; Salzman 1947, 175). Equally stretched out, the Templars' manor took in a major part of the northern third of the parish, bordering the parish of Nuneaton to the north, the common fields and to the east (Fig. 3). It was called Chelverescote manor. When it became a possession of the Knights Hospitallers in the mid 14th century, it went by the name of Chedlicote, or more generally St. John's manor, the name by which it was still known in the late 17th century. As for Ralph de Sudeley's own reduced holding, it retained the name of Griff and Coton. His manor house was situated at the hamlet of Griff on the south side of the parish (Fig.3).

The 'meeres and bounds' of the three manors (Fig. 3) largely respected natural topographical features, such as watercourses (some now defunct), or distinct changes in ground slope. Where boundaries flanked the common fields they were defined by either a hedgerow and ditch or a bank and ditch. The cultivated strips in the open fields were apportioned accordingly to each of the new manors. The new-look Griff and Coton manor was, for the main part, sandwiched between the Prior's land and that of the Templars. In addition, de Sudeley chose to retain an outlier of the old manor in the northeast of the parish, at Heath End, a tract of land amounting to about 34.7 hectares (Fig. 3). The outlier was bordered to the west and south by Chelverescote manor; its southern border took a notably erratic course. To the east it bordered the common fields, whilst its northern boundary faced the parish of Nuneaton. It is noteworthy that the Templars did not occupy their new possession right away, but instead rented it back to Sudeley for his own use, at 6 ½ marks a year, until his death in 1191 (Dugdale 1656, 770).

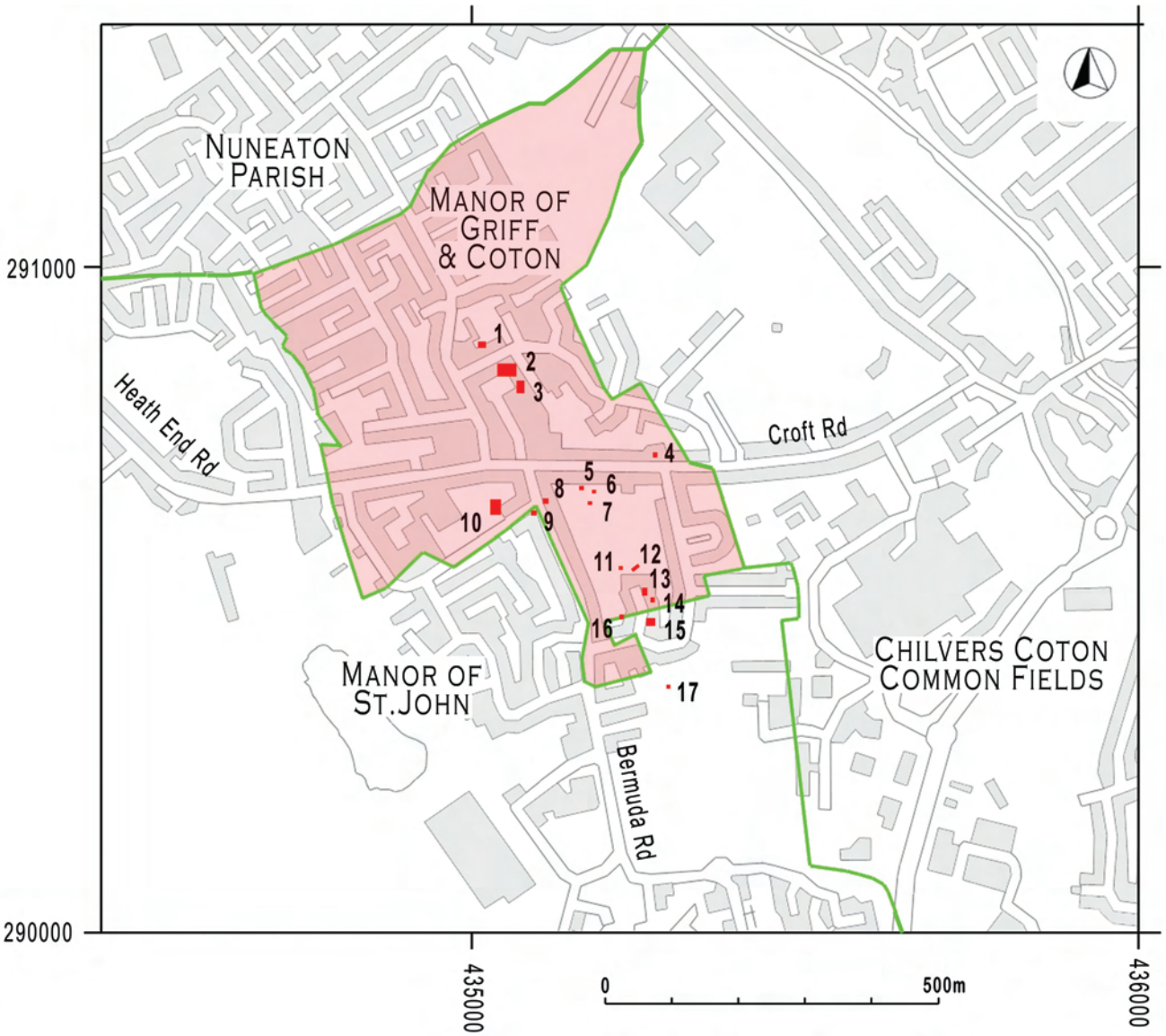


Figure 2. The bounds of the outlier of Griff and Coton manor superimposed upon the present day map of Heath End, showing the location of 1960s and 1970s excavation sites. (Contains Ordnance Survey data © Crown copyright & database right 2018. All rights reserved. Licence number AL 100015565).

The manorial context of the kiln sites

The bounds of the three manors were verified by Sir Richard Newdigate in a Court of Survey undertaken 1681–1692, in order to reaffirm his entitlement to lordship of each of the three manors. He appointed two professional land surveyors and cartographers to draw up detailed scale maps to show each parcel of land in the parish (WRO CR 136/M95/96; WRO CR 136/M14), whether or not it was in his possession (he was one of three major landowners in the parish, but there were numerous other freeholders). 'Jurors' were sent door-to-door to 176 households, to collect all written 'evidences' (*i.e.* title deeds), from freeholders and tenants alike. The maps were annotated with the names of owners and occupiers. Back at Arbury Hall, Sir Richard put to good use his former profession as a lawyer, scrutinising each title deed and verifying the bounds and layout of each ancient manor. He then re-emphasised the 'meeres and bounds' of each manor by perambulation, which were recorded in narrative. The end result was a comprehensive understanding of land tenure within his three lordships, and of what was owed to him in terms of rents and dues, such as fealty and suit of court.

Crucially for the present study, numerous of the field and croft boundaries depicted on Sir Richard's maps are understood to have been established during the medieval period, and this is particularly the case in the area now known as Heath End, where the majority of pottery kilns have been found. Sir Richard's perambulation of the north-eastern part of St John's manor thus becomes vital to our understanding of the historic landscape context of the kiln sites. The following extract from the perambulation (WRO. CR136/v.13/V/11–12) describes the somewhat erratic

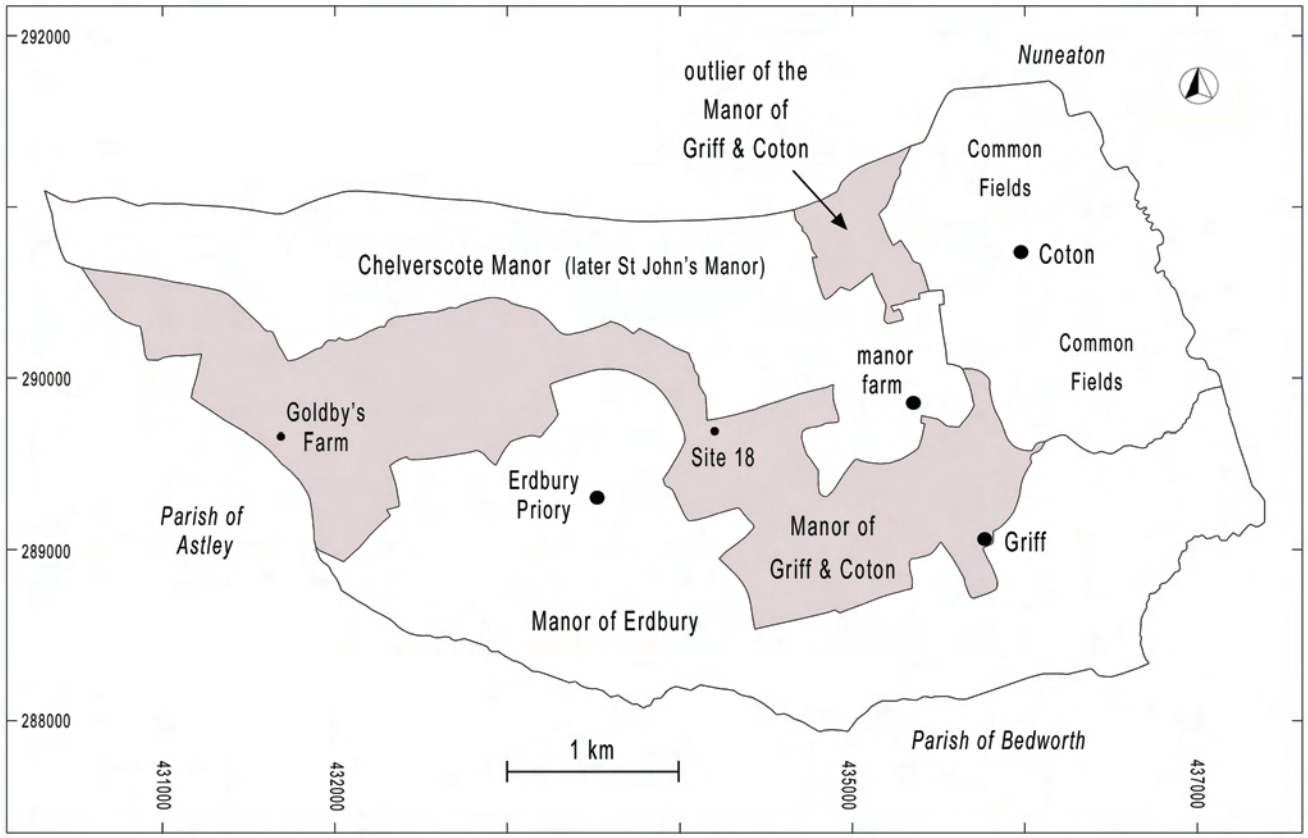


Figure 3. The medieval manors of Chilvers Coton and the outlier of Griff and Coton manor.

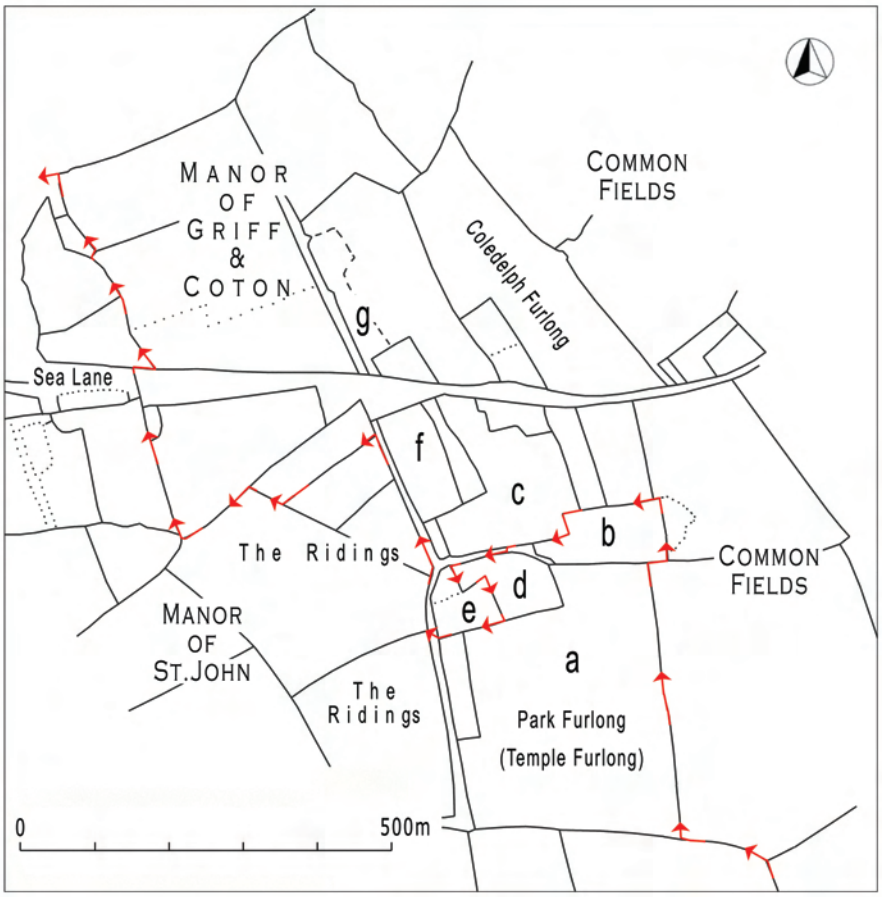


Figure 4. Sir Richard's Newdigate's perambulation of the 'meers and bounds' of the manors of St. John and Griff and Coton in 1684.

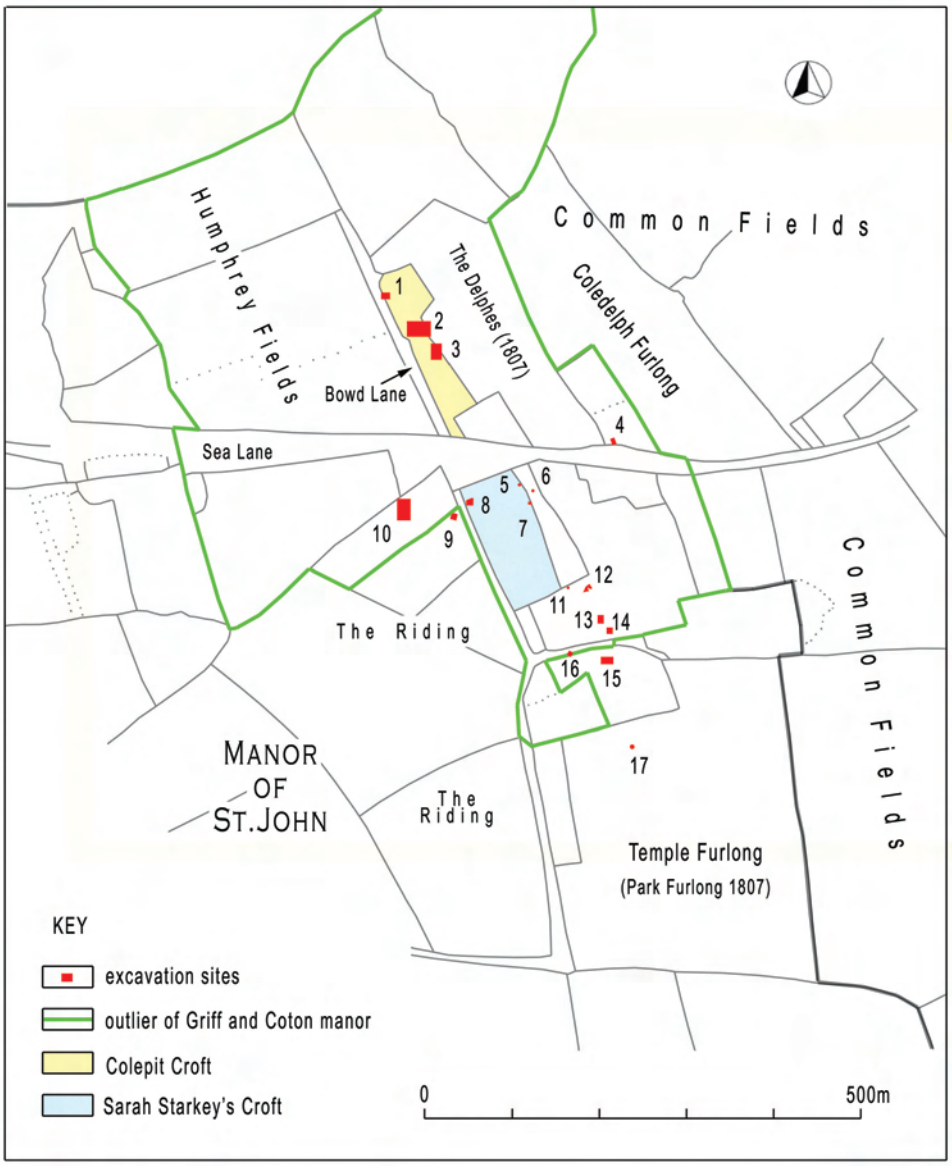


Figure 5. The outlier of the manor of Griff and Coton as surveyed in the 17th century, with 20th-century excavation sites superimposed.

course of the division between St John's manor and the outlier of Griff and Coton (the bold letters in parenthesis refer to Fig. 4):

> *'… all of which said Grounds on the right hand … as a man goes along these bounds to the said Commonfeild of Coton called the Windmill Field afores'd, are part of the possession of Mr Coventry (i.e. demesne of Griff and Coton manor), and then it goes along with the hedge which parts the said Commonfeild from a certaine Rough Close called the Park Furlong [**a**], through which the Coledelph runs: and all the grounds included on the left hand by the said bounds, from the said half field lane where the said bounds do cross, are also Sr. R : N's afores'd,. and so the bounds of this Mannor do continue to go round the house and Croft late in Hen: Ballards, now in Wm: Coxs tenure [**b**], being also Sr. R: N's which it includes, leaving Mr. Woods house and Orchard in Mr. Spratts tenure on the right hand [**c**] on the Northwest side, and so across the little lane by the said Mr. Spratt's doore it rounds the Wm: Sargeants house [**d**] and Croft formerly Hancoxs, which it includes, leaving out his Long Croft on the right hand, and so again to the Parke Furlong [**a**], leaving out Pipers Croft [**e**] in the tenure of Christopher Smyth, being part of Mr. Woods land on the right hand, and so across the lane to the hedge that parts the Ridings, part also of Mr Woods land in the tenure of Mr Spratt afors'd, from the said lane, northwards …'*

Figure 5 shows the 1960s–70s excavation areas superimposed onto the 17th-century Court of Survey map (WRO, CR 136/M95/96). Allowing for map repairs and creases, an acceptable level of accuracy has been achieved: for the most part there is a good match. It may be compared with Fig. 2 which shows

the bounds of the outlier of Griff and Coton manor superimposed upon the modern day map of Heath End. Since not all of the excavation areas were kiln sites Fig. 5 should be used in conjunction with Fig. 7 which shows the chronological distribution of kilns and other sites. Notably, the majority of kiln sites occur in the outlier of Griff and Coton. Two kiln sites (9 and 15), however, are located well within the manor of St John (the former Templars' manor): whilst another site (16), with one of the earliest known kilns (*c.* AD 1150–1250) debatably just inside St John's manor.

Revised chronology of the kiln sites

The Chilvers Coton kiln sites produced eight pottery fabric types which were understood to range in date from the 13th-early 15th century. This chronology has since been refined as a result of excavation work elsewhere, in particular at Chilvers Coton (Whittingham 2008), the latter being the site of the manor farm of the Knights Templars and later, the Knights Hospitallers. The earliest medieval pottery from the Knights Templars excavation site is a group of igneous rock-tempered wares (IGN1, IGN1 FINE, IGN2) that are understood to date to *c.* AD 1150–1250 (Whittingham 2008, 84 and 86, tbl.1; Whittingham, 2010, 100-101 and tbl.1). It has been postulated that this occurrence of the IGN fabrics at Chilvers Coton is the result of imports from outside of the Nuneaton area – either as vessels or as clay and ingredients (Potters Marston, Leicestershire, was given as a possible source; *c.* 15 miles), or else that the vessels were made in kilns that predate the known industry, but are yet to be discovered (Whittingham 2010, 84).

In the course of the present study, the possible mineral constituents of the IGN group and the likelihood of imported materials have been discussed with regional geologist and mineralogist, Alan F Cook (contributor to the Mayes and Scott report). On account of high quality potting clay (Etruria Marls and Middle Coal Measures) available at Chilvers Coton as an extensive surface outcrop in the medieval period, it is considered most unlikely, and impracticable, to have transported clay over such a distance. Given that the rock fragments in the Etruria Marl (Espley Breccia) at Chilvers Coton are eruptive volcanic detrital rocks, partly igneous, partly sedimentary, it is probable that medieval clay workings at Heath End would have encountered fine igneous debris in many of the overlying glacial soils, but the debris could also have been obtained from weathered deep sub-soils (old term: regolith) and boulder clay (A. F. Cook,



Plate 1. Location of the medieval kiln sites at Heath End, *c.* 1970. Looking north-east from slag mound above The Riding. (Photo: courtesy of Philip Mayes).



Plate 2. Location of Sites 11 to 16 viewed from mining slag heap above The Riding, *c.* 1970. (Photo: courtesy of Philip Mayes).

pers. comm.). A main reason for the importation hypothesis seems to have been based on the coarseware identified as fabric IGN2, which contains 'fine black glassy inclusions and other volcanic material', and the inference that its granite-like inclusions may be syenite from Potters Marston (Leicestershire). Cook explicates that the archaeological use of the term syenite, is misleading. In the early 20th century syenite was claimed to be present in outcrops at Griff (in the southeast of the parish of Chilvers Coton), but it is now known to be spessartite lamprophyre. In modern understanding, syenite does not occur in the greater Midland area of England, the nearest occurrence being the Malvern Hills, Herefordshire and Worcestershire. In contrast, the rock fragments in the Potters Marston area are considered most probably to be weathered igneous rocks from Croft Hill, Leicestershire, which are quartz-diorites. Thus, the comparative analysis of igneous particles from Chilvers Coton and Potters Marston pottery is worthy of close re-examination.

In any case, the assumptions made about the source the clay overlook the match of the fabric known as IGN1 FINE with Chilvers Coton fabric CCBi (*cf.* Whittingham 2008, 80; Whittingham 2010, 100–101 and tbl.1), the latter which is understood to have been produced at four of the Heath End kiln sites (Figs. 2 and 5, Sites 3, 12, 13 and 16). Pottery of this fabric was also recovered from a shallow trench at Site 1 which was sealed by 13th-century kilns. Three of the kiln sites associated with fabric CCBi (*i.e.* Sites 3, 12 and 13) are clearly located within the outlier of the manor of Griff and Coton. The location of the fourth (Site 16, aforementioned) is undecided. Broadly, there are two distinct areas of kiln activity where fabric CCBi has been found; bearing in mind that not all kiln sites will have been discovered, or recorded, to date. One of these areas was situated within, and to the east side of, a former plot of ground which was known in the 17th century as Colepit Croft (Fig. 5, Site 3; 8 kilns, Pl. 1). The other occurred about 0.5 km to the south of Heath End Road (formerly Sea Lane) in an area known today as Redwood Croft and Radley Drive (Figs 2 and 5, Sites, 12, 13 and Site 16; a total of 8 kilns, Pl. 2). Two of the kilns were uncovered in a back garden in 1967 (Site 16). They appear to have been positioned alongside a hedgerow which demarcated the division between the outlier of Griff and Coton and the manor of St John.

In addition, pottery 'wasters' in fabric CCBi have been found by E.A. Gooder at Goldby's Farm (SP318 896) *c.* 3.3 km to the west (Fig. 3). The site, anciently known as Muddiman's Land and located within the main part of the manor of Griff and Coton, is considered to have been a medieval clay-worker's homestead (Gooder 1984, 8). Gooder also verified the presence of fabric CCBi found in proximity to an undated kiln site at Erdbury Priory (Gooder 1984, 10).

Pottery making in the manor of Griff and Coton

Heath End is situated above outcropping strata of the Warwickshire Coalfield syncline comprised of coal and coal measure clays. The outcrop trends northwest to southeast (Fig. 6). It has been estimated that the outcrop of the Etruria Marl Formation at Heath End (now largely extracted) once covered a surface area of 90 hectares, while the Coal measures extended over some 300 hectares (Cook 1984, 2).

All of the discovered kiln sites occur along the outcrop (Fig. 6). It is therefore probably of no coincidence that Ralph de Sudeley's outlier of Griff and Coton manor corresponds approximately to the limits of the outcrop of the Middle Coal Measure (MCM) clays; approximately 26.4 hectares lay above the MCM while another *c.* 3.7 hectares was situated above the Etruria Formation. The retention of land in this zone is a strong indication that he was protecting his interests, specifically, the income to be had from non-agricultural activities (*i.e.* clay and coal extraction and pottery making) that were presumably already underway in the second half of the 12th century. The irregularity of the southern boundary of the outlier may be an indication of an early establishment of clay working or potters in this area.

It is presumed that the medieval potters at Chilvers Coton were peasants, who initially dug clay from their

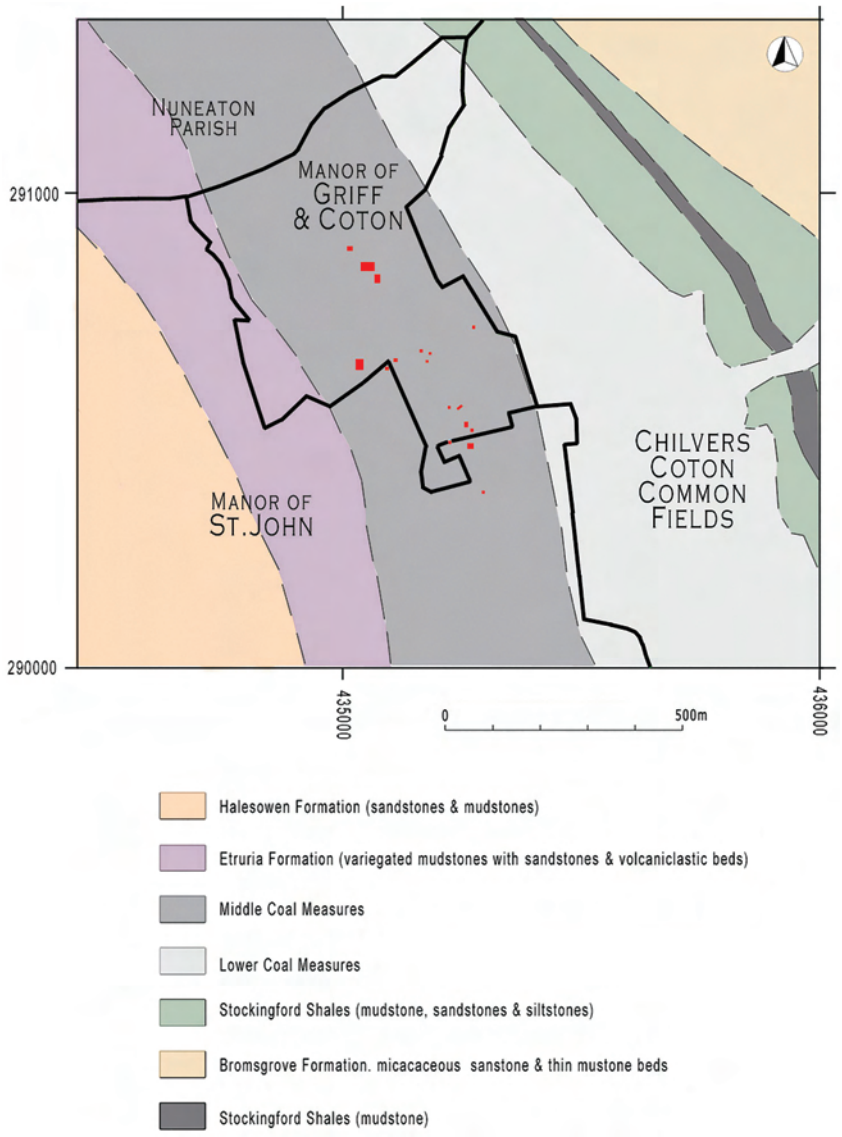


Figure 6. Geological outcrops at Heath End, showing disposition of the outlier of the manor of Griff and Coton and location of kiln sites.

own crofts, as has been surmised elsewhere in England (Le Patourel 1968, 114). However, not only would the resource be limited, but the size of a clay pit would have been necessarily constrained by the agricultural use of the croft, whereby clay would need to be sought elsewhere. It is important to take into account that there was no 'spare' land in a medieval manor (*cf.* Le Patourel 1968, 113–4). There was no casual exploitation of the wastes and heaths, at least not without penalty. The 'Pains and Orders' amplified at the Court Leet show that this was certainly the case in the 17th century (WRO, CR136/ DR7). In 1405 there was a serious dispute over common pasture (WRO, CR136/C656a) in the parish of Chilvers Coton, from which it may be inferred there was an acute shortage of grazing land, further illustrating that the commons and heaths were closely guarded for the purposes for which they were intended. It was the lord of the manor who ruled what could and what could not be done on his tenants' land. His also were the mineral rights and the woodland; a licence would be required to make use of raw materials.

It thus may be inferred that de Sudeley's reason for renting back the Templars' land was because it was a source of clay and fuel (wood and coal). This is not to imply that de Sudeley's involvement in the activity was anything other than the realisation of potential income from land rental and extraction licence fees, but the nascence and development of the 'industry' could only take place through sanction of land use from high level. Some idea of the manorial revenue to be had from pottery making activities at Heath End may be gleaned from Jean Le Patourel's study of the lordship of Longbridge Deverill (Wiltshire), a part of the abbot of Glastonbury's estate which was known as Poteria in 1234. Here, rates for fuel and clay were levied on each cottar who wished to make pottery (Le Patourel 1968, 105). For those engaged full-time, their annual fuel bill was 7d, while for those potting as a sideline, ½d was due for up to half a year. If clay was dug from the lord's land it was charged at 4d, or if from the cottar's land, 2d. It was estimated that the annual revenue from 23 tenements of 4 acres (1.6 ha) or less amounted to 21s. 3d. This may be compared to 13th-century pottery production which flourished in the manor of Hanley Castle (Worcestershire), where successive lords are thought to have shown little interest or influence (Dyer 2005, 92).

The Colepit Croft

Three fairly dense production sites (Fig. 2, Sites 1, 2 and 3; Pl. 1) of 12th to 14th-century date were discovered to the north of Heath End Road, where clay and coal was available close to the surface. They were all located on the east side of an ancient north-south route known as Bowd Lane (now partly respected by Hare and Hounds Lane), with the kilns roughly aligned with the lane (Fig. 5). When superimposed upon the 17th-century map the three excavation areas are seen to straddle a slipe (a long and narrow piece of land) known as The Colepit Croft and extend eastwards into a furlong field, known in 1807 as The Delphes. The geo-referenced mapping accuracy at this point may have a discrepancy of up to 10 metres due to map repairs.

It is important to emphasise here that Sites 1, 2 and 3 only denote the limit of archaeological excavation. There were a great many additional kilns and features spotted during soil stripping, but unhappily they had to be abandoned due to lack of time and resources (the late Mr Keith Scott, pers. comm.). The Mayes and Scott report states that 'the whole site was much disturbed by modern building activity' which gives some idea of limitations of archaeological visibility and 'rescue' constraints.

Site 1 comprised eight kilns in seven identifiable phases, and pottery scatters (spatial extent dimensions not given). The kilns were superimposed in an area measuring just 8 m x 6.5 m, close to the hedgerow bordering Bowd Lane. This could imply that there was a restricted working zone, or a need for shelter from the wind, or simply that only a portion of a much larger kiln complex was investigated. The kiln residues, where present, showed that they were coal fired. The revised fabric chronology suggests that the kilns date approximately from the mid to late 13th century.

Site 2 was situated 30 m to the southeast of Site 1. Thirteen kilns were identified in six distinct phases, dating from the late 13th century and the 14th century (revised dates). Their spatial arrangement suggests that they have respected former property divisions, or land allotments. Two kilns were located some 30 m east of Bowd Lane, whilst the others lay a further 10 m to the east. The second group were largely superimposed. They were on a northwest-southeast alignment, which reflects the general layout of field boundaries to the north of Sea Lane (now Heath End Road), perhaps indicating that they respected the boundary of a former croft. The excavation area measured just 25 m by *c.* 18 m. Almost all of the kilns at Site 2 were coal-fired.

Site 3 was a 'cleaned up' area 12 m x 8 m, located about 10 m south-east of Site 2. There were eight kilns arrayed north-northeast/south-southwest, superimposed in two clusters. All were wood-fired, indicating the availability of loppings or brushwood in this period. Seven of the kilns were a two-flue type, while the northern most kiln was a later development with three flues. There were also five pits containing 'wasters'. Overall, nine phases of production could be identified. The revised fabric dates provide a date range of mid 12th- late 13th century. Roof tiles also appear to have been a product of five of the kilns.

The revised chronology may indicate that ceramics production at Bowd Lane began at Site 3, before extending north-westwards along the course of the coal and clay outcrop (*cf.* Fig. 7). Initially, the kilns

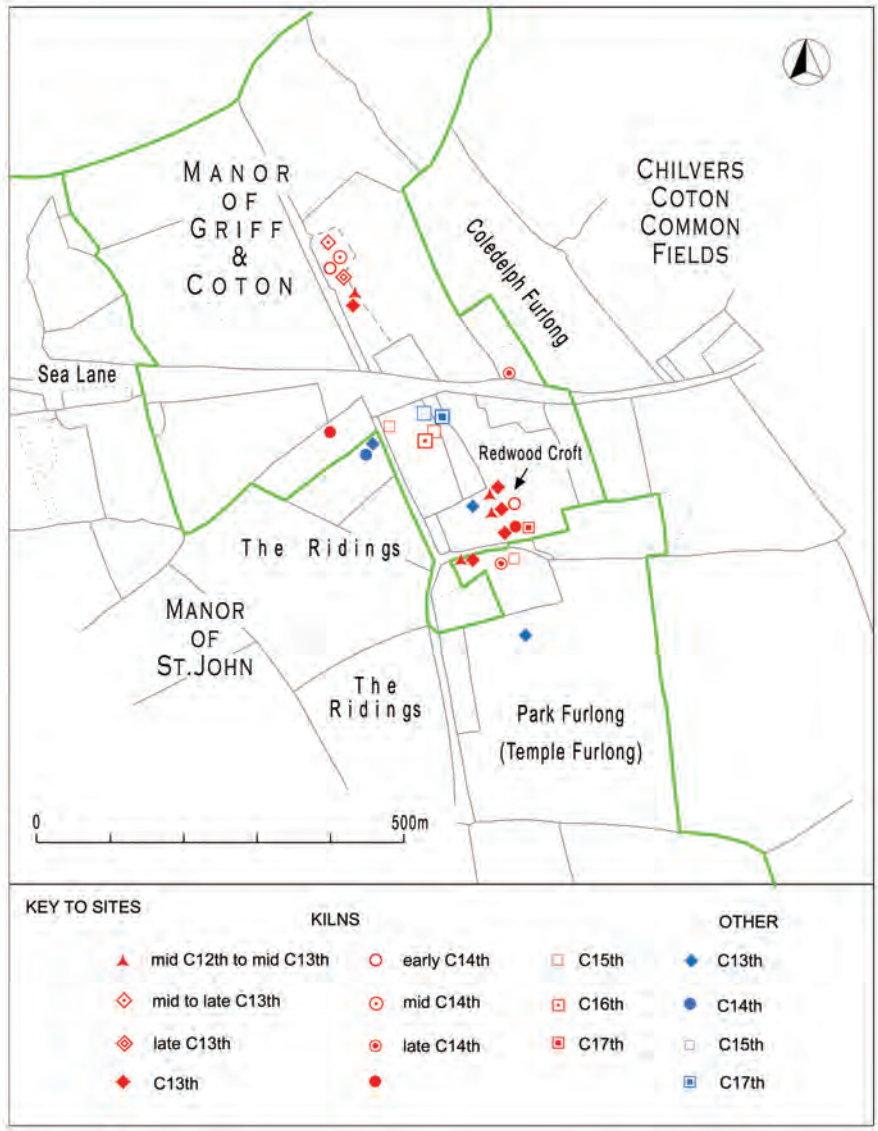


Figure 7. Chronological distribution of kiln sites at Heath End, in and around the manorial outlier of Griff and Coton.

may have been built on the fringe of an arable field, before spreading eastwards in step with coal and clay extraction works. The accessibility of coal in this zone was undoubtedly a key factor for the longevity of ceramics production.

Printoft's/Sarah Starkey's Croft

There is one former land parcel of land at Heath End on which medieval kilns have been found, within the Griff and Coton outlier, where the landowners have been traced to the 16th century, and possibly earlier. In 1692 freeholder Widow Sarah Starkey, alias Hill, paid a thirtieth part of knight's fee (3s. 4d.) to the lordship of Griff and Coton. Her croft was on the south side of Sea Lane (Heath End Road), bordering the manor of St John to the west (Fig. 5). It consisted of a capital messuage within a croft 2a: 2r: 14 (*c.* 1.05 ha), a 'yardland' of 9a: 1r: 32 (3.82 ha) and a cottage which she rented out.

Three superimposed 15th-century kilns were discovered alongside the north-west boundary of Sarah Starkey's croft (Site 8), and another kiln, dated to the 15th/16th century (Site 7) was found on the east side of the plot (Fig. 5). Other finds comprised a substantial layer of 15th-century pottery, exposed in a foundation trench for a new house (Site 5). It is possible that this croft was occupied for many years by a tenant family with a tradition of pot making. Prior to the 20th August 1571/2, the croft had been one of the possessions of John Printoft of Griff. The Printofts (spelled variously Prentot, Prentoft, Prentoff) were probably yeomen. They appear in several deeds amongst a handful of substantial landowners in the parish from *c.*1200 (WRO, CR136/C716) until the late 16th century. The family held other properties at Heath End besides the above mentioned croft, for in 1528, Thomas Prentoff of Gryffe conveyed five cottages in Le Hethend, to Richard Broben of Nuneaton, and to John Wade and William Underwood, both of Chilvers Coton (BRF.

AP/437890). It is doubtful that the Printofts themselves had a hand in pottery manufacture, but more likely that they rented out tenements (and possibly land for clay and coal extraction).

Although there are a large number of extant medieval title deeds for Chilvers Coton, there are only two others (*i.e.* other than those mentioned above) known for Heath End. In 1401 and 1402, Nicholas Prentoft witnessed the transfer of two cottages that stood at Le Hethend, that were held by two branches of the Maryot family. The cottages, understood to have been freehold, stayed with the Maryots for at least two generations, reaching back into the mid 14th century (BRF.AP/437891). One was conveyed as a gift from John Maryot, son of John Maryot to John Maryot, son of William Maryot of Chilvers Coton (BRF.AP/437899), the other conveyed as a gift with entail from John Maryot to his son Thomas Maryot in 1402. The documents inform us of adjacent cottages, one held by Henry Bates, formerly Jordan Julleson's and another held by John Cuttall also formerly owned by Julleson. This may be the closest we will get to identify the late medieval crofters of Heath End, and it is tempting to think that potters were amongst these names.

The Humphrey Fields

In the early 1680s three large fields, collectively known as The Humphrey Fields, made up the north western part of the Griff and Coton outlier, in total *c.* 13 hectares (Fig. 5). They were located on the north (and possibly on the south) side of Sea Lane, between Coton Common to the west and Colepit Croft to the east, and lay predominantly above the clay and coal outcrop. They were the freehold of John Stratford Esq. of Atherstone, Warwickshire. Mr Stratford's deeds (WRO, CR136/ Hewitt Survey/V1/63) inform us that in antiquity the fields were known as the Tillingfield, the Heathfield and the ?Lichfield. The land is now occupied by 1960s and 1970s housing estates. Although there have been no kilns recorded in this area (on account of no archaeologists present during its development), The Humphrey Fields provide a vital clue about the changes in medieval land use which were taking place at Chilvers Coton between the 12th and 13th centuries, and how these changes most probably affected the land on which the pottery industry emerged.

The Humphrey Fields took their name from a 13th-century landowner, Humphrey, son of Robert of Wiken (Wyken, Coventry). In return for homage and service, Bartholomew de Sudeley (*c.* 1226–*c.* 1280, son of Ralph de Sudeley) granted Humphrey 'land according to measure of Arden, lying on the heath [bruera] of Chilvers Coton, beside the land of Robert, his father' (WRO, CR136/C719/1562). This grant to bring heath under the plough was most probably in return solely for money rent (*i.e.* without labour services) and, if so, reflects a widespread trend that is known to have been taking place in England from the 12th century (Postan 1973, 93). But when did the reclamation of heath at Chilvers Coton begin? It is a safe assumption that Robert of Wiken's land was in a state of cultivation by the mid 13th century (and that it was subsequently inherited by Humphrey), but it may well have been cleared long before this time. Unfortunately, deeds of exchange only became common in the 13th century. It is however, notable that the western boundary of The Humphrey Fields also marks the limit of the Griff and Coton outlier, from which might be inferred that it was defined either before, or at the time of, the creation of the outlier in 1185.

Redwood Croft: Sites 11 to 14

A cluster of kiln sites was discovered in the 1970s during house building the area now known as Redwood Croft, which was formerly in the southern end of the Griff and Coton outlier (Fig. 5, Pl. 2). The archaeological investigations during construction groundwork were sporadic and partial. The antiquity of the site could not be traced in documentary sources earlier than the 17th century. Significantly, products from two of the sites (12 and 13) included vessels in fabric CCBi. The chronological distribution of kilns at Redwood Croft is shown at Fig. 7. Site 12 comprised a single kiln which was in operation at some time in the 12th/13th century (revised date). At Site 13 there were six superimposed kilns spanning the 12th to 14th-centuries (revised dates). Site 14 consisted of a single 14th-century kiln. Site 11 comprised a small pit in which a single piece of pottery was present, dated to the 13th century.

Pottery making in St John's Manor

The Templars period

No administrative records survive of the Knights Templars' Chelverescote manor between 1185 and 1306. However, during the manor's Crown custodianship (AD 1308–1314), the annual accounts attest to the sale of timber and brushwood, potting clay (*terra ad vesa sirgata facienda*) and occasionally sand or gravel (*granera*) or at least permission to obtain the materials from their estate (PRO/E/358/19/mem 44d; PRO/E/3587/mem 45d/6). The sale of coal, or sea coal (*carbonibus maritimis*) as it was called, was also a means of augmenting Edward II's coffers during these years. The coal and clay outcrop ran directly beneath the Templars' demesne – Temple Furlong (later Park Furlong) and Temple Park to the south (Fig. 5). To date, the archaeological evidence of pottery manufacture within the Templars manor consists of a dump of kiln wasters (Site 9), which included vessels in fabric B (AD 1150– 1300). Archaeological excavations took place at the site of the Templars' grange farm in



Plate 3. Thirteenth-century pottery from Chilvers Coton (Image: Author).

three phases between 1970 and 2004. There was no kiln evidence, though 13th-century waste pits attested to the household's regular consumption of Chilvers Coton products (Figs 8 and 9, Pl. 3).

The Hospitallers period

The king's stewards shut down the Templars' manor in February 1314 (PRO E358/19/mem 46/5) seemingly having bled it almost dry, for seven years. What happened over the next two decades is uncertain. Many of the Templars' territories in England were acquired by the descendants of benefactors. If this was the case then the manor is likely to have been ceded to the Hospitallers in 1324, when the King finally succumbed to pressure from the Vatican. The archaeological evidence suggests that the Hospitallers took over a derelict farm, robbed of building stone (Wilson 2010, 3), and erected a new timber-framed manor house on more or less the same site; inheriting a pitted tract of land above the clay and coal outcrop, known as Temple Furlong. The farmers of St John's manor are absent from the Lay Subsidy Roll of 1332 (detailed assessments listing individual taxpayers were not made in Warwickshire after this date), but this may be on account of their status as clerics. It is not until a report compiled for the Grand Master Elyan de Villanova in 1338 (Larkins and Kemble 1885, 179–180) that the Chilvers Coton manor is again seen as a going concern with annual 'rents and works' (valued at £8. 7s. 6d) returning annual profits to the manor of Ballessall (the ex-Templar preceptory at

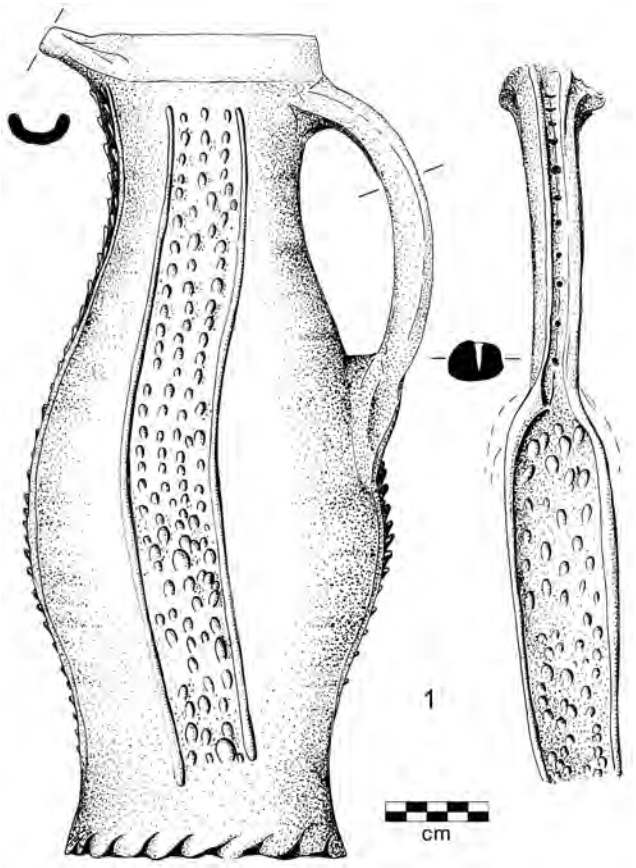


Figure 8. Thirteenth-century pottery from Chilvers Coton. 1. pitcher fabric A, light green glaze with olive-glazed applied strip and bead decoration, ht: 395 mm, rim diam.: 105 mm; wt: 1.36 kg (65%) (ref. BER/ 154b/ 155b; *cf.* Mayes and Scott 1984, 156–7, fig. 104, 190; fig. 105, 200).

Temple Balsall, Warwickshire). Initially, the cultivable land (one plough land) was worked by a squire or yeoman. No freeholders were recorded. The resident Hospitallers become more visible in documentary sources from 1360 (WRO CR136/C772/1440). They were not only farmers (*firmaius dominii prioris Sancti Johannis de Jerusalem in Anglia infra parochiam de Chilverscoton*), as described in 1405, but were responsible for collecting rents and managing the customary dues of the peasants who worked probably a third of the field-strips in the common fields, and whose tenements and crofts were dispersed throughout Coton and Heath End.

Excavation Sites 9 and 15 lie in the former manor of St John; (Fig. 5), and attest to pottery production during the Hospitallers period (AD 1324–1481) (Fig. 7).

The Riding

It is presumed that The Riding or Rydinge (OE 'clearing') (Fig. 5) was *assarted* from the heaths and wastes, which were situated between woodlands to

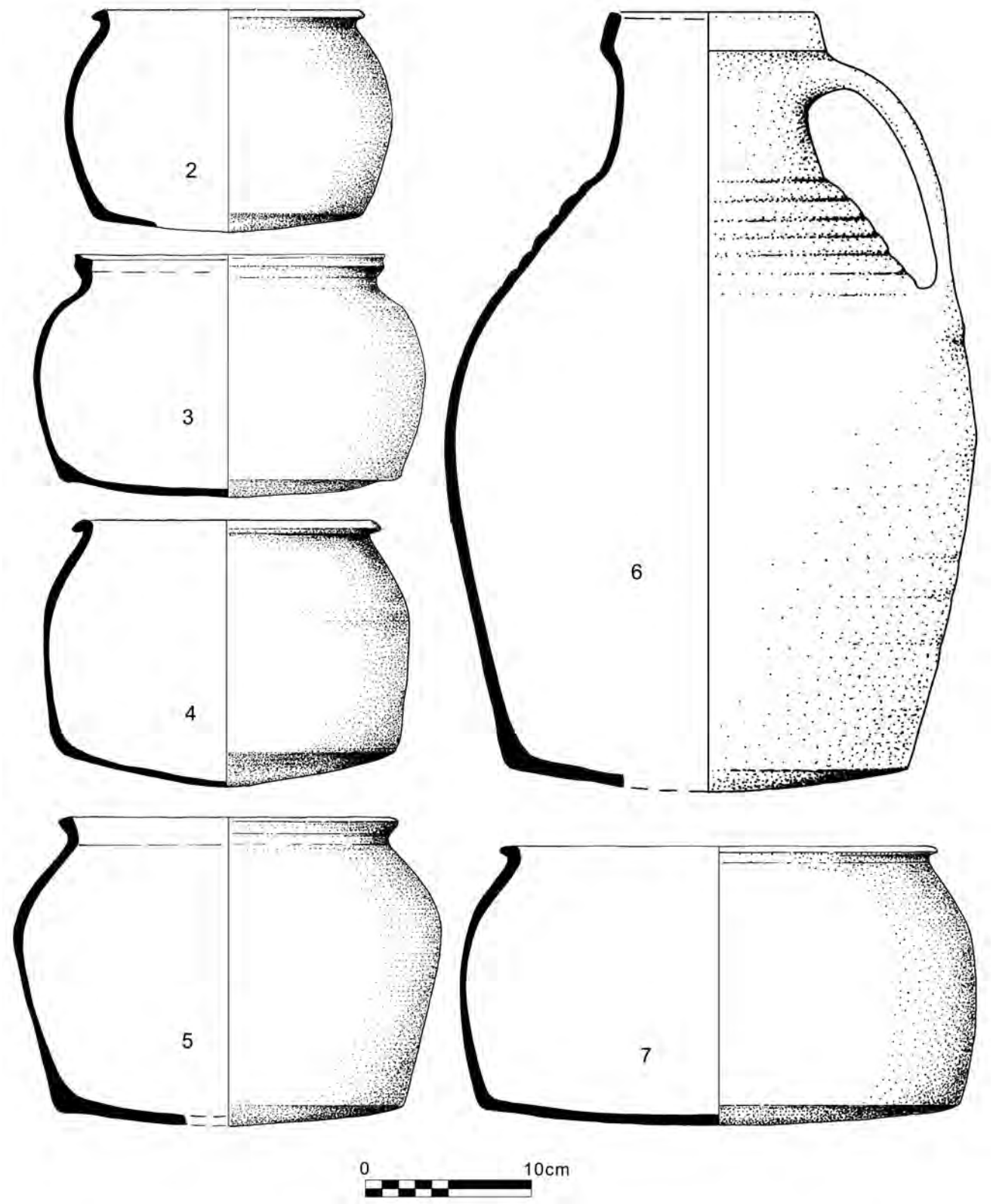


Figure 9. Thirteenth-century pottery from Chilvers Coton. 2. cooking pot fabric Bi, ext. rim diam.: 167 mm, ht: 135 mm; wt: 0.28 kg (*c.* 10%) (ref. BER/ 152a); 3. cooking pot; fabric Bi, ext. rim diam.: 188 mm, ht: 146 mm, wt: 0.92 kg (70%) (BER/ 155b; *cf.* rim form Mayes and Scott 1984, 135, 101, 360, fig. 83, 608.360 and 613.363, 196.240, fig. 49); 4. cooking pot fabric Bi, ext. rim diam.: 187 mm, ht: 162 mm, wt: 0.86 kg (65%) (ref. BER/ 152a); 5. cooking pot fabric Bi, rim diam.: 207 mm, ht: *c.* 188 mm: wt: 1.4 kg. (80%) (BER/ 152a); 6. rounded jug fabric A, creamy white, external dark green glaze; wt: 3.2kg. (*c.* 75%), ht: 470 mm; int. rim diam.: 108 mm (BER/134/150); 7. cooking pot fabric B; ext. rim diam.: 267 mm, ht: 170 mm; wt: 96 g (*c.* 30%) (BER/ 152b).

the west and open fields to the east. It was located in the manor of St. John, its northern and eastern boundaries juxtaposed with the outlier of Griff and Coton manor. In the 17th century it covered an area of about 10.25 hectares. By the 1950s, except for the back gardens of pre-1940s houses on the west side of Bermuda Road, The Riding was occupied by the slag heap of a coal mine. Site 9, interpreted as a kiln dump, was located in the north corner of The Riding (Fig. 5). It was recorded in a modern drainage trench. Despite archaeological visibility being somewhat restricted, the material seems to have accumulated in the 13th and 14th century. The vessels comprised cooking pots, pipkins, fish dishes, bowls and mortars (Mayes and Scott 1984, 60) .

In the 1320s The Riding is likely to have been in the possession of Galfrido (Geoffrey) de la Ryding (WRO, CR136/C761c), who was undoubtedly a farmer of some substance and a tenant-in-chief. Galfrido bore witness to a number of Chilvers Coton deeds and, in the 1320s and 1340s, acquired land in proximity to the Riding. His earliest known forebear is Richard de le Rudingge (WRO, CR136/C724), who in 1284 was a signatory to a grant of land in Chilvers Coton to Sir Andrew de Estley (Astley), the lord of an adjacent manor. In Richard's time, The Riding may already have been well established as cultivable land. As with The Humphrey Fields, clearance and groundbreaking of The Riding will have undoubtedly been a considerable and protracted enterprise. It is difficult to be sure whether it pre-dates the creation of the new manorial boundaries in 1185, or whether it was created during the Templars' period (*i.e.* post AD 1191). As Postan has shown, by 1190 a number of rent-paying tenements had already been cut from the demesnes of the Warwickshire preceptory at Balsall, whilst other Templars manors in the county (Tysoe and Newbold) were wholly let out (Postan 1973, 98–9).

Park Furlong

Site 15 was located in the manor of St. John, some 20 m south of the manorial boundary with the Griff and Coton outlier (Fig. 5; Pl. 4). It was formerly towards the north end of Park Furlong (also as known as Temple Furlong), which adjoined the west side of the common field known as Windmill Field. There were three broad phases of kiln activity spanning the 14th and 15th centuries and 'later' (Fig. 7). In the mid 16th century, Park Furlong was owned by 'gentleman farmer of the manor' Henry Acres (WRO, CR136/CR440/7/1259; WRO, CR136/812), whose estate (PRO/PCC16), has been identified as the former demesne of the Knights Hospitallers (Wilson 1998 1–6; Wilson, 2010, 85). In the 17th-century



Plate 4. Site 15, rear garden of 10 and 12 Radley Drive: the base of a 15th-century kiln alongside a 14th-century ditch. (Photo: courtesy of Philip Mayes).

Court of Survey the field was described as 'a certaine Rough Close' situated above the 'Coal Delphe'. It was presumably pitted throughout, on account of coal and clay near to the surface. Four crofts occupied the northern end of Park Furlong. Beneath the croft in the tenure of labourer William Sergeant (Fig. 4, d) was a large spread of 15th-century kiln wasters, roughly 50 m long by 20 m-30 m wide, which extended beyond the manor boundary to the north-east. The kiln (Site 15) was built on a dump of 14th-century wasters, attesting to either an early establishment of the croft, or an antecedent tenement.

Park Furlong was steadily quarried for coal and clay during the 19th and 20th centuries. Notwithstanding this, in the 1970s, evidence of medieval occupation was found on the edge of a clay pit, about 100 m south of Site 15 (Fig. 5, Site 17). The discovery comprised a group of waste pits containing a large quantity of pottery. The majority of vessels were jugs, cooking pots, wide mouthed fish dishes and mortars, all of which were dated to the 13th century. The revised chronology now indicates a wider date range: AD 1275– 1500. At least one vessel was in fabric B; AD 1150–1300. The site was thus occupied at some time during the Knights Templars' period (*i.e. c.* AD 1191–1307), and continued during the Knights Hospitallers period (AD 1324–1481). The excavators considered the site to be associated with the industry (*i.e.* a potter's abode), although the nature of the site is uncertain. In view of its proximity to The Riding (Fig. 5) there are two contenders in the documentary sources. One of these is the site of Temple Croft, which was conveyed in 1324 to Galfrido de la Ryding by Ralf, son of Robert de Bower of Chilvers Coton, who had held it through ancient rights of his father (WRO, CR136/748/1523). The word croft in this sense is taken to be a small farm as opposed solely to an enclosed piece of land. The other site, known as Templefeld, was released by the quitclaim of Edith le Grey of Chilvers Coton in 1342, on the death of her husband Ralph, to Galfrido de la Ryding (WRO, CR136/761c).

The archaeological and documentary evidence thus suggests that by the 13th/14th century the north part of Park Furlong was partitioned into a number of small crofts, some of which were engaged in pottery making.

Potting in the manor of Erdbury

The evidence for medieval pottery making in the manor of Erdbury is slender; all we have to go on is Eileen Gooder's account (1984, 10) of a kiln site excavated by the late Mr Fred Phillips, an amateur archaeologist of Bedworth, Warwickshire, who was also a family friend of the author. In the 1970s and 1980s Phillips was permitted to conduct covert 'trial excavations' on the Arbury Hall estate (Fig. 3, Erdbury Priory), where he uncovered what was considered to have been the site of Erbury Priory's tilery and pottery and the base of an undated kiln. Gooder, who was a close associate of Phillips and visitor to the site, noted the frequent occurrence of pottery sherds in Chilvers Coton Fabric CCBi, and surmised (quite rightly) that this type of pottery could date to shortly after the mid 12th century, in view of its association with the priory site (Gooder 1984, 10).

Discussion

The application of revised fabric dates to the pottery recovered from the 1960s and 1970s excavations at Chilvers Coton has shown that the earliest kilns possibly date from the second half of the 12th century. Almost all of the kiln sites were located within an outlier of the manor of Griff and Coton, which was established by Ralph de Sudeley in 1185, coinciding with his donation of a substantial part of the lordship to the Knights Templars. Conspicuously, the boundary of the outlier encloses a geological outcrop of high-quality pot-making clay, and coal, which runs northwest–southeast through the parish. It is thus surmised that Ralph's intention was to retain ground that was already providing him with a source of money revenue from both mineral rights and land rents. The erratic course of the southern boundary of the outlier appears to denote the extent of clay working activities at the time of de Sudeley's land donation to the Templars.

It has been shown that a vast northwest-southeast swathe of land at Heath End amounting to about 23 hectares (*i.e.* The Humphrey Fields and the Riding), was probably claimed from the heath during the 12th and 13th centuries, for the purposes of cultivation and tenements, and that this process is resonant with changes to the manorial economy that were taking place throughout England from the 12th century, whereby demesne lands were fragmented in order to raise money revenue. This inevitably calls into question the former status of the land immediately to the east of these clearances: the zone in which the pottery kiln sites were located. This was a large band of territory, of roughly 15 hectares, bordering to the east the open fields of Chilvers Coton. Despite the paucity of deeds and pre-17th century field names, the geographic location of this zone suggests that it represents a first phase of heath reclamation; which probably took place in the 12th century. In support of this theory, there is body of circumstantial evidence which points to an early fragmentation of this territory into tenements. In the 1520s there were two fairly considerable freeholds held by the same family, the Prentoffs, who had been respected substantial land holders at Chilvers Coton and Griff since at least *c.* 1200. Their freeholds at Heath End included five crofts with tofts, of which there is no information about their precise location or size. But another was a croft of over 4 hectares with a capital messuage and a cottage. Significantly, it was on this last property that a sequence of four pottery kilns

were found, dated to the 15th and 16th century. A minor family of freeholding crofters (the Maryots) has also been flagged up at Heath End from at least the mid-14th century, together with their neighbouring crofters of unknown status.

The transformation of heath and waste at Chilvers Coton was probably enabled by the independent enterprises of a small number of fairly substantial yeomen farmers, in return for rent payments to the lordship. Subsequently a series of tenements (crofts and tofts) were marked out within the early clearances to the north and south of Sea Lane, and these were rented out to peasant families. In addition, there may have already been other peasants in this area holding their crofts directly of the lord. Some of these peasants were undoubtedly the potters, who most likely built their kilns either on their crofts, or on the periphery of cultivable land, possibly on selions (cultivation strips) in their possession. It is quite probable that the twelve sites at Heath End where pottery kilns have been discovered (Fig. 5, Sites 1–4, 7–8 and 12–16) represent discrete family groups. Significantly, a number of sites had superimposed kilns, showing that the structure was more or less a permanent feature, but also illustrating the longevity of the craft of pottery-making within a family. The identities of the families, and the numbers involved in the craft remain elusive. It is to be noted that all of the excavated kiln sites of 12th/13th century date were distributed throughout the corridor of the coal and clay outcrop; over an area of approximately 500 m (north-south) by 300 m (east-west). And, since most of these sites were made by chance discovery during piecemeal development of brown-field sites, it is probable that other kilns await discovery, particularly as the gardens of 19th-century to pre-1940s houses occupy the sites of a number of former crofts that were situated along main ancient routes.

It is frequently assumed that pot-making in the medieval period was largely undertaken as a side line to supplement a household income that was otherwise derived from agriculture (*cf.* Dyer 2005, 92; Steane 2014, 243). This could very well have been the case, but the circumstances which permitted a subsistence cultivator to become a potter tend to be ignored. The availability of requisite materials and fuel alone is not an adequate explanation. Arguably, it was changes to the manorial economy in the 12th century that produced a set of favourable circumstances for the emergence of the pottery industry at Chilvers Coton. In the first century of Norman rule villeinage tenure was heavily burdened with the performance of labour services to the lord, attending to the agricultural needs of the demesne farm. This work was usually of the more labour-intensive kind, and beyond the scope of regular duties performed by the household servants. It frequently took the form of week-work, usually three days a week, for little recompense other than food. The demands on a peasant's time would intensify according to the agrarian calendar. Even so, is it believed that the villein still had sufficient time each year to tend to his own tillage (Duby 1968, 209). Each villein held his smallholding of the lord, which normally consisted of a croft with a toft and a handful of selions in the open fields. The annual agricultural yield would be just sufficient to feed the mouths of his family: he was also required to supply a tithe, and a payment in kind to the lord, the amount of which depended on the specific terms of his tenure. Under such constraints there was little scope or opportunity for the investment of time to engage in pottery-making. However, Postan's analysis of surveys of manorial records has shown that by the second half of the 12th century, there was a countrywide move to replace labour services (or at least a proportion of it) with money rent (Postan, 1973, 89–106). This relaxation of dues undoubtedly gave the peasant more time in which to seek other means of meeting the lord's rent. But while there was little scope to produce a surplus yield (*i.e.* for sale) from the family's yardland, the hiring out of personal labour services to a substantial landowner was not always an option. It may therefore, be no coincidence that the emergence of pottery manufacture at Chilvers Coton occurs in the same period as the widespread movement towards the commutation of labour services. Even so, pottery manufacture required financial risk. The minimal monetary outlay would be a licence from the lordship to obtain clay and fuel (wood or coal). Other overheads might include tempers, glazing materials, and possibly even carriage costs. To be cost-efficient, a potter would require a thorough knowledge of materials and processes: wedging, throwing, turning; drying, kiln building and firing. In addition to this, adequate space would be required for potting, kilns, drying sheds and for the storage of materials and equipment. Was such knowledge and resource so casually acquired?

Coupled with the 'sideline' belief is the presumption that the pots were made by men (*cf.* Steane 2014, 243). But could it have been that the craft was undertaken predominantly by women? It would certainly explain the scant evidence for male potters in the documentary sources for Chilvers Coton and the Nuneaton area. It is noteworthy in this respect, that Eileen Gooder identified three likely female candidates (1984, 10–12): Amice Potkyn, whom she suspected was a potter for Nuneaton Priory in 1327; Elena Pott of Nuneaton, and Agnes Butterton who ran a tile house there in 1553 (one must bear in mind however, that the 'pot' surname is not evidence of an extant potter, but may just refer to the craft of a forebear). In support of the theory for a predominance of female medieval potters at Chilvers Coton it is necessary to look at the 17th-century census records compiled by Sir Richard Newdigate, at which time clay-working and ceramics production (pottery, tiles and bricks) was still a feature of the locality. Although the census provides us with the names, ages and occupations of 788 people



Plate 5. Site 10. A 14th-century tile kiln at Tenlons Road, Heath End, *c*. 1970. The site is flanked by the back garden of an early 20th-century house. (Photo: courtesy of Philip Mayes).

living in 180 households, it is conspicuous that there is no mention of either a potter or a clay-worker. While Gooder suspected that some of the potters may have been masquerading as male 'labourers', it would not be unreasonable to assume that others are veiled as 'wife' or 'widow'. The occupation of the woman of each household was evidently viewed by the census recorders as inconsequential.

Medieval pottery manufacture at Chilvers Coton is frequently referred to as an 'industry', although the term is somewhat misleading. Based on the combined evidence (archaeological and historic documentary) it would be better viewed as a craft economy, essentially domestic, that was shared by a number of families within a defined geographic zone. It is a fairly safe assumption that the spatial extent of pottery making activities at Chilvers Coton during the 12th and 13th centuries, was primarily within the limits the Griff and Coton manorial outlier (Figs. 2 and 5), and especially within the zone (*c*. 15 ha) interpreted as initial heath reclamation. Apart from the debatable location of Site 16, the archaeological evidence seems to show that pottery and clay-working gradually spread out into the manor of St John in the 14th century, largely following the course of the clay and coal outcrop (Fig. 7). A substantial tile kiln was also in operation during this period at The Grove, a croft situated in the Griff and Coton outlier (WRO CR 136/M95/96), between The Riding and the Humphrey Fields (Fig. 5 and Pl. 5).

There are, however, exceptions to the location of kilns in the early period, as seen at Arbury Hall (Fig. 3, Erdbury Priory, 2 km to the southwest, SP341 897) and at Goldby's Farm (Fig. 3, *c*. 3.3 km to the west, SP318 896). Gooder conjectured that the presence of 12th-century pot wasters at Goldby's Farm was indicative of gradual colonisation of the Arden by potters in search of good clay, although it is equally plausible that clay was carted from the outcrop at Heath End; as was undoubtedly the case at the Erdbury Priory pottery and tilery. A group of six 15th-century kilns have also been found on the west side of an arable field known as The Banners (WRO, CR136/764/104), on the south side of Harefield Lane (formerly Half Field Lane), about 1.2 km south west of the outlier (Fig. 3, Site 18; SP341 897). The site was formerly situated within the greater manor of Griff and Coton. The area of excavation, *c*. 28.5 m x 15.5 m, also revealed the foundations of a house, indicating that this was probably a potter's croft. Since, in this locality the underlying geology comprises mudstones and sandstones of the Whitaker Member (Carboniferous), it is more than likely therefore that potting clay was carted from the outcrop at Heath End.

Finally, to place the archaeological knowledge of pottery manufacture at Chilvers Coton into

perspective, it is noteworthy that less than 1% of the initial zone of heath reclamation, and only *c*. 0.4% of the outlier, has been observed by archaeologists. It is estimated that less than 4 hectares of the outlier still has archaeological potential, and that this is largely restricted to the gardens of 19th-century to pre-1940s housing. Nonetheless, there is very high potential for the discovery of kilns sites within existing gardens, and this is no more clearly exemplified than by the settings of Sites 10 and 15 (Pl. 4 and 5).

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Abbreviations:

BRF.AP	Birmingham Reference Library, Aston Papers
PRO	The National Archives, Kew
WRO	Warwick County Record Office

BRF, AP/ 437890, Deed of Gift, John Maryot, son of John Maryot to William Maryot of Chilvers Coton, Aug. or Jan.1401

BRF, AP/437891, Deed of Gift with entail, 31 Oct. 1402

BRF, AP/437899, Gift, Thomas Prentoff of Gryffe, 27 Jan. 1528

PRO, E/358/19, 29 Sep. 1310 to 29 Sep. 1311

PRO, PCC16, Babbington, Testamentum Henrici Acres, 1567

WRO, CR 136/M14, Map of Chilvers Coton by Thomas Hewitt, 1684

WRO, CR 136/M95/96, Map of Chilvers Coton by Robert Hewitt, 1684

WRO, CR136/ v13/Hewitt Survey Vol. V/11–12

WRO, CR136/ Hewitt Survey Vol.1/63, Freeholders Evidences

WRO, CR136/DR7 (misc. papers), Pains and Orders

WRO, CR136/C656a, Settlement of a dispute re Common of Pasture between the Vicar of Nuneaton and the inhabitants of Attleborough, Coton and Griff, 5 Jan. 1405

WRO, CR136/C716, 'Land charter, Griff, by Ralph de Sudeley', *c*. 1200

WRO, CR136/C724, 27 Feb.1284

WRO, CR136/C719/1562, Grant by Bartholomew de Sudeley to Humphrey son of Robert of Wiken of land in Chilvers Coton, 13th century

WRO, CR136/C748/1523, Grant by Ralph son of Robert de le Bowre to Geoffrey de la Rudyng, croft in Chilvers Coton

WRO, CR136/C761c/1519, Quitclaim. Edith, relict of Ralph le Grey, widow to Geoffrey de la Rudyng. Land in Chilvers Coton, 5 Sep. 1342

WRO, CR136/CR440/7/1259, View of frankpledge, Manor of Chilverscoton, of Henry Akers, gentleman, farmer of the manor of St John, 17 Oct.1560

WRO, CR136/C764/104, 1684

WRO, CR136/C772/1440, Grant, Thomas Loteman to William his son, of lands in Chilvers Coton, 2 Feb. 1360
WRO, CR136/C812, Final concord, Thomas Dabridgecourt to Henry Acres of property in Chilvers Coton, 29 Sep. 1566

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Résumé

Cette étude fait guise d'introduction du livre sur l'«industrie» de la céramique médiévale de Chilvers Coton. Elle explore le caractère du paysage historique où des fours à poterie ont été trouvés. Elle examine les preuves de la propriété foncière et de son utilisation, ce qui jette un jour nouveau sur les origines possibles de l'industrie et sur son contexte et étendue spatiale dans le paysage médiéval. Elle examine, pour la première fois, des preuves archéologiques de la production de poterie à Chilvers Coton à la lumière de nouvelles dates de la céramique.

Bien que ce n'est pas son objectif principal, de cette façon, l'étude aborde un aspect majeur d'un des buts de la recherche régionale actuelle en Warwickshire, à savoir : "WM21 : une réévaluation de, et travaux supplémentaires sur, le site de production de Chilvers Coton; l'industrie de Nuneaton est grande mais on ne connaît pas son ampleur" (Irving 2011, 36).

Zusammenfassung

Diese Studie befasst sich mit der mittelalterlichen Keramikindustrie in Chilvers Coton. Der Beitrag erörtert die Wesensmerkmale der historischen Landschaft, in der Keramiköfen gefunden wurden. Es werden Belege für Grundeigentum und Bodennutzung untersucht. Dabei wird ein neues Licht auf die möglichen Ursprünge der Industrie und ihres Kontextes geworfen sowie ihrer räumlichen Ausdehnung in der mittelalterlichen Landschaft. Die Studie betrachtet dabei zum ersten Mal archäologische Hinweise auf die Keramikproduktion in Chilvers Coton unter Berücksichtigung der überarbeiteten Keramik-Jahreszahlen.

Obwohl dies nicht ihr ursprünglicher Zweck war, befasst sich die Studie auf diese Weise mit einem wichtigen Aspekt der derzeitigen regionalen Forschungsziele für Warwickshire: 'WM21: Neubewertung von, and weitere Forschung zu, der Produktionsstätte Chilvers Coton; die Industrie in Nuneaton ist zwar umfangreich, aber es ist nichts über ihr Ausmaß bekannt' (Irving 2011, 36).

BERMUDA PARK, NUNEATON, COUNTY OF WARWICKSHIRE

ARCHIVE REPORT

NGR: SP 3520 8980

on behalf of

GEORGE WIMPEY MIDLANDS LTD.

MARCH 2008

National Grid Reference:	SP 3520 8980
Site Code:	BDA 04
Commissioned by:	George Wimpey Midland Ltd.
Fieldwork by:	AOC Archaeology Group
Text by:	Daniel Eddisford Melissa Melikian Angus Stephenson Martin D. Wilson
Specialist Reports by:	Lucy Whittingham Ian M. Betts Alan Pipe Lynne Keys Beth Richardson
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TABLE OF CONTENTS

1 ABSTRACT 1

2 INTRODUCTION 3

2.1 Site Location 3
2.2 Planning Background 3
2.3 Project Objectives 4

3 TOPOGRAPHY AND GEOLOGY 4

4 HISTORICAL BACKGROUND 5

4.1 The Manor of the Knights Templar 5
4.2 The Temple Household 6
4.3 An Impression of the Manor Farm 6
4.4 The Manor at Work 8
4.5 The Manor of St John 10
4.6 A Mix-Up of Temples 11
4.7 The Changing Landscape 12
4.8 Recent Disturbance to the Site 13

5 PREVIOUS ARCHAEOLOGICAL WORK ON THE SITE 14

5.1 Discovery of the Temple Site 14
5.2 The Early Excavations (Figure 3) 14
5.3 Archaeological Work in the 1990s (Figure 3) 15

6 ARCHAEOLOGICAL INVESTIGATIONS IN 2004 16

6.1 The 2004 Evaluation (Figure 2) 16
6.2 The 2004 Excavation (Figure 3) 16

7 SUMMARY OF RESULTS 17

7.1 Report Structure 17
7.2 Period 1: Natural Deposits 17
7.3 Period 2: Early Medieval (c.1150 to 1350) (Figure 4) 17
7.4 Period 3: Late Medieval (c.1350 to 1550) (Figure 6) 27
7.5 Period 4: Post-medieval (c.1550-1750) (Figure 8) 39
7.6 Period 5: Modern (1750 to present day) (Figure 9) 42
7.7 Undated Features (Figure 10) 43

8 DISCUSSION 45

8.1 On-Site Preservation and Recording 45
8.2 The Extent of the Archaeological Remains 45
8.3 Early Occupation of the Site 46
8.4 The Knights Templar Manor 46
8.5 The Crown Administration 49
8.6 The Knights Hospitaller 49
8.7 The Later Medieval and Early Post-Medieval Period 52
8.8 Early (17TH Century) Industrial Disturbance 52
8.9 Modern Industrial Disturbance 53

9 BIBLIOGRAPHY 53

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FIGURE 1 SITE LOCATION 56

FIGURE 2 DETAILED EXCAVATION AREAS LOCATION 57

FIGURE 3 PHASE OF ARCHAEOLOGICAL EXCAVATION 58

FIGURE 4 PLAN OF EARLY MEDIEVAL FEATURES (PERIOD 2) 59

FIGURE 5 SECTIONS THROUGH POND AND STREAM DEPOSITS 60

FIGURE 6 PLAN OF LATE MEDIEVAL FEATURES (PERIOD 3) 61

FIGURE 7 SECTIONS THROUGH DITCHES 4 AND 5 62

FIGURE 8 PLAN OF POST-MEDIEVAL FEATURES (PERIOD 4) 63

FIGURE 9 PLAN OF MODERN FEATURES (PERIOD 5) 64

FIGURE 10 PLAN OF UNDATED FEATURES 65

FIGURE 11 POTTERY ILLUSTRATIONS 66

FIGURE 12 CERAMIC BUILDING MATERIAL ILLUSTRATIONS 67

APPENDIX A: CONTEXT REGISTER 68

APPENDIX B: POTTERY REPORT 77

APPENDIX C: BUILDING MATERIALS REPORT 87

APPENDIX D: ANIMAL BONE REPORT 94

APPENDIX E: SLAG REPORT 98

APPENDIX F: REGISTERED FINDS REPORT 100

APPENDIX G: GEOARCHAEOLOGICAL REPORT 101

OASIS ID: AOCARCHA1-39512 118

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1 ABSTRACT

An archaeological excavation was undertaken by AOC Archaeology Group between August and November 2004 at Bermuda Park, in the County of Warwickshire. Bermuda Park was a brownfield site immediately to the southwest of the village of Bermuda on the southwest side of Nuneaton. The excavation was undertaken to record any archaeological remains prior to the development of the site, which involved the construction of c.300 new houses.

The land is known from documentary sources to have been within the demesnes of the monastic military order of the Knights Templar between 1185 and 1308 and subsequently the Knights Hospitallers of St. John of Jerusalem, until the dissolution of monasteries by King Henry VIII in c.1540. At this time the land formed part of the manorial estate of Chilverscoton and was used for farming. Buildings on the site included a hall, chapel, granary and several other agricultural buildings. The site had several subsequent owners until the late 17th century, when the buildings were reportedly ruinous.

The local clay had been exploited for pottery manufacture since the time of the Knights Templar and later for a 19th century brickworks. A modern clay extraction quarry was recorded on the site. From at least the 17th century the shallow local coal seams were also extensively exploited. Much of the development area was subject to disturbance and dumping of waste associated with coal mining. The site was derelict for many years before the recent development.

The western half of the site was subject to extensive modern industrial activity; the eastern half was less disturbed and had been the subject of several archaeological investigations over the last 40 years. Initial evaluation trenches indicated that some remains of medieval manorial buildings survived in this area.

The earliest evidence of activity on the site was in the form of large stone packed postholes and the ephemeral remains of masonry walls, probably associated with the Templar occupation of the site. In a later medieval phase a building with stone foundation replaced this structure, and further structures associated with cobbled yards and a trackway were recorded to the east. Large amounts of 13th-14th century medieval pottery, probably from the nearby Chilverscoton kilns, were found associated with these remains.

A series of stream channels were managed throughout the medieval period, and in the southern part of the site a pond was formed. Timber stakes and a substantial dump of stone, forming what may have been a bridge abutment, revetted one bank of the pond. A further stone feature to the south may have been a related collapsed pier base. In the later medieval period a series of masonry structures, more ephemeral timber structures and cobbled areas are contemporary with the occupation of the site by the Hospitallers.

Throughout the post-medieval period the use of the site became increasingly industrial. Early in the post-medieval period the industrial nature of the site

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presumably made it uninhabitable and the domestic buildings were abandoned. The utilisation of the site for a range of activities, largely associated with mining and brick production, led to extensive truncation of the earlier archaeological remains. In addition to this truncation, widespread robbing of the building stone from the site in antiquity resulted in the poor preservation of many of the structures on the site.

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2 INTRODUCTION

2.1 Site Location

The site lies at the south-western edge of Nuneaton, immediately to the west of the village of Bermuda, in the County of Warwickshire. The site is centred on National Grid Reference (NGR) SP 3520 8980 (Fig 1). The site is bounded on the northeast side by the rear gardens of the houses of the west side of Bermuda Village, on the north by the road known as Harefield Lane, on the west by the new road of Walsingham Drive and on the south by landscaped ponds, where former coal-mining pits used to be. Walsingham Drive connects the site to the Bermuda Park Industrial Estate to the south (Fig 2).

2.2 Planning Background

The Bermuda Park development was undertaken by George Wimpey Midland Ltd. The development plan covered an area of approximately 10 hectares. The permitted scheme was to develop the formerly derelict wasteland for approximately 285 housing units with associated infrastructure and landscaping. Outline planning permission was granted, subject to the attachment of a condition, stating that no development works should take place until the applicant had secured the implementation of a programme and timetable of archaeological work in accordance with a Written Scheme of Investigation (WSI) approved in writing in advance by Nuneaton and Bedworth Borough Council. Full permission was granted in February 2004 subject to the same archaeological condition.

An initial evaluation, of 10 trenches, identified surviving archaeological deposits in the eastern half of the site (Fig 2). Brick, stone and mortar foundations or working surface remains identified in two trenches were believed to be associated with the medieval remains identified in previously excavations. A second phase of archaeological work consisted of an open area excavation targeted on the structural remains identified during the evaluation (Fig 2).

Prior to each phase of work a WSI was submitted by AOC Archaeology Group and approved by the archaeological advisor to the Local Planning Authority (LPA) (AOC 2004a, 2004c). These documents set out the aims, scope of works and methodology for the evaluation and excavation. After each phase of work a summary was produced, in order to allow the archaeological advisor to the LPA to make an informed decision about the need for any further archaeological mitigation (AOC 2004b, 2005). Edward Wilson monitored the site for Warwickshire County Council and Lisa Moffett (Regional Science Advisor for English Heritage) during the later excavation.

In accordance with a Post-Excavation Assessment (AOC 2006) this final report covers all on-site archaeological investigations undertaken by AOC Archaeology Group. The stratigraphy of the archaeological investigations is integrated with information from the specialist finds work undertaken. Where relevant the results are integrated with earlier archaeological investigations of the site, undertaken by the University of Birmingham (1970) and the Atherstone Archaeological Society (1996-7). In accordance with the English Heritage guidelines (1991) guidelines this report provides the research objectives of the project as expressed in the project design; the circumstances and organization of the work and the date it was undertaken; the

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identity of the individuals or organization by whom the work was undertaken and an account of the results of the project.

2.3 Project Objectives

The main research objectives as set out in the Post Excavation Assessment (AOC 2006) are summarised below:

- To present an account of the known historical development of the site, drawing on documentary and cartographic sources, in order to place the site in context by reference to the organization of similar Knights Templar and Knights Hospitaller sites.
- To produce a plan of the whole site, combining the records of previous archaeological investigations with those of the 2004 excavations; producing digital versions of the plans of the older work from the hand-drawn original records and copies where necessary.
- To present the results of the excavations as a continuous integrated narrative.
- To compare the spatial distribution of features recorded on the site to similar farm or grange establishments, elsewhere in the country.
- To further examine the possible evidence for metalworking and milling found on the site, with reference to other monastic sites.
- Does the pottery assemblage contain any kiln material? If so, how does it relate spatially to known kilns?
- What are the sources of the igneous rock-tempered pottery recovered from the excavation?
- How do the fabric types of the Ceramic building material compare with those known from the Chilvers Coton pottery industry?
- What characteristics of the local meat diet may be interpreted from the animal bone evidence, particularly in terms of carcase-part selection?
- What was the nature of the depositional environment of medieval pond recorded at the southern side of the site?

3 TOPOGRAPHY AND GEOLOGY

The site slopes down gradually from north to south, with current ground level at between 90m and 100m OD (Fig. 2). The village of Bermuda lies to the south-west of the Polesworth fault, which runs through the middle of Nuneaton, then along the line of the River Anker and Coventry Canal to Polesworth, about 10 miles to the north-west of Nuneaton. This fault has created a north-facing escarpment, and the outcropping rocks are older than those of the bedrock of southern Leicestershire to the northeast.

In addition to this tectonic activity the underlying geology of the area changes very rapidly from east to west, creating a complex sequence of natural deposits. The underlying bedrock belongs to the Namurian and Westphalian stages of the Upper Carboniferous system. The bedrock is composed of grey mudstones, siltstones and seatearths (ganisters and fireclays), with coal seams between them. The ‘Half Yard Seam’ runs beneath the site close to the surface.

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The western part of the site lies directly above rocks of the Etruria formation, variegated mudstone with subordinate sandstones and volcaniclastic beds. A little further still to the west are the sandstones and mudstones (again with occasional coal seams) of the Halesowen formation. The Halesowen, Etruria and Middle Coal Measure formations are all part of the Coal Measure, and Barren Measure Groups, of the Upper Carboniferous. A short distance to the south-east, older rocks of the Cambrian and Ordovician eras obtrude, in the form of Outwoods Shale, a formation of the Stockingford Shale Group and Lamprophyres, of the quartzite and diorite types. Although these rocks do not outcrop as bedrock on the site they were frequently found as building materials, diorite was quarried at Bedworth until recently.

The sites is in an area of glacial drift deposits, comprising of glacio-fluvial deposits of yellow and orange sand and gravel, and till in the form of brown or reddish brown pebbly clay. As a result the colours and types of the underlying geological strata are exceptionally variegated within short horizontal distances over the whole site. Within the excavation area natural geological layers vary from bright red marl (a type of argillaceous sedimentary rock) to greyish brown sand.

Many of the underlying deposits were exploited for industrial purposes; Bermuda village is a 19th century coal-mining pit-village in origin. In addition to coal local clay was used for brick-making and sandstone, locally called "bind rock" or "clod". The clay was used for "brickle" production; whereby stones were broken into small pieces and soaked in water-filled pits to produce the basic ingredients for hard-wearing bricks. Finally ironstones, fireclays and different types of building stones, were extensively quarried locally.

4 HISTORICAL BACKGROUND

By Martin D. Wilson

4.1 The Manor of the Knights Templar

The Order of the Knights Templar was granted approximately a third of the manor of Griff and Coton in 1185, by Ralph de Sudeley who was lord of that manor (Lees 1953: 32, Salzman 1947: 175). A third of his manor had been previously received by the Austin priory of Erdbury (Arbury). Ralph's seat was in Gloucestershire and there is no documentary or archaeological evidence for a manor house at Griff before *c.*1230 (West 1968: 84). He did however, rent back the land from the Templars for his own use at a charge of 6½ marks a year (Lees 1953: 32), until his death in 1191. It was probably after this date that they set about building the manor house and chapel, the manor taking the name of Chelverscote (known today as Chilverscoton).

Chelverscote manor became the second most profitable Templar holding in the county of Warwick, the first being the Preceptory at Temple Balsall (Gooder 1995: 139). It received a grant of Free Warren in 1248 (Dugdale 1656: 107, Salzman 1947: 175) and was responsible for the management of several satellite farms and hamlets belonging to it in the north of the county (Arley, Middleton, Over Whitacre, Wishaw and Wolvey (PRO 358/19 Sheet 1, Rot 28, 10.1.1308-20.5.1308)), beyond Watling Street in Leicestershire (Wellsborough, Sharnford, Lindley, Fenny Drayton, Congerstone and Snareston (PRO E358/19, membrane 41, sheet 2, 20.5.1308-29.9.1308)) and in

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Staffordshire (Hints) (*ibid.*). The financial success of the manor in part explains why Edward II was reluctant to relinquish control, after he took possession of it on 10th January 1308, subsequently ignoring demands from the Pope that former Templar properties were to be handed over to the rival order of the Knights Hospitallers. The accounts of *seneschals* of Chelverscote manor (PRO SC6/1040/18, 10.1.1308 to 1.2.1314) run for six years, until 1st February 1314, when it was wound up. Despite most of the Templar charter evidence in Britain being destroyed on the order's suppression in 1307, the annual returns made to the exchequer for Chelverscote during this period are sufficiently detailed to provide a rare window into life at the manor farm.

4.2 The Temple Household

The general picture is one of an organised farming community, working to produce a surplus in austere conditions. The household (*famuli*) consisted of the minimum number of hands able to perform the most important day-to-day farm work. It comprised eight to nine waged members: a farm servant (*repreve*) and, or a bailiff (*ballivi*), a reaper whose job also was to look after the woods and fields (*messoris custodientis boscum et campus*) a carter (*carectarii*), two ploughmen (*carucariorum*), two drovers, (*fugatorum*) a chaplain (*capellani*) and a kitchen-garden boy (*garconionis facientis potagium famulorum*). They existed on a simple basic diet of thick vegetable soup. Although, described as *fratres* in the first and final years' accounts this implies that they were lay brothers, or simply monastic serfs. Gooder (pers. comm.) suggests that the presence of a 'chamber' and chapel made it a possibility that a knight had resided at Chelverscote, and that it was not merely overseen by a bailiff on instruction from the headquarters at Balsall.

Variations in the use of job titles during the six years of Crown control may be the result of 'doubling-up' of duties depending on the season; although it might suggest that there was some interchange of staff between manors (*i.e*. Balsall, Wolvey). In the second half-year accounts for 1308 there is listed a bailiff, a reaper, a carter, a shepherd (*bercarii*) four ploughmen, a chaplain and a kitchen boy. Presumably two of the ploughmen were also the drovers. In 1309 to 1310, we find a swineherd (*porcarius*) apparently replacing the shepherd, and the following year, there is a harrower (*occiatoris*), bringing the household tally to nine. Outsiders would be brought in, as and when required, either to undertake specialist work (e.g. carpentry, smithying, additional ploughing) or to do the more labour intensive work of the field, as seasons dictated.

4.3 An Impression of the Manor Farm

The cost of upkeep and repairs during the crown years denote the buildings at the core of the ecclesiastical farming unit. The main foci were the great hall (with its adjoining chambers and kitchen) and the chapel for the celebration of divine worship. Nearby buildings would have comprised granary, ox-house (large enough to house two plough-teams), stables, plough-shed, dairy, brew-house, barns, storehouses, pigpens and chicken sheds. It is presumed that these buildings were within a precinct, the main buildings ranged around a courtyard, with the ancillary buildings behind. There would be levels of accommodation and facilities appropriate to the class of household staff and visitors. Guests of high rank were certainly provided with the services to which

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they were accustomed, and there is indeed evidence that once such chamber was especially refurbished for a stopover of Edward II on the 23-24th June 1308 (PRO.E. 358/19.Rot.43). The capital equipment of the manor comprised 16 oxen, 2 cart horses, 2 ploughs and a wagon.

The hall would have been constructed of timber, as would the farm buildings. Furnishings and their value, listed in the accounts, give the impression of a frugal interior:

1 wooden table with trestle	value	12d
1 iron tripod	"	4d
1 bench	"	4d
1 chest	"	
1 wooden chair	"	1d
1 leaden basin	"	3d
1 wooden water bucket	"	
1 bronze cooking pot	together	2s.
and 1 bronze olla (pitcher)		

The ornament of the chapel was equally simple:

1 chalice	value	10s
1 vestment with fitting apparatus	"	10s
1 book	"	5s
1 antiphonary	"	3s
2 drapes or canvas canopies (*canevac*)	"	6d
1 missel	together	1 mark
1 book of saints lives		
1 ark for the vestments	"	6d
2 lead phials		
1 incense burner	together	18d
2 bronze candelabra		
1 bell	"	2s

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There is no mention of windows of stained or painted glass, which were often regarded as items of portable wealth[1].

4.4 The Manor at Work

In the first two years of crown 'guardianship' there were four consecutive stewards – Galfrido de Segrave, Johannes de Sudleye (Lord of the manor of Griff and Coton), Ricardo de Hertshill (Sheriff), and Alexi de Compton. The reason for this is uncertain, though it may been in part a measure to avert corruption. Accounts were returned to the treasury twice annually in 1308 and 1309 (summer and winter periods, ending 20th May and 29th September), on the departure of each steward. Henceforth, accounts were rendered annually at Michaelmas, with the exception of the final year's stock-take, which was made on 1st February 1314.

One can speculate that productivity suffered as news of the Templar arrests reached the manor and a general wave of apprehension pervaded the household. It is even possible that brothers had fled and discipline and routine had somewhat dissipated. The accounts give the impression that it took the first two years for the manor to reach an optimum level of productivity and profitability. In early 1308, 42½ acres of winter seed of peas, oats and barley were sown, and in late summer, 180 acres of corn reaped, an indication of what the former demesne had been capable of putting under the plough each year[2]. Notably for the first half of 1308, grain (wheat, rye, peas, and oats) was bought in for both consumption and seed. The following year, 148½ acres were sown (40 wheat, 36 rye, 18 peas, 48½ oats and 6 mixed corn). Thereafter, until 1313, an annual productivity rate was maintained between 127 to 132 acres, sown with wheat, peas, oats and mixed corn. The growing of rye and barley was abandoned, perhaps because it was less reliable.

The reaping of 180 acres of corn in 1308 was done by an outside contractor (*per medium alterius*) for the fixed sum of 76s. 8d based on the piece-work rate (*ad tascham*) of 5d per acre (PRO E 358/19, membrane 41, sheet 2, 20.5.1308-29.9.1308). Four carters were acquired to transport the grain for 2 days at a charge of 2s. In addition, ten *falcatorum* (reapers) were hired-in to scythe meadows for 3½ days at 4d per head. The following autumn, 116 acres of diverse grains were harvested on a similar contractual basis, at a cost of 43s.6d, or 4½d per acre. Sixty-six days customary boon-works (*custumariorum de precaro*) were also used to reap two acres of grain, the cost of which was 3s.6d for the customary meals of the workforce. It is likely that the Temple had previously made full use of forced labour services on the demesne, but it seems that the *seneschals* of Chelverscote, in line with the growing trend, recognised this as a false economy - paid day labourers were more productive and there was no costly expenditure on meals (*c.f.* Duby 1968: 269). Ten customary labour services days were commuted in 1309 (PRO E 358/19, Rot 43, sheet 3, 8.7. 1309 – 29.9.1309) and 144 the following year (PRO E 358/19, membrane 44d, sheet 7, 29.9.1310-29.9.1311).

[1] Fragments of stained glass were understood to have been found during the archaeological investigation of 1970, *c.f.* correspondence between: Mr. F. Fawcett (Curator of Nuneaton Museum in 1970) and Mr. S Taylor (site director), 3.8.1970, Nuneaton Museum archive.

[2] Prof. C. Dyer gives a mean of 200 acres of arable for the demesne during the era of high farming in the late thirteenth century. *An Age of Transition? Economy and Society in England* in the Later Middle Ages, 2005 p.89 (Oxford)

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The *repreve* (reeve) was on piecework rates (*vadii*) and, at 2d per day he was also responsible for overseeing the manor of Wolvey, which appeared to specialise in pig-farming (PRO E358/19, Rot 43, sheet 3, 8 July- 29 Sept 1309). It is uncertain at which manor the *repreve* resided, but on at least one occasion (PRO E 358/19, membrane 41, sheet 2, 20.5.1308-29.9.1308) appears to have been received two stipends. Annual outgoings, besides wages for the household and contracted-in workers, usually entailed the roofing and repair of houses and frequently the contracting of a skilled carpenter and his assistant.

Much of the grain produced was sold, a fair amount of it on account. Revenue was further augmented by the annual sale of surplus livestock (pigs, hens, cocks and capons), eggs (1300 were sold in 1310-11 (PRO E 358/19, membrane 44d, sheet 7,29.9.1310-29.9.1311)), grazing, animal fodder and raw materials. Sea coal (*carbonibus maritimis*) was regular source of income, undoubtedly obtained from the vicinity of the Temple farm, beneath which ran a seam close to the surface. Timber and brushwood was sold in varying quantities, including fallen branches of oak. Potting clay (PRO E 358/19, membrane 41, sheet 3a 29.9.1308-15.5.1308) (*terra ad vesa sirgata facienda*), (See also, PRO E 358/19, membrane 45d, sheet 6, 29.9.1312-29.9.1313 "*de agilla et granera venditis*") was occasionally added to the list, as was sand or gravel (*ibid*) (*granera*) and stone roofing material (*tegulis lapide*), the latter of which is likely to have been Stockingford Shale (PRO E 358/19, membrane 45d, sheet 4, 29.9.1311-29.9.1312). View of Frankpledge presented a further income opportunity, although, with the exception of 3s. 6d in the first year (PRO E 358/19 sheet 1, Rot 28, 10.1.1308-20.5.1308), there is nothing recorded thereafter. Occasionally, surplus stock would be delivered to Balsall, such apples to make cider (PRO E358/19, Rot 43, sheet 3, 8.7– 29. 9.1309).

The sums received by the Treasury throughout the period of custodianship were as follows:

Accounting period		**Total per annum**
10th Jan – 20th May 1308	£4. 6s. 1½d	£34. 3s. 3d
20th May – 29th Sept 1308	£29. 17s. 1½d	
29th Sept 1308 – 19th May 1309	£11. 16s. 8½d	£31. 0s. 1½d
8th July 1309 - 29th Sept 1309	£17. 19s. 5d	
(Note: accounts are missing for the May-July changeover period)		
29th Sept 1309 - 29th Sept 1310		£48. 17s. 5½d
29th Sept 1310 - 29th Sept 1311		£40. 9s. 8½d
29th Sept 1311 - 29th Sept 1312		£38. 19s. 11½d
29th Sept 1312 - 29th Sept 1313		£36. 9s.3d
29th Sept 1313 – 1 Feb 1314		£3. 3s. 4d

The headquarters buildings at Balsall suffered greatly during 'the great wind' of 1310/ 1311 (PRO SC6/1040/21) and as a result required extensive repair work (Gooder 1995: 29). The expenditure was kept to a minimum, a significant amount of building material for this purpose being transported from the Chelverscote manor. It is not known whether the Chelverscote farm also suffered storm damage, but, as Gooder noted, there was an absence of a charge for roofing slate (*ibid*), which may suggest that materials were exploited from existing buildings.

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The winding up of Chelverscote manor came on February 1st 1314. The Hospitallers were to inherit no more than land and abandoned buildings. The household was released, the bailiff sent off to Balsall for the time being, and the chaplain apparently discharged. The inventory was received by Ricardo de Hertshill, Sheriff. Hay and peas were sold off, as were the pigs and smaller livestock – hens, capons, and geese. The 'dead stock' sold included four old ploughs without iron fittings, eight yokes, hand tools, a measure and a wagon. All the paraphernalia of the chapel was listed, packed up and driven off with the two teams of oxen, two cart houses, a heifer, a cow and a bull, to the regional headquarters at Balsall (PRO E358/19, membrane 46 sheet 5).

4.5 The Manor of St John

It seems that Chelverscote was not obtained by the Hospitallers until 1324 (*c.f.* Larkins & Kemble: 1885, 179-180), by which time one suspects that they took over a very run down, if not derelict, establishment. The estate henceforth was known by the name of the manor of St John of Jerusalem, or simply, St John's. References to the manor after this date are sparse, mostly indirect - surnames or field names in connection with the conveyance of small parcels of land. Between 1360 and 1439 a small number of documents of this kind (e.g. NC CR136C 772, C14, CR 136C 777, C14, CR 136C 787 C14) were witnessed either by William of the Temple, or Thomas of the Temple, or a successive William (Haddon) of le Temple. As a witness in a major inter-parish dispute of 1405 involving rights of common, Thomas is described as *Thomas del Temple firmaius dominii prioris Sancti Johannis de Jerusalem in Anglia infra parochiam de Chilverscoton* (NC CR136 C565a). Despite the tendency for the order to lease their possessions to tenant farmers, the apparent absence of such from the Lay Subsidy Rolls allows us to infer that the former manor of the Templars was farmed under the direct administration of the regional headquarters of the Hospitallers at Balsall. The land was in 1481 subsequently leased by the Order of St. John, jointly, to the neighbouring priory of Erdbury and to Sir Edward Grey (NC CR136.C.310).

The Crown confiscated the manor in 1540 and leased the farm to Robert Akers of Berkeswell, Warwickshire, for the annual sum of £18.00. Elizabeth I granted the manorial rights to Thomas Dabridgecourt in 1562 (NC CR136.C.810). Henry Acres, son and heir to Robert, continued the tenancy of the capital messuage called "the temple", and received from Dabridgecourt, the right of Performance of Court (NC CR136.V.82.73; CR136.C 806.14).

Mr. Acres' estate also included a large house in Sea Lane (now Heath End Road[3]) which was also known as Selons House. On Henry's death in 1567, the estate was bequeathed to his wife Jane for her life, and after her death, to his son and heir Henry; failing which everything would go to his two daughters, Anne and Elizabeth when they reached the age of eighteen (PRO PCC. 16).

[3] The site of Selons House has not been located, but circumstantial evidence points to the Bull Ring end of Heath End Road, Nuneaton

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4.6 A Mix-Up of Temples

During his Court of Survey of Chilverscoton between 1681 and 1685 (NC CR136 V101 (Vol. I), V109 (Vol.II), V12 (Vol.III), V122 (Vol.IV), V13 (Vol.V), 1681-85) Sir Richard Newdigate noted:

'[the] situation of the Mannor House belonging to this Lordship (anciently call'd le Temple in Coton because it did belong to the Knights Templars) is in a certaine ground called the Barn Meadow West of the Pool lately made for the ye Coalpitt Water Wheel which ~~is now~~ [deleted in MS] was in the year 1685 in the possn. of Robert Parker & was sold by Mr. Dabridgecourt to one Mr Acres from whome by marriage of his Daughter one Peter Temple had it with the rest of Mr. Acres' Land, and in his time it was called Temple Hall, and Suffered to fall or was pulled down.' (NC CR136 V13 (Vol.V), St. John's, 3rd Art., p.19)

Sir Richard's information, possibly from local tradition, was somewhat of an over-simplification. Indeed, two men by the name of Peter Temple were to have the 'site' of Mr. Acres house called 'le Temple' in the early 17th century. Neither man was to occupy it. The first Peter lived with his wife Anne, daughter of Henry Acres[4], at Selons House, where he died in 1609 (Lichfield Wills, Peter Temple Gent. May 1609).

The Acres and the Temple families had become very much inter-related by the late 16th century. In 1580, Peter's cousin, Anthony Temple (PCC. Darcy, 29 Dec.23 Eliz. (1580) Will of Anthony Temple (proved 1581)), lived with his family at "the Temple House in Coton which [he] held of Mr. Giffard"[5], which is quite likely to have been in the former possession of Mr. Acres. A lead beneficiary in Anthony's will of 1581 was Elizabeth Akkers, the 17 year old step sister of Anne Temple. Other than this, her relationship to the Temples is unclear. Anthony's wife was also named Elizabeth and Anthony regarded two other beneficiaries, George Acres and Henry Acres as his own brothers[6].

When the curtain rises again in 1602 there is an ensuing case in chancery (Chancery Proceedings,1602-06, C.2. Jas. FW53/713 and GW/47) wherein the defendant, Jeffrey Fox, a mining engineer and entrepreneur (and probable relative of the Peter Temple) is accused by Walter Giffard (son of John) of maltreating his property. Fox used the old house called 'le Temple', by then Giffard's barn, to store chains and machinery, but more importantly, he had made a large pool to the east of the house to supply water-power to drain the pit and, in doing so, managed to destroy 'a perfectly good orchard'. The grey slurry, known locally as 'clod', was the first layer encountered by archaeologists in 1970. It is unclear what prompted the abandonment of 'le temple' between 1581 and 1602 but it probably had much to do with Fox and the general increase in mining work around the house. Evidence of a conveyance between the Acres-Temples and John Giffard is absent.

The second Peter Temple, a gentleman of Coventry, formerly of Northamptonshire, came onto the scene in 1642, when he conveyed to Richard Chamberlaine, Clerk of

[4] Anne was daughter by Henry's first marriage to Margaret Gent of Southam, Warwickshire.
[5] John Giffard, at that time, held the manor of Griff and Chilverscoton
[6] Elizabeth Acres married Thomas Thornton of Stowe 3.12.1582, so it is just possible that she was previously married to Anthony Temple

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the Court of Wards, the demesne of St John's manor, together with Selons House, which at that time was tenanted (NC CR.136.C.880). The field names listed in the sale correspond to those held by Henry Acres. Newdigate rightly observed that "no manor is pretended to" (NC CR136/C19/C.999), for Dabridgecourt and his heirs retained the manorial rights.

The manor of St John was frequently misinterpreted in conveyances. Thomas Dabridgecourt was granted the manor under the name of Chilverscoton (Cal. Pat. Rolls, 4. Eliz. pt.6). In 1603, Dabridgecourt's daughter and heir, Christian Belcher (widow of William Belcher), and her son Dabridgecourt (Warwickshire FofF , Trin. 7 Jas 1, 1603) sold the same manor to Walter Giffard, who already held manor of Griff and Coton. Walter's father, John bought the 'manor of Griff and Chilverscoton' in 1561 from Thomas Lyfield and Frances, his wife (Warwickshire FofF, Mich. 3-4 Eliz., 1560-1), and later settled it on his son (Chanc. Inq. Post. Mort. (ser 2), CCCCLXX, 41). Walter in 1629, transferred the manor of Griff and Chilverscoton to Richard Chamberlaine (Warwickshire FofF, Trin. Chas I, 1629). Three years later, Walter Giffard, esq. of Chillington and Peter Giffard, his son, sold St John's Manor to Richard Chamberlaine and Hugh Audley, which, to add to the confusion, was called the 'manor of Griff and Coton and Chilverscoton' (Warwickshire FofF, Trin. Chas I, 1632).

Chamberlaine held his manors of Chilverscoton until 1669, when he conveyed them to Sergeant Newdigate (NC CR136/C19/C.999). In the 1680s, the Sergeant's son Sir Richard Newdigate embarked upon a Court of Survey to confirm his title to the manors. It lasted almost five years[7], during the course of which he managed to unravel the ancient manors of St John and Griff and Coton. A part of the text of the survey takes the form of a perambulation along the bounds of each manor, naming fields and local landmarks.

4.7 The Changing Landscape

The 17th century had marked the beginning of a transformation of the Chilverscoton landscape wherein many old local landmarks were replaced by new. The chief reason was the coal outcrop, which passed northwest-southeast under Griff and Nuneaton Common (west of Coton), lay directly beneath the site of the Templars farm. Along with the coal lay the coal-measure clays, extensively exploited for the manufacture of bricks and pottery. To judge from the Templar accounts, this swathe of land is most likely to have been riddled with old shafts, bell pits and linear seam working dating from the medieval period.

By the early 1700s, efforts to extract coal were becoming increasingly concerted, [8] with Sir Richard Newdigate of Arbury, as chief landowner, being the prime mover. His early mining works centred on the former arable fields of St John's manor. Pits were sunk immediately to the north of the Templar farm; in the Ley Field, the First Riding and the southern part of the Temple Park, and wagon haul-ways traversed Barn

[7] This included the other ancient manor of Erdbury-Moorbarn in the parish of Chilverscoton. Mrs. E. A. Gooder gives a summary account of Sir Richard's Survey in *The Squire of Arbury: Sir Richard Newdigate, second baronet (1644-1710) and his family*, pp. 85-9, 1990 (Coventry Historical Association)

[8] A comprehensive account of the main Nuneaton area sources of coal-workings are in A.W.A. White: 'Sixty years of coalmining enterprise on the North Warwickshire Estate of the Newdigates of Arbury 1680-1740 (unpublished M.A Thesis, Birmingham University, 1969)

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Meadow and the Temple Park (NC Map 1807, CR 1361), the scars of which may be seen on an aerial photograph (National Monuments Record Air Photographs, 543/RAF,1698, 0094 (F21), 15.3.62, 10,000, MOD/CRW). In the first decade of the 18th century, Sir Richard began to construct both horse-drawn tramways and small canals, or ''boat ways', to transport the coal from the pitheads. The Griff Canal Arm, built in 1787 is believed to have replaced a smaller 'boat-way', which began about 150m immediately southeast of the Templar farm. The wagon routes and tramways were, in 1850, replaced by a mineral railway, the Griff New Colliery Branch Line[9] which was constructed on a rising gradient diagonally north-west across Barn Meadow and Temple Park, to serve Griff No.4 colliery (1850) and, later, No. 5 (1870) colliery (Lee 1973: 1-19), cleaving as it did so, the 17th century feeder pool dug for the water wheel and the substantial stone foundations of a pre-17th century building[10]. The railway also was to serve nearby brick and tile works. A second railway track, the New Griff Colliery Branch[11], followed in 1894, bifurcating at the point it crossed the old feeder pool, then arcing westwards and southwards around the north side of Barn Meadow, towards Griff Clara Pit. This line also served Stanley's No 5 Brickworks situated immediately west of Barn Meadow. Bermuda Village was built in Temple Park, in 1891, to house the colliers[12]. By 1961, both of the collieries and the brickworks had closed and the lines were dismantled; the land of either side was wasteland until the early 1980s.

4.8 Recent Disturbance to the Site

The Sudeley Open-cast Mine lay just beyond the landscaped pool to the south of the develoment site. Coal dumping recorded on the site may have come from the Griff Collieries just to the north of, beside Heath End Road. Traces of the 19th century Stanley Brothers Brickyard No. 5 on the western half of the site was recorded when house foundations were being dug. The light railway ran for the most part on a rising gradient, the course of which was identifiable for most of its way across the site. The embankment was probably made by heaping up the soil deposits nearest at hand, and may have resulted in the loss of any archaeological remains previously along its route.

Prior to the archaeological investigations by AOC Archaeology Group some ground preparation had taken place in the form of levelling by bulldozers. This had removed hedges, shrubs and earth, which was deposited along the approximate line of the former embankment. Deposits of industrial debris of different types were seen all over the site, particularly coal slack, the dust and waste "brickle". As the site had been empty for several years before the development started, parts of it had also been used for general fly-tipping.

[9] SP 352 903; see O.S. 2nd edition 1888, 1:2,500
[10] Outlined on the on the 1807 map. Stephen Taylor found the southern most surviving six feet of this building during archaeological trial trenching in 1967. It comprised a flagged floor of sandstone, bounded by a wall of stone blocks some ten inches square in section by two feet in length. He concluded that it may have represented "the last remains of a structure destroyed in the 17th century": see Taylor, S.J: March 1967, 'Excavations in Bermuda, February 1967' (unpublished report)
[11] See O.S. 1900, 10:560
[12] Named after Lieut. Gen. Sir Edward Newdigate, Governor of Bermuda, 1888-92

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5 PREVIOUS ARCHAEOLOGICAL WORK ON THE SITE

5.1 Discovery of the Temple Site

By Martin D. Wilson

The site came to light in 1966 when Mrs. Eileen A. Gooder (Department of Extra-Mural Studies, University of Birmingham), examining the Newdigate Collection at Warwick Record Office, happened upon Sir Richard's remarks concerning 'le Temple' in Barn Meadow. Furthermore, on Robert Hewitt's map of 1684 NC Map 95/6, CR 136/764 104) Newdigate had sketched the location of a feeder pool, a 'new level' of a stream controlled by sluices and, straddling the course of the Coledelphe Brook, a cluster of strategically-placed baling 'gins'.

Mrs. Gooder carried out a field-walking survey in Barn Meadow, which located a sparse scatter of 13th to 17th century pottery in the plough-soil, and in the northern part of the field a considerable spread of broken roof tiles (Taylor 1967). Based on this evidence, and in response to opencast mining proposals, she sought support from the Ministry of Buildings and Public Works to undertake archaeological investigations in an attempt to locate the lost Temple[13].

5.2 The Early Excavations (Figure 3)

The following year, in February and October, extensive trial trenching took place in Barn Meadow, directed by Mr. Stephen Taylor of the University of Birmingham[14]. Two promising areas were located, Taylor subsequently excavated one of these areas in 1970. It was dug in a particularly hot summer, the covering layer of sun-baked mining slurry and dust resulting in slow progress and poor archaeological visibility. The stone footings of a substantial three-bayed timber-framed building were exposed. The structure was aligned northeast-southwest and measured 6.8m x 13m, the east bay being incomplete. In the corner of the west bay a circular buttress-chimney-oven measured 2.5 in diameter and survived to a height c.0.4m. Other substantial remains uncovered, included an extent of cobbled floor belonging a large stable or barn, the circular stone base of a possible dovecote, *c.*2.5m in diameter, and the stone foundations of a series of outbuildings. In all probability, it was the remains of Henry Acres' house, called 'le Temple'.

Taylor felt reasonably sure that he had found the site of the Templar farm, reporting that "the presence of roofing slates, decorated floor tiles and a quantity of largely 13th century pottery in the rubble beneath the timber building indicates that a substantial building in the vicinity had been destroyed or drastically modified before the erection of the timber-framed building in the fourteenth century" (Taylor 1971: 38). The foundations of the 'hall' were on a raised platform of puddled clay, which countered the gentle slope southwards of the original ground surface. Taylor noted 'enigmatic features' and more 13th century pottery below beneath the platform (Taylor 1970, 1971). Furthermore, he had previously reported that trenching revealed a large tumble

[13] Copy of letter to J.G.Hurst, MBPW 29th December 1966, in Nuneaton Museum
[14] With the assistance of members of staff and students of the Department of Extra-Mural Studies, and of Nuneaton Technical College.

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of stones and roofing slates adjacent to a mound by a mineral railway, but restrictions on time precluded its investigation.

5.3 Archaeological Work in the 1990s (Figure 3)

Local historian and archaeologist Mr. M. Wilson, in 1996 began to investigate the surviving documentary evidence of the Temple site, undertaking a detailed landscape regression analysis. This revealed with near-exactness the bounds of the ancient manors as bequeathed by Ralph de Sudeley to both Augustinian priors and Templars (Wilson 1997). A key document for confirming the location the Templar farm was the will of Henry Acres[15], which affords us an insight into the nature of Henry's homestead (which may not have significantly changed since the 14th century) and the landscape surrounding it where coal mining already played a part:

"...my capitall house called the Temple with the barne barne yarde chapel yarde the dovehouse, the Parke, the park ferlonge, the Rydinge the two Ferny fields with John Shephardes house, the two Barley Feildes, the two Gascoynes, Six Shillings close, the Le feilde, the Myry Braknolles, the Braknoll Wood and Brakknoll Meadowe, the Marris grounde joyning to the Dove houwse and also the Lanes feilde betwixte the pit and the Lane..."

Of particular note is the reference to the courtyard or work area, presumably a metalled surface which may have belonged to the Templar chapel. The names 'Parke' and 'the Parke Ferlonge' were retained into the 19th century as 'the Temple Park' and the 'Temple Furlong' (Newdigate Collection, CRO 10 CR136.M1 (1807) Map: J. Kempson).

Wilson also consulted the 1970s diggers, who concurred with the common belief that the excavation site was removed during open-cast mine works in the mid-1980s. The original site archive greatly depleted, containing only a few unmarked site drawings without survey references. A site visit proved that all that remained of Barn Meadow was a narrow strip to south of the course of the former mineral railway, which had lain under the bund of the open-cast colliery. It was, however, during this visit that a local resident pointed out the spot where stone footings had been seen almost twenty years before, during the removal of the bund[16].

A programme of fieldwork was then initiated. A resistance meter survey was followed by test pitting in 1996[17] by members of the Atherstone Archaeological Society (AAS), locating an area of cobbles *in situ.* The decision was then taken to strip an open area, the aims of which were to expose enough to re-survey, geo-reference old site plans, and re-examination the archaeological evidence. An area measuring c.480 m² was re-exposed and planned in by M. Wilson in August 1996 (Wilson 1997: 6, Fig.3; Wilson 2005, 415, Fig.11). The cobbled floor and remaining masonry foundations were surveyed in detail and phased, and a petrological analysis was carried out the building stone to determine its source (Cook 1997). This done, a part-excavation of the site was then led by Mr. K. Scott of the ASS, over a period of five months, to clarify the

[15] Note: The Victoria County History assigns this to a moated site called Temple House located in the former manor of Griff and Coton, and now situated on the estate of Arbury Hall, see Salzman L.F: 1947 (ed), *Victoria History of the Counties*, Warwickshire, Hemlingford Hundred, vol. IV, 175

[16] This was Laurence Fretwell, amateur historian of Bermuda Village, Nuneaton

[17] Under the direction of M. Wilson and K. Scott

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earliest deposits. The discovery of crushed roofing slates and 13th century pottery below the building platform concurred with the results of the earlier excavation. Beneath this layer, there was no conclusive evidence of structures, but six domestic waste pits found dug into natural sand contained quantities of 13th century pottery (*ibid*, 1997 & 2005).

6 ARCHAEOLOGICAL INVESTIGATIONS IN 2004

6.1 The 2004 Evaluation (Figure 2)

Prior to the proposed redevelopment of the site an archaeological evaluation was undertaken by AOC Archaeology Group in 2004 to assess the archaeological potential of the site. This was conducted in accordance with Planning Policy Guidance 16 (PPG16), and the requirements of the Local Planning Authority (LPA). The evaluation was originally designed to consist of 10 trenches 30m long; four in the north-east corner of the site to the north of the overhead electricity cables and six to the south of them. However, for practical reasons Trenches 5 and 9 were abandoned and Trenches 6 and 10 extended by 30m each.

The evaluation trenches were excavated using a mechanical excavator. Trenches were cleaned by hand and a written and drawn record was made of each trench. The evaluation showed the western half of the site to have been severely effected by large-scale modern industrial activity, but the eastern half of the site was less disturbed. Brick, stone and mortar foundations, or working surface remains, identified in two trenches were believed to be associated with the manor buildings recorded in the previously excavations.

6.2 The 2004 Excavation (Figure 3)

It was agreed that archaeological excavation and 'preservation by record' would be the appropriate mitigation for the proposed development. The central area of the site was not excavated as live cables electricity cables crossed the site at this point.

Topsoil and modern overburden was removed by mechanical excavator. All of the exposed areas were cleaned by hand and archaeological features were examined and at the least partially excavated by hand. Site recording was carried out in accordance with the systems set out in the Museum of London Archaeology Service Archaeological Site Manual (3rd Edition 1994). No further significant archaeological remains were seen beyond either the northern or southern limits of the excavated area. Similarly no further remains were seen during the reconstruction of a deep manhole near the south-west corner of the rear gardens the west side of Bermuda Road or in the deep drain trenches leading to it.

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7 SUMMARY OF RESULTS

The eastern side of the site sloped naturally from north to south with a sudden drop down of about 1.0m from 93.95m OD to 92.95m OD at the southern end. The original context numbers assigned during the various phase of work on the site are used throughout this report. The number sequence 1-999 was used for the excavations carried out, under the direction of Messrs. Scott and Wilson, in the 1990s. The number sequence 1000-2100 was used for the most recent excavations; all context numbers assigned during the most recent evaluation are prefixed (e101). Square brackets [ ] are used to denote cut features and rounded brackets ( ) to denote deposits.

7.1 Report Structure

The occupation of the site is interpreted in relation to five broad periods, reflecting the broad date ranges of the finds.

Period 1: Natural deposits
Period 2: Early medieval (c.1150 to 1350)
Period 3: Late medieval (c.1350 to 1550)
Period 4: Post-medieval (c.1550 to 1750)
Period 5: Modern (c.1750 to present day)

These periods correspond roughly to the major historical periods in the life of the site: its occupation by the Knights Templar between 1185 and 1308 and its subsequent royal proprietorship until 1324; its subsequent possession by the Knights Hospitallers between 1324 and 1540; tenancies after the Dissolution of the Monasteries from 1540 until the beginning of the modern period, dated to 1750; and the modern era after that.

7.2 Period 1: Natural Deposits

In evaluation Trench 1 the natural consisted of dark red silty clayey fine sand (e103), known locally as red marl. Across much of the site the natural was yellowish brown sandy clay (e205), (e305), (e603), (e703), (e803), or reddish yellow silty clay (Trench 4). In evaluation Trenches 3 and 4 the natural drift deposit was sealed by dark yellow brown silty clay subsoil (e304), (e402). During the excavation there was a similar variation with glacial till sands and clays recorded as (1227), (2026), (2056), (1127), (1034), (1096), (1097) and (1118). These layers were quite variable even within a small area and included dark yellowish brown clays, sands ranging in colour from pale yellow to brown and red, and yellow carboniferous sandstone. The natural deposits were encountered in the excavation area at 93.82-95.23m OD.

7.3 Period 2: Early Medieval (c.1150 to 1350) (Figure 4)

Early medieval activity at the site consisted of Building 1 and features associated with water management, both thought to be contemporary with the Knights Templar occupation of the site.

Building 1

Building 1 was located on a raised natural platform in the west of the site. As elsewhere on the site the building remains appear to have been heavily robbed as well

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as truncated by later features, and were therefore found to be in a very fragmentary state. Building 1 consisted of a substantial north-south foundation (1413), an east-west foundation [1449], a hearth comprised of pitched tiles (1153) and an east-west linear beam slot [1417]. The remains of a pitched tile hearth (1153) on the north-east side of the main wall line suggest that this would have been the interior of the building.

The north-south aligned masonry foundation (1413) was trench built within construction cut [1442]. The wall foundation was random coursed, constructed of tile, quartzite sandstone and shale, and measured 6.00m long and 1.60m wide. The wall had been repaired or rebuilt and posthole [1367] truncated an early posthole, apparently representing the replacing of a structural support. A number of postholes [1369], [1425], [1427], [1429], [1431], [1433] and [1446], were cut into the wall foundation. These were filled by (1158)/(1373), (1366), (1368), (1426), (1428), (1430), (1432), (1434) and (1445) respectively. These all appear to represent structural elements within the masonry wall. No datable finds were recovered from this part of the structure.

An east-west aligned foundation was represented by a heavily robbed out cut [1449] filled by mid grey brown sandy clay (1448) with frequent sandstone inclusions. The surviving foundations measured 5.50m by 0.66m and 0.15m deep. The eastern end of the foundation had been heavily disturbed, possibly by robbing in antiquity or by more recent disturbance of the area.

Linear feature [1417] was located to the south of the masonry, on a similar alignment to that of cut [1449]. It measured 1.60m by 0.30m wide and 0.14m deep and continued beyond the edge of the excavation area to the west. The feature was filled by compact dark grey brown clay silt (1416), which contained moderate charcoal flecks and occasional small stones. Along the base of the cut was a line of stake holes [1424] each hole measur 0.10m in diameter and 0.10m in depth. At the eastern end of the feature a posthole [1422] measured 0.40m in diameter and 0.30m in depth, and was filled by firm light grey silty clay (1421). Collectively, these features appear to represent a beam slot, running east-west at the southern side of Building 1. The diminutive scale of the beam slot and postholes, compared to the masonry foundations, suggest they represent a less substantial part of the structure. No dating evidence was recovered from these features; however they are included in Period 2 due to their similar alignment to structures to the north dated to this period.

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Plate 1: Linear feature [1417] with the stakeholes of [1424] in the base of it. The stone-packed posthole [1422] is in the centre foreground. Looking west.

Associated with Building 1 was a pitched-tile hearth [1153], with the possible remnants of a chimney base to the west. The hearth was built on two layers of bedding sand (1461) and (1462). Some ash had percolated through the tiles and left ashy deposits beneath the tiles themselves, recorded as (1459) and (1460). A piece of early medieval pottery (1150-1250) was recovered from the matrix between the tiles.

The pitch tile hearth [1153] was constructed of an unusual variety of ceramic roofing tile, which had both a nib to hang the tile on to the roof and two peg holes to attach them even more firmly to the roof. The square shape of the holes and their small size, suggests iron nails were employed in the fixing process. Although the tiles in [1153] were not used for roofing, their presence here and in overlaying destruction deposits (see below) may suggest that Building 1 had a ceramic roof made from nib/peg tiles. At the Chilvers Coton tile and pottery manufacturing site nib/peg tiles were found in a 14th century kiln dump (Mayes and Scott 1984: 170), although they are of 13th century date in Coventry (Wright 1982: 102-3). The examples from Bermuda Park are all in pottery fabric Chilvers Coton type C buff, dated to 1275–1500 (Mayes and Scott 1984: 40-1, 63-4). This may suggest that Building 1 was roofed in peg/nib tile sometime between the late 13th and mid 14th century.

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Plates 2 & 3: Tile-built hearth [1153] from west and east.

Water management

Several ditches were recorded across the site. Repeated re-cutting, and truncation by modern features, however, often complicated the sequence. These ditches are understood to have been associated with a large pond located at the southern end of site.

Ditch 1

Ditch 1 consisted of a heavily truncated and undated cut [1268] filled by mid grey brown clay (1267). This feature was truncated on all sides by various features, it was 2.68m in length, 1.71m wide and 0.79m in depth. The feature was recut as [1264]/[1266] was between 1.15m and 1.34m wide, up to 0.45m deep and recorded for a length of 8.05m. Both the primary fill (1263) and secondary fill (1262)/(1265) contained early medieval pottery dated to 1150–1250. To the west this feature continued as ditch cut [1273] and was recorded for 4.55m until it merged with Ditch 2, The ditch was initially partly filled as a result of silting accumulation (1272) and (1271) and later by deliberate backfilling and levelling; the final fill, (1205), measured 3.44m across and extended beyond the limits of the ditch.

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Plate 4: Section through Ditch 1

Ditch 2

Ditch 2 [1335] ran roughly parallel to Ditch 1 but on a slightly diverging angle. Several later features truncated the ditch, but it survived for c.30.00m in length and measured between c.0.5m and 1.40m wide and 0.64m deep. Ditch 2 was approximately 1.00 m to the south of Ditch 1 and was filled by a primary fill of firm light grey silty clay (1334) and secondary fills (1332) and (1333). These fills contained pottery dated to 1150-1300, and Ditches 1 and 2 appear to be of a roughly contemporary date.

The Pond **(**Figure 5 and Figure 6)

The buried ground surface sloped naturally from north to south with a sudden drop down of about 1.0m, from 93.95m OD to 92.95m OD, over a horizontal distance of c.1.5m at the southern end of the site. This feature is likely to have been a pond in the medieval period, which appears to have been fed by a channel [1355] from the east. The pond measured approximately 22.00m from east to west and 10.00m from north to south, with a maximum depth of about 1.00m in Section 3. The pond had been truncated east by later industrial activities and extended beyond the excavation to the south. Its waterlain silt fills were recorded and sampled in a series of sections.

Pond [1355] was formed in the early medieval period and continued to be used throughout the later medieval period, when it eventually was allowed to become silted up. At the end of the medieval period it appears there was deliberate dumping into it the pond to level the ground. Layer (1353), one of the lower layers recorded in Section 9 and the primary fill of the pond [1355], produced pieces of pottery dated to 1275-1500. Layers (1342) and (1341), at the western end of the pond, represent waterlain clayey sand and were probably contemporary with its medieval use, whilst the channel at the eastern end (i.e. as seen in Section 9) may have been a later modification, possibly of later medieval or even later date but which contained residual medieval pottery.

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Analysis of column samples taken from Section 3 suggests sediment accumulating in a watery environment. The profile of the section from where the monoliths were taken shows a broad, shallow depression where sediments accumulated in irregular bands, which would be indicative of a pond. The apparent irregular nature of the surfaces of the deposits could be because of the dumping in such a shallow environment. All sediments are poorly sorted often mixed with charcoal and coal and iron-rich sands. Context (1339) differs from the other pond deposits through the presence of fine root traces, suggesting that this was once a land surface. This suggests the pond dried out for at least a short period of time in this area, allowing vegetation to take hold.

The deposits within channel [1355] were recorded in Sections 9 and 10. The profile of Section 9 shows the steeply sloping edge to the watercourse. Column samples taken from Section 9 also reflect accumulation of material in a watery environment. Contexts (1351), (1352) and (1353) are clay silts, typical of an alluvial deposit, but containing frequent brick fragments, charcoal and coal inclusions. The underlying deposit (1354), through which channel [1355] was cut, contained no inclusions and may be weathered local boulder clay. Its greenish grey colour also reflects a waterlogged environment, which has suffered fluctuations in the level of the water table causing it to partly oxidise. A similar sequence was recorded in Section 10. This comprised a layer of weathered and partly oxidised clay (1350), equivalent of (1354) in Section 9, a peaty black organic layer (1349) formed at the bottom of the presumed pond, a 1.00m thick dump of clay slurry (1348) formed from waste from the brick production process, and one of the upper coal-dumping layers (1347) seen extensively across the site.



Plate 5: The pond, looking west towards Section 3 with stone revetment (1329) on the right and stone feature (1295) on the left.

On the northern edge of the pond a large deliberately placed dump of stones (1329) appeared to represent a foundation or revetment; another large dump of stones, (1295),

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lay on the base of the pond. Stone feature (1329) measured 7.40m from east to west by 1.70m wide from north to south and stood to a height of 0.90m. It was made from cuboidally-fractured lumps of metamorphosed siltstone and mudstone of the Outwoods Shale Formation. There were two particularly large pieces of stone incorporated into the structure. One of these stones measured 0.95m by 0.45m by 0.16m, whilst an adjacent piece measured 0.42m by 0.40m by 0.15m. These large stones had been laid flat and deliberately balanced on smaller blocks of more yellow sandstone. The feature had been built by placing the stones on top of each other in a technique resembling drystone walling. There was no evidence of any bonding material, but the silty sandy matrix around the stones contained several pieces of pottery, dated to the late 13th century. The structure was roughly built to courses of c.0.15m height (the thickness of the bigger stones), although this was obscured by some of the stones tumbling southwards towards the pond. The lowest course was formed of sandstone on the bed of the pond itself, with no evidence of a construction cut. The structure was built behind a series of 15 small stakes measuring c.70mm in diameter, which had been hammered down into the underlying sand.



Plate 6: Detail of stone revetment (1329) looking north.

The second stone feature, (1295), comprised a sub-circular spread of large tightly packed large stones measuring 2.00m across. The feature was approximately 6.00m to the south of (1329) and laid directly onto the sand at the bottom of the pond. The feature was constructed of yellow sandstone, different to the shale core of (1329). The feature continued to the south beyond the southern limit of excavation. The southern group of stones appeared to be *in situ*, whilst those to the north appeared to have fallen. There was no sign of any piling or revetting to support the structure.

These two features may have formed part of a bridge or jetty, and may have originally been associated with other structures to the south, which have been removed by subsequent industrial activity.

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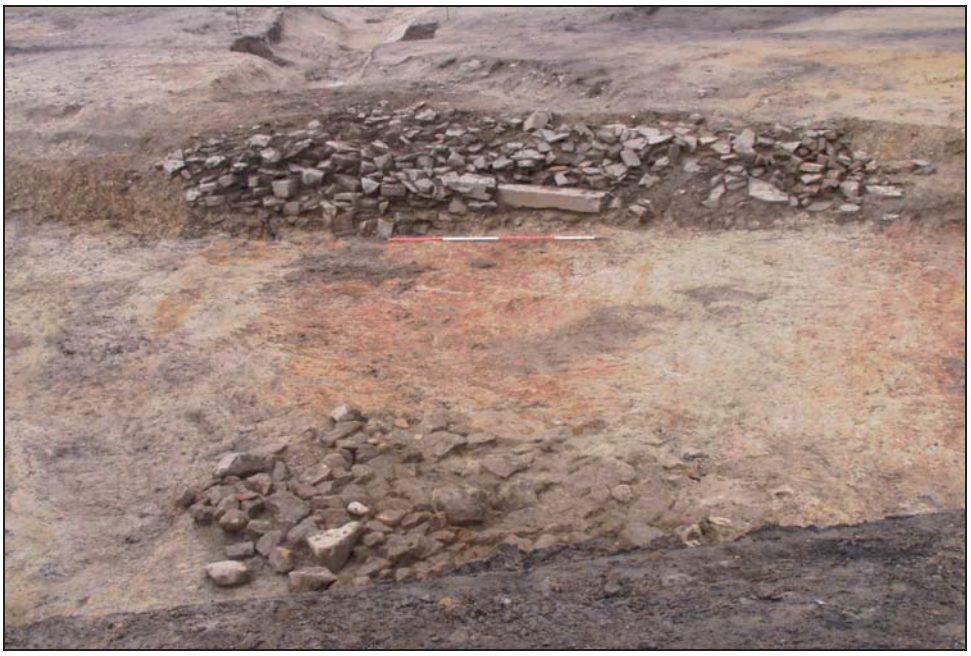


Plate 7: Stone features (1295) and (1329) looking north.

At the western side of the pond a dump of blocks of Outwoods Shale (1392) overlay a larger dump of similar stones (1391), which was oval-shaped in plan and measured 6.00m north-south by 4.00m east-west. Two layers of stone, (1455) and (1456), were below (1391), however they all appear to have been deposited as a single event. The stones were located at the top of a slight rise in the natural red sandstone bedrock and there was no evidence of any bonding material between the stones. Both layers (1391) and (1392) contained pottery and tile fragments that date to 1150-1250, as well as a single intrusive post-medieval sherd. The function of these features is not clear, however they were located on the edge of the pond, similar to (1329) on the northern bank. It is possible that (1391) and (1392) were intended to provide hardstanding on the edge of the pond, and may be associated with a number of channels directly to the east.

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Plate 8: Box section through stone dump (1391) looking north, with natural red sand at the base of the trench.

Occupation/Activity Layers

Directly north of the pond were a series of poorly-defined thin trample and occupation layers (1208), (1209), (1210) (1326) and (1337). They comprised bands of sand with occasional stone inclusions, which distinguished them from the natural deposits. Layer (1326) contained pottery of mid 13th century date, all appear to be related to activity in the area of revetment (1329).

Early Medieval Pits

A series of early medieval features were recorded to the north of the ditches and pond. Two shallow parallel northeast-southwest orientated gullies were considered by the excavators as representing the robbed out wall foundations of an early medieval building, beneath Building 3. Flat-bottomed gully [1028] / [137] had steeply sloping sides and measured 0.4m - 0.5m in width, c.0.30m deep and extended c.9.3m towards the southern baulk. It was filled with a homogenous light grey to yellowy brown sandy silt. A large quantity of, adjoining and unabraded sherds of a 13th century green glazed pitcher were found in the base of the gully together with small slag nodules. Located immediately east was a second shallow, flat-bottomed gully [122], possibly a continuation of [1026] to the south, which measured 0.80m wide by 1.80m long. The gully contained a fairly homogenous, dark brown silty sand (120) with occasional fragments of quartzite. The gully cut an earlier pit [136]. While it is possible these features represent early building foundations there was little evidence in the later excavations to corroborate this.

To the north and east of these gullies a series of pits cut into the natural and were sealed by layers of the exterior cobbled surface and central bay of the Building 3 (see below). Three smaller pits at the northern side of the group consisted of [123], [125] and [129]. All were sub-circular in plan with steeply sloping sides, level bases, and measured approximately 1.00m in diameter. Pit [123] was 0.38m deep and contained two fills, a primary fill (128) of light grey sand and a secondary fill of compacted

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yellow-orange clay (124) that contained two sherds of unglazed 13th century cooking pot. Pit [125] was 0.56m deep, filled by a primary fill (127) and was sealed by compacted yellow orange clay (126). This secondary fill contained two fragments of quartzite and a single piece of slag. Directly to the south a second group of inter cutting features consisted of a small circular pit [55]. This truncated a larger sub-circular pit cut [83]. To the east two more circular pits [39] and [87] were recorded and to the west a larger pit [13]. The stratigraphic location of these features suggests they are all of a roughly contemporary date.

Further to the south an inter-cutting group of larger pits were interpreted as rubbish pits, associated with the Templar occupation of the site. Excavations in the 1970s recorded 'enigmatic features' beneath the central bay of Building 3, from which sherds of 13th century unglazed sandy ware cooking pots were recovered. The later excavations recorded that the pits were sealed beneath a layer of compacted yellow-brown sandy clay (155), dumped to level the ground after the pits were backfilled.

Pit [161] was irregular in plan, measuring 1.4m in diameter and 0.24m deep, with sloping sides. The pit was filled by (151), a homogenous grey-brown sandy silt with clayey sand lenses and abundant charcoal flecks. The fill deposit produced a quantity of 13th century pottery, including unglazed sandy-ware cooking pots and several green glazed fragments of a decorated pitcher, as well as a small amount of animal bone.

Pit [139] was sub-circular in plan, measuring approximately 2.00m in diameter and 0.3m deep, with gently sloping sides. Its fill (138) consisted of alternate lenses of light grey charcoal-rich sandy silt and mottled yellow silty sand, representing dumps of domestic waste and clean sand. The pit fill contained of 13th century unglazed cooking potsherds in red and grey sandy fabric and three fragments of animal bone.

Pit [160]/[136] was an irregular shaped pit that had been truncated by both [161] and [139]. It measured up to 2.00m across and 0.68m deep with sloping sides and a level base. The primary fill (152b) was a light grey brown sandy silt which contained occasional fragments of yellow sandstone, a large quantity of unglazed 13th century pottery and 15 fragments of animal bone. The upper fill (152a) was a charcoal-rich dark-grey sandy silt with occasional lenses of light grey sand, grit and pebbles. This fill contained 13th unglazed and green glazed pottery and five fragments of animal bone. Pit cut [160]/[136] truncated the northern extent of pit [163].

The stratigraphy of their fills showed that pits [163] and [166] were backfilled at the same time. The primary fill of [166] comprised alternating lenses of dirty-grey charcoal-rich clayey sand and light creamy sand (155b). Finds recovered from the darker layers included green-glazed glazed and unglazed 13th century pottery and eight fragments of animal bone. The primary fill of [163] comprised alternating bands of charcoal-contaminated, clayey sand and dirty light brown sand (154b). Pottery recovered comprised sherds of unglazed 13th century sandy wares and green glazed wares in a white fabric; two fragments of animal bone were also recovered. Both fills (154b) and (155b) contained fragments of the same green glazed pitcher with brown glazed bead-scale decoration. The upper fill of both pits was a leveling spread of mixed yellow-brown mottled sandy clay (154a). Pit cut [166] truncated an irregular shaped pit [156], which extend beyond the section to the east.

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Pit [162] was sub-circular in plan, measuring 2.20m in diameter and up to 0.66m deep, with an irregular base and sides. The southern side was gently sloping whilst elsewhere they were steeper. The primary fill (167) consisted of lenses dark grey clayey sand with occasional charcoal flecks, and light yellow sand. A secondary fill consisted of yellow-brown mottled clay, which contained fragments of sandstone measuring up to 0.40m x 0.30m. All were extremely worn and some displayed faint tooling marks. A small number of unglazed reddish sandy ware sherds of c.13th century date were recovered from this feature.

To the south sub-circular pit cut [1293] measured 1.80m by 1.40m and 0.61m deep, and was filled by dark orange grey sandy clay (1294), which contained pottery dated 1150-1250. The fill of this pit also contained 22 fragments of animal bone, the largest assemblage recovered from a single feature. The majority of the bone derived from 'ox-sized' longbone fragments with single 'sheep-sized' rib, as well as single examples of ox maxillary tooth, mandible, radius, lunate carpal, astragalus, calcaneum and central tarsal; elements of the head, lower jaw, lower fore leg, 'wrist' and ankle joints.

Nearby pit [1111] measured 1.65m by 1.40m and 0.98m deep was filled by firm mid grey sandy clay (1110). This contained pottery dated 1275-1500 as well as three fragments of longbone of an ox-sized animal. There was evidence that domestic waste was dumped into both pits and they appear to have been associated with the group of inter-cutting pits to the north.

Other Early Medieval Features

A circular posthole [1270] measured 0.40m in diameter and 0.27m deep was filled by (1269) which contained a single sherd of pottery dated 1230-1350. Although there were a few small stones in the fill there was no identifiable packing. A truncated gully [1287] was filled by firm grey sandy clay (1286) and contained pottery dated 1150-1250. The gully measured 0.20m long and was truncated by posthole [1285] to the south and a modern intrusion to the north. Posthole [1285] was also filled by grey sandy clay (1284), which contained no finds.

A number of postholes, [1231], [1233], [1236], [1238], [1240], [1242], [1246], [1254] and [1259] were clustered together within an area measuring approximately 5m by 5m in the northwest area of the site. These features were not regularly spaced and may represent several superimposed structures. A number of the postholes are on a north south alignment and may be part of a fenceline defining an area of pitting to the east. Posthole [1246] was filled by soft dark grey silt (1245), dated to 1150-1250 by a single sherd of pottery. Posthole [1240] was filled by loose dark brown silty sand (1239), which contained a single sherd of pottery dated to 1450-1720 that is thought to be intrusive. There is no stratigraphic relationship between any of the postholes, but all have been assigned to Period 2 as they were sealed by a cobbled surface (1022), dated to Period 3.

7.4 Period 3: Late Medieval (c.1350 to 1550) (Figure 6)

Building 2

In the late medieval period Building 1 was abandoned and demolished and Building 2 constructed over it. The remains of Building 1 were overlaid by mixed demolition

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spreads and dumps of stone and tile (1137), (1148), (1149), (1150), (1151), (1397), (1398), (1405) and (1406). These demolition spreads were characterized by charcoal flecking and a frequent stone and tile fragments. The demolition debris is dated c.1350-1500 by the pottery it contained. Layers (1151) and (1397) contained numerous nib/peg tiles, which presumably originally covered the roof of Building 1. These layers also contained pieces of Outwoods Shale, suggesting that either part of Building 1, or another building close by, was covered with this material. Stone rubble found in (1397), comprised of fine and medium grained Carboniferous sandstones; a light grey Cambrian siltstone from the Stockingford Shale Group, possible used for roofing or paving; and a mudstone and indurated sandstone from the same geological formation. Similar destruction debris was recorded as sealing early medieval cut features during excavations in the 1990s. A spread of rubble recorded as (131), (4), (8), (21), (25), (35) and (61) contained shattered roofing slates, medieval roof and abraded 13th century pottery sherds. The report interpreted this as representing building debris from the destruction of the Templar Manor.

Building 2 was constructed over Building 1 but on a slightly different alignment. Building 2 was represented by masonry walls [1134] / [1132], [1372], [1160] [1404] and beam slots [1136], [1147] and [1154]. The masonry wall foundation [1160] was constructed of Outwoods Shale directly on natural clay subsoil, and measured 3.00m northeast-southwest and 1.00m wide. The base of the foundations contained fragments of pottery dating to 1450-1550. A tiny amount of flake hammerscale was also found adhering to slag from context [1060]. Two shallow but well defined postholes [1437] and [1439] were located beneath the foundation and probably had a structural function. They were each 0.05m in depth and 0.25m in diameter. Posthole [1439] was filled by compact grey silty clay (1438), which contained a single sherd of pottery dated to 1275-1500. To the east of [1160] were a group of stones [1404] thought to be associated with [1160] and probably part of the same structure. Feature [1404] was very fragmentary and the excavators were unclear whether it was *in-situ*. If the stones do represent a second wall the size of these foundations suggest that it was an external wall.

As with the demolition debris several nib/peg tiles were recovered from the masonry wall foundations of Building 2 [1160], which are thought to have originated from the roof of Building 1. Normal nib tiles were present, some of which have fine moulding sand which is often a late medieval or post-medieval feature. The examples from the wall foundations are associated with pottery of the period 1450 to1550, which is considered to be also the date of the nib tile. Similar nib tiles were found scattered in other part of the site in Period 3, suggesting that this roofing type may have covered the roof of Building 2.

Running northwest-southeast the remains of a heavily robbed masonry wall foundation were recorded as [1128] / [1129] / [1130] / [1133] / [1134] / [1143] / [1144] / [1152]. The wall extended beyond the limit of excavation to the northwest and was truncated by a channel (Ditch 5) to the southeast. It was within construction cut [1132] / [1134], into the base of which a number of small postholes [1400] were cut. These postholes appeared to be associated with the construction of the overlying wall. A small area of masonry [1372] on the northern face of the foundation may represent the remains of a second wall at right-angles to the main wall, probably an

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internal division given the joists (see below). However it is also possible that [1372] may have been reinforcing the foundations, possibly at the junction of the two walls.

Two burnt beams were perpendicular to the remains of this masonry wall foundation. The first, (1135), was within cut [1136] and the second (1145)/(1146)/(1387) was within cut [1147]. These were contemporary with the masonry foundation and probably represent joists for a suspended wooden floor; both were burnt *in-situ*. Fill (1146) contained a single sherd of pottery dated to 1150-1250, however this is presumably residual. A third burnt beam (1154), within cut [1155] ran parallel to the masonry wall are to part of the same floor. Posthole [1382], located stratigraphically beneath beam-slot [1147] and may represent a structural element of a suspended floor or platform.

Postholes (1122), (1343), (1345) and (1398) appear to have been associated with the northern extent of Building 2. Directly to the north a series of bedding layers (1378), (1384) and (1385), were sealed by a small cobbled surface (1362) which continued beyond the area of excavation. No dating evidence was recovered from this feature, however its appearance and location suggests it is probably associated with Building 2.

Building 3

Building 3 was described in 1970 by Mr. S. Taylor (1971), but unfortunately very little information on the excavations has been published. A sketch-drawing was made but not published. The area was re-excavated in the 1990s and much of the structure was recorded again in greater detail by Mr M Wilson (1997; 2005), thus allowed the original site plans to be accurately located for the first time. Much of the description of this building is based on Mr. Wilson's (2000) site report.

Building 3 represents a structure recorded during the original excavation of the site as a three bayed, timber-framed building. This was thought to be of 14th century date, and measured 6.71m by c.14.62m. The footing of the structure incorporated fragments of reused window mouldings of carved sandstone, possibly from robbed earlier Templar buildings. The building had fallen out of use, and was destroyed by the middle of the 17th century (Wilson and Moorhouse 1971). Although the exposed remains seem to be that of a 'three-bayed' structure, it is worth noting that its eastern extent was truncated prior to the earliest investigations, and it is possibly the building complex extended further to the east.

The wall foundations were 0.30m-0.50m wide and, on re-excavation, survived to a maximum height of 0.40m. They were constructed of a variety of stone types of assorted shapes and sizes, forming the northern (108) and southern limits (109) of the building. A single course of weathered masonry survived, consisting of a double row of faced blocks and a core of clay, small stones, rubble fragments, broken shale and slates. The northern wall foundation (108) was very heavily disturbed, presumably a result of the earlier excavations as well as robbing in antiquity. The western extent of the structure was defined by north-south aligned wall (110), constructed of large fire cracked sandstone slabs up to 0.10m in thick. These single courses of flat-surfaced stones, which outlined the floor plan of the structure, represented the load-bearing element of its foundations, upon which the timber walls would have stood. The irregular sizes and poor quality of much of the sandstone masonry incorporated in the

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foundations of the structure suggested it had been robbed from an earlier building nearby.

A circular structure (112) in the southwest corner of the western bay was constructed into wall (110) and abutted the south wall foundations (109). Both the walls and circular structure were constructed on top of cobbled surface (114). Feature (112) was constructed mainly from angular fragments of quartzite, with occasional sub-rounded fragments of sandstone and very occasional fragments of red medieval tile. It stood to a height of approximately 0.38m and had an internal diameter of 2.50m. On re-excavation it was found to contained backfill from the 1970s excavation and its original contents, and function are unknown. The site plan of 1970s excavations indicates that the base of the feature was lined with stones. This feature was interpreted in the 1970s as a small drying kiln (Wilson and Moorhouse 1971), although it is unclear if this was thought to be associated with the local ceramic industries. No evidence of on-site pottery production has been identified and it is more likely to represent a hearth, bread oven or buttress chimney (Wilson 2005, 415).

On re-excavation little remained of the floor surfaces associated within Building 3, and the original excavators had difficulty identifying internal surfaces (Mrs. B. Phillips to M. Wilson, pers. comm.). The floor make-up of the building (115), consisted of 0.10m-0.35m of compact angular quartzite fragments, rounded diorite cobbles, broken pottery, tiles and shale in a dark grey to black silty sand matrix. This directly overlay natural sand at its western extent, whilst at its eastern extent re-deposited sandy clay (155) was exposed and a thin layer of shattered roofing slates (131) was recorded.

External Surface

To the west of Building 3 a further metalled area (114), measured between 0.10m and 0.20m thick, and was constructed of weathered rounded diorite cobbles in a dark brown silty matrix. Occasional fragments of very abraded medieval floor tiles and pottery, thought to be of 13-14th century date, were included in this material, as well as a small quantity of animal bone fragments. This surface measured approximately 3.5m east-west, and was constructed directly on the sandy natural. The metalling was interpreted in the 1990s as an external yard associated with Building 3. This seems likely as no further stone foundations were encountered to suggest the building continued to the west of wall (110).

A continuation of this surface was recorded in the 2004 excavations as constructed of a layer of bedding sand (1257) overlain by well-rounded cobbles (1022) / (1025) which measured 50mm to 100mm across, as well as some larger stone fragments. The surface is dated to 1480-1550 by the associated pottery and roof tile fragments. The bedding sand (1257) contained three fragments of 'ox-sized' longbone. Irregularities in the surface probably indicated that it had been repaired several times.

Structural Remains

A number of structural remains were recorded in between Buildings 2 and 3, which may have been associated with the metalled surface (114) / (1022), recorded to the west of Building 3. Beam slot [1061] was 2.50m long, 0.10m wide and up to 0.15m deep. The remains of vertical set timber planks were visible with in fill (1060). The fill of this feature contained a single pottery sherd dated to 1480-1600. Postholes [1229]

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and [l248] were located at the eastern and western ends of the beam slot and were probably associated with this structure. Posthole [1248] contained the *in situ* remains of a vertical timber post (1247) recorded in post pipe [1244]. The posthole [1229] was filled by (1228). This produced a small quantity of slag, but no dating evidence The posthole was sealed by a small cobbled surface (1059), which contained pottery dated to 1480-1600. This group of features appear to represent a timber building and external surfaces, similar to those directly to the west of Building 3.

To the south a beam slot [1063] measured 5.00m long and was truncated at the southern end by a modern pipe trench. The fill of the robber trench, (1062), contained a considerable number of tile fragments dated to 1570-1700, a single pottery sherd of a contemporary date and two residual sherds of pottery. The fill also produced a mixture of nib/peg and normal nib tiles along with a ridge tile and what appears to be a carefully cut rectangular shaped fragment of stone flooring made from a grey siltstone (Fig 12.15). This is likely to have come from a stone floor surface in a fairly high status building. The function and extent of this structure is not clear however the fact that it is at right angles to beam slot [1061] may suggest they are part of a single complex of buildings.



Plate 9: Postholes [1248] and [1229] with linear feature [1061] between them.

To the east of this feature a large posthole [1077] with stone packing at its base was filled by (1076) which contained pottery dated to 1450-1550 as well as small quantities of slag. No associated postholes were recorded however this is clearly part of a substantial timber building and may have been associated with some of the undated postholes in this area of the site.

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To the south linear feature [1051] cut into the underlying subsoil and contained greyish brown fill (1050), with medieval pottery dated to 1380-1500. The feature measured 0.40 - 0.50m wide and 0.15 - 0.20m deep with a rounded base. It ran for 6.00m east to west before being truncated at the west end by a modern water-pipe. The base of the feature was poorly defined and had been disturbed by rooting, suggesting it may represent a hedge-line, or similar feature.

Northern Cobbled Area

To the north of Building 3, just below the existing ground surface, was an area of cobbles (2) that was first exposed and cleaned in the 1970s, but not drawn: it was planned in detail for the first time in 1996. The surface covered c.40m² and measured between 4.00m wide at its southern extent and narrowing to 2.00m to the north, where it terminated at a large in-filled pit. The surface consisted of worn and weathered irregular sized stones, including yellow diorite, red sandstone and mainly grey quartzite. Occasional alignments of larger flat stones were post-pads for a timber structure. A large millstone formed part of the cobbled surface and after trial trenching in 1967 was removed to the museum at Nuneaton. The surface sealed a yellow brown clayey sand layer interpreted as a levelling agent (46), which was up to 0.08m in thick. Below the sand a make-up layer of broken red medieval ceramic tiles (48) / (22), contained a small moulded ceramic clay head of uncertain function, possibly a roof finial. Layer (48) / (22) sealed a spread of crushed red tile and shale roofing demolition material (61) / (4) / (7) / (8) / (21) / (25) / (35) / (131). Also sealed by layer (48) / (22) was a buried ground surface (99), from which a medieval French jetton of late 14th-early 15th date was recovered. Deposit (61) was sealed by the southern extent of (48) / (22) and contained fragments of Roman *tegulae* and large rounded pebbles.

A series of postholes cutting through the cobbled surface were interpreted as a contemporary timber built structure. Cobbled surface (2) was interpreted by the reporter as representing a working surface, perhaps the floor area of a wooden structure supported on stone post-pads. The relationship of the cobbled surface to Building 3 was not established, however if *in-situ* the Jetton may suggest the two are contemporary. The presence of a Roman *tegulae* in one of these layers is of interest as little other Roman material was recovered from the site.

Building 4

The plan of Building 4, located to the south or Building 3, is a composite of sketch plans made by S.Taylor in 1970 which were re-drawn and 'best-fit'-aligned by K. ScottM.Wilson in 1996, and plans of masonry exposed during the 2004 excavations by AOC Archaeology Group. Building 4 clearly represents the remains of a substantial and complex structure, possibly on a scale of Building 3. The stratigraphic relationship between Buildings 3 and 4 is not clear, a great deal of building and demolition took place in this area of the site and the two buildings may have had different life histories. Pottery recovered from Building 4 does suggest the foundations are roughly contemporary with Building 3. A later medieval date is supported by the stratigraphic location of Building 4; parts of the foundations overlay Period 2 Ditches 1 and 2 (see above).

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The main structural elements of Building 4 were: a cobbled surface (1003) to the south; the foundations of what was probably originally a square room (1004), which was modified by the insertion of walls (1321) and (1322). The wall foundations of Building 4 were constructed of sandstone, with puddled clay foundations and were truncated by post-medieval intrusive features. Found associated with Building 4 were a few fragments of nib/peg tiles, probably from Building 1 or other similar earlier structures, and a number of ordinary nib tiles. The nib tiles are in the same fabrics as those in Building 2, suggesting that Building 3 may also have had a nib tiled roof.

The cobbled surface (1003) measured a maximum of 2.80m east-west and 1.40m north-south, but had been heavily truncated by later features. The surface was constructed on a levelling layer of yellow brown clay (1313), into which sandstone cobbles (1003) were set. Pottery recovered from (1003) is dated to 1275-1500. This area of cobbles appears to represent an external activity area between Building 4 and the pond to the south, however the function of this area remains unclear.



Plate 10: Remains of Building 4, looking south

Stone foundations (1004), located to the north of this cobbled surface, appear to represent the exterior walls of a square room. The east-west wall measured 4.40m by 0.70m wide and the north-south return measured 3.20m by 0.80m wide. The size of foundations suggest they were the exterior load-bearing walls of the structure. Later features to the north and east had heavily truncated the structure, however the size of the surviving room appears to be similar to those of Building 3. The construction technique was also the same as that used for Building 3; the wall foundations were trench-built, roughly dressed stones faced both sides of the walls and smaller, undressed, irregular stones formed a central core. The irregular sizes and worn nature of stone from the building again suggests much of it was robbed from an earlier structure.

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The interior surface of the surviving room consisted of a well-worn cobbled surface (1194) / (1323) / (1325) constructed of sub-rounded stones set into soft yellow brown clay (1319) / (1324) / (1328). An earlier floor or levelling dump (1336) suggests at least parts of the surface had been repaired, and indicates the building may have been in use for a considerable period of time, the floors of Building 4 produced 14th century pottery.

The room was sub-divided by two parallel east-west walls, the first consisting of (1320) and (1321), the second of (1322). Both were built of a mixture of large dressed masonry and smaller undressed stones, in a similar manner to the exterior walls. Two courses of masonry survived and the walls measured 0.50-0.60m wide. The walls were poorly preserved having been partially robbed out, disturbed by post-medieval industrial activity and previously excavated on two separate occasions. Two possible kiln bricks were reused in the construction of wall (1322) (Fig 12.10). Both bricks are perforated by multiple holes, which suggests they were used in the floor of some kind of oven or kiln structure, the holes allowing hot air to pass into a chamber above. Similar perforated floor bricks were found associated with the pottery and tile kilns at Chilvers Coton (Mayes and Scott 1984, 167–70, kilns 28, 29, 32a-b), although these are thinner.

The gap between walls [1320] / [1321] and [1322] measured only 0.60m, and appears to be too narrow to be a passageway. Evidence of burning on the cobbled surface led the excavators to suggest that this masonry may represent a fireplace; however from the size and location of the features this seems unlikely.



Plate 11: Cobbled Surface (1323) and wall foundations (1321) and (1322) looking west

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Building Rubble

To the east of Building 4 an area of masonry was interpreted by the excavators as representing wall foundations (2002) / (2060). These foundations were heavily disturbed but were originally thought to be within a construction cut [2003] / [2059]. Significant quantities of later medieval pottery (1275-1550), Outwoods Shale roofing slate and a glazed ridge tile were recovered from these features. However, no alignment to the masonry can be ascertained and it seems likely this masonry is not *in-situ*, and represents disturbance or upcast material from the brickle pit to the north.



Plate 12: Building rubble (2002) / (2060). The rainwater on the right marks the edge of the modern brickle pit. Looking north.

Trackway

In the centre of the site the remains of a linear cobbled surface (2029) was recorded for a distance of c.10.00m, then for another 1.00m as (2049) after a gap of c.4.00m. At its widest the track was 2.00m wide, although it was heavily truncated; to the south and west it was truncated by the modern brickle pit. Towards the western end it was cut by shallow stream channels and at the farthest point of the east end it was truncated by modern disturbance. The feature comprised a cambered surface with two distinct deposits of stones beside each other, (2040) and (2029); with (2049) set a short distance to the east. Although no dating evidence was recovered from this feature, it was cut by a late medieval water channel. Considering the other activity in the vicinity it has been tentatively dated to the late medieval period. To the north of the trackway posthole [2044] contained pottery dating to 1380-1500 and is likely to have been associated with the cobbled trackway beside which it lay. Pit [2052] contained one sherd of pottery dating to 1275-1500 but the function of the feature was unclear.

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Plate 13: Cobbled trackway (2029) looking west. The archaeologist is excavating the ditch along the north side of the trackway. The lower-lying waterlogged area in the background is the modern backfilled brickle pit.

Ditch 3

Evidence of later medieval water management was seen across the site. Ditch 3 was located in south of Building 4. The ditch [1107] ran from south-east to northwest for c.9.00m and was truncated by later features at both ends. Its original width as recorded in section was approximately 2.50m and its depth was approximately 1.10m below machine truncation. Its lower fills (1106) and (1303), contained early medieval pottery, which is thought to be residual. This feature continued as [1309] / [1314] / [1318], which ran for a curving distance of c. 18m across the site, with a width of 0.90-1.00m and a depth varying between 0.28m and 0.48m. Its fill (1308) / (1313) / (1317) contained late medieval pottery dated to 1275-1500.

Alluvial Deposits

Shallow depression [1408] extended beyond the excavation area to the west and was truncated by Ditch 4 to the east. The feature measured 0.20m deep and was filled by an alluvial deposit of compact mid grey clay (1407). Feature [1408] was cut by a large sub-circular hollow [1183] / [1412], which measured 6.80m in diameter and 0.55m deep. It was filled by a primary fill of mid grey clay (1411) / (1393) and as secondary fill (1409) / (1179) of red brown silty clay, dated 1350-1550 by the pottery it contained. The function of the feature was unclear, however it appears to have been associated with the water management in this area of the site.

A timber stake (1169) was set in a post-pit [1403] cut into natural sand deposits at the edge of one of hollow [1183] / [1412]. The stake tip survived 0.38m long by 0.13mm

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by 0.10m and had a sub-rectangular cross-section. Made of oak the stake was originally larger and had been sculpted by serious decay and erosion. It was probably shaped by hewing with an axe, although no clear tool-marks survived. It had a decayed void down the middle and had been cut from a fast grown log having only 20 surviving annual rings. The excavators suggested the position of this stake suggests that it may have been part of a water-management system in this area, and despite considerable care to locate any evidence of further such timbers in this area, none was found.

Ditch 4 (Figure 6)
In the late medieval period substantial ditches crossed the western side of the site from north to south. Ditch 4 ran in a slightly south-easterly direction and Ditch 5 was more directly aligned north-south along the site grid. These channels were linked at the northern end, and were recorded as a complex series of inter-digitating alluvial deposits. In places Ditches 4 and 5 were cut through a few residual patches of waterlain material (1216) and (1189), lying immediately above natural geological sand and clay deposits.

Feature [1183] / [1412] was truncated by Ditch 4, which was aligned north-south and was recorded as [1174] / [1185] / [1264]. The northern extent of Ditch 4 was very poorly defined but appeared to continue beyond the limit of excavation to the north. Ditch 4 was in close proximity to Building 2 and may have been associated with this structure. The southern extent of the ditch was again hard to define; it passed to the west of the pond and may have flowed into this feature to the south of the excavation area.

The sequence of fills within Ditches 4 and 5 were complicated and appeared to have been recut several times, probably largely as a result of natural erosion. Section 25 (Fig 7), across the northern extent of Ditch 4, indicated channel [1157] was c. 2.00m wide and 0.50m deep at this point. To the south of this point the channel was seen to have changed its course slightly. It was filled with a primary grey clay fill (1156), which contained a single fragment of ox mandible. Secondary fills (1447) and (1440) contained fragments of late medieval pottery were dated 1350-1500. Thin layers of silt (1184), (1186), (1221) spread beyond the edges of the original channels.

To the south, recorded in Section 15 (Figure 7), Ditch 5 measured 1.40m across and 0.50m deep. It contained a soft light grey clay primary fill (1263), which contained pottery dated to 1380-1500. A secondary fill of mid grey brown sandy silt (1262) / (1394) contained a very similar pottery assemblage also dated 1380-1500, suggesting the feature silted up fairly rapidly.

Ditch 5 (Figure 7)
Ditches 4 and 5 were of a contemporary date but it was not possible to ascertain their stratigraphic relationship on site; either they represent a single feature, or one rapidly became silted up and was replaced by the other. The southern extent of Ditch 5 was truncated by a modern water pipe. The ditch was recorded both in plan and in Sections 11 as [1157] / [1191] / [1383]. At its southern extent the Ditch 5 was recorded as cut [1383] and measured 1.56m across and 0.20m deep. It was filled by mid grey sandy clay (1176), which contained pottery dated to 1350-1550. To the north the ditch

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narrowed slightly and was by soft mid-grey clay (1156), which contained no datable material.

A levelling deposit of yellow-brown silty clay (1447) dumped over Ditch 5 contained flecks of charcoal and pottery dating to 1350-1550. This was overlain by a dump of coal (1440), which contained no datable material but is dated to this period by its stratigraphic location. This was in turn overlaid by a large dump of stone (1370), dated by the pottery it contained to 1380-1500.



Plate 14: South-facing section across Ditch 5

Other Late Medieval Features

Pit [1095], filled by (1275) and (1094), was located to the south of Building 3. The pit measured 1.27m in diameter by 0.57m deep and was dated to 1450-1500 by the pottery it contained. The fills included several stony and sandy lenses implying deliberate episodic backfilling. Directly to the north pit [1024] was oval-shaped in plan and measured 1.54m by 0.90m and 0.25m deep. The pit was filled by (1023), which contained pottery dated to 1275-1500, and had been truncated by a smaller pit [1283] at the eastern side. To the west pit [1277] measured 0.80m by 0.94m by 0.17m deep, its fill (1276) contained pottery and tile fragments dated 1380-1500. The fill of this feature also contained a distal fragment of ox astragalus that had been chopped transversely with a cleaver or heavy-bladed knife, this is the only evidence of butchery from the animal bone assemblage. These pits may have been cess or rubbish pits associated with Building 3.

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Plate 15: Pit [1095] with fill (1094) part-excavated.

Posthole [1299] measured 0.36m in diameter and 0.28m deep. Its fill (1298) contained a sherd of pottery dated to 1350-1550. The fill was subsequently cut by a stake [1297] being driven into it, this had probably rotted *in-situ* resulting in fill (1296). This latter fill also contained contemporary pottery as well as a sherd of intrusive post-medieval pottery. A second possible posthole [1300] with fill (1301) lay to the south measuring 0.52m by 0.64m and 0.22m deep.

On the eastern side of the site pit [2005] was irregular shaped in plan and profile and appear to have been a tree bowl. The feature contained late medieval pottery and tile fragments. These may be related to the orchard which is known from documentary sources to have existed somewhere in this vicinity in the late medieval / early post-medieval period.

Excavation conducted by Mr K Scott in 1997 to the east of Building 3 and 4 revealed a portion of structure (301) in poor state of preservation. The structure was c.4.50m wide and the full length of the building was not exposed. It was constructed of a single course of assorted stones of various in shapes and sizes that appeared to have originally supported a timber structure. The interior of the feature was filled with clay, over which lay a light scatter of c.14th century pottery sherds. The structure was on the same alignment as the Period 3 buildings to the west.

7.5 Period 4: Post-medieval (c.1550-1750) (Figure 8)

Across the eastern half of the site much of the earlier medieval stratigraphy had been truncated by post-medieval features, many associated with the industrial exploitation of the site. The extent of this post-medieval truncation was recorded as cut [51].

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Possible Structure

A short section of a robbed out wall [196] was recorded at the northern extent of the site. This fairly substantial shallow flat-bottomed robber cut was on an E-W alignment. This feature appears to have been associated with a north-south aligned robber cut [52], which had a similar flat bottomed profile. This second feature was filled by a compact yellowy-brown sandy fill (53), which contained frequent thin bands of charcoal and orange-red tile fragments and animal bone. Both features had a few flat stones in the base and traces of where stones had been removed. Collectively [196] and [52] may represented the robbed out foundations of a fairly substantial building. Although the robbing had occurred in the post-medieval period the excavators believed this might represent a much earlier structure. The dating of the structure is problematic, the excavation report (Wilson 2000 29-30) suggests that these features may be associated with a perimeter wall to the Templar complex, and links them to a cropmark visible on an aerial photograph of the site. It is also possible they are associated with later activity on the site, the Period 4 date assigned reflects the date of the robber trenches recorded.

Early Industrial Features

In the centre of the site a large north-south aligned feature was defined by an irregular, linear cut [1099]. The feature contained timbers (1289) and (1290), sealed by a primary fill (1102) and secondary fill (1098). Cut [1099] measured 14.00m long, 2.60m wide and 0.96m deep and had a stepped profile. The lowest part of the feature formed a trough measuring 0.45 to 0.50m deep and 0.80m wide. The timbers survived and along the western edge of the feature, their form was still detectable as a stain where they had decayed. On the east side of the trough a shallower cut measured 0.45m to 0.50m deep but 1.70m wide with a slightly more gentle slope down into it than on the western side. The primary fill (1102) was stained by organic material, suggesting that the whole of the base of the feature had been plank-lined. The backfill (1098) contained large quantities of late medieval pottery and tile fragments, dated to 1450-1550, as well as residual early medieval pottery and one intrusive post medieval sherd. The fill also contained fragments of left femur midshaft and thoracic vertebra of an ox.

Timber (1290) was an eroded section of a roughly rectangular oak-beam. The core of the beam, which was cut from a whole oak log of moderate growth-rate, was hollow. However, if the heart was originally gouged or bored out it had also been much altered by decay. The lifted timber survived for 0.23m long by 0.23m wide by 210mm thick. No evidence of sapwood or toolmarks survived. It is possible that timber (1290), and the timber stain abutting it, were originally part of a tapering timber shoot, perhaps a mill shoot (cf. Watts 2002). The main problem with this interpretation is that there appears to be no exit channel for any water flowing down the shoot. It is also possible the timbers are part of a shoot but are not *in-situ*, having been re-deposited the feature after use elsewhere.

A large quantity of ceramic roofing tile was recovered from fills (1098) and (1102). This included a mixture of nib/peg and standard nib roofing tiles, glazed ridge tile and at least one, probably two, plain glazed floor tiles. One floor tile has a slightly worn plain green glaze, a second floor tile has a yellowish-brown glaze.

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Plate 16: Timbers and organically–stained fill in cut [1099]. Looking northwest

Ditch 6

A further water channel was recorded in section as [1038] / [1046], located near the southern limit of the site on a north-south alignment. It cut a series of late medieval building foundations to the north. This channel was recorded in east–west section containing fills (1045), (1035), (1036) and (1037). No dating evidence was recovered from the feature. However, its stratigraphic location and the inclusions within its fills, including coal, suggest it was associated with the post-medieval industrial use of the site.

Ditch 7

At the eastern side of the site a series of inter-cutting water channels [2015], [2033], [2036], [2046] and [2053] were recorded as Ditch 7. Ditch 7 was filled by a primary fill (2031) / (2048) of waterlain mid-brown clay silt. This was sealed by a secondary fill of mid brown sandy clay fill (2014) / (2032) / (2030) / (2045) / (2047), with frequent coal, occasional sandstone shale, tile and animal bone inclusions. The filling of the ditch is dated to c.1570-1720 by the pottery it contained within the final fill. Nib, nib/peg tile, a decorated green glazed ridge tile and Outwoods Shale roofing stone were recovered from ditch fill (2030). The ridge tile is in the same fabric (WH1) as the nib/peg tiles and was presumably used together on the same medieval tiled roof. It has a green glaze and the remains of decoration along the tile crest (Fig 12.8). Fill (2030) also contained later nib tile and three small pieces of red and orange coloured brick, probably contemporary with the associated pottery.

Other ditches

At the northern side of the site several small ditches were recorded running north-south in this period of occupation. Cut [34] measured 0.80m wide and extended beyond the limit of excavation to the north. The southern extent of the feature was

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truncated by a second ditch recorded as [29] / [33]. This measured up to 1.20m wide and again extended beyond the limit of excavation to the north. A third ditch [52] ran parallel to [29] / [33] and measured up to 1.50m wide.

Post-Medieval Stone Robbing

Much of the masonry of Building 2 appears to have been robbed out in the early post-medieval period. Poorly defined robber trenches were recorded in association with wall (1132). These were filled by (1131) / (1152) which contained pottery and tile fragments dating to 1570-1725. Fill (1131) also produced a large number of nib/peg tiles and part of a triangular shaped stone roofing slate cut from light grey Outwoods Shale, with a 13mm diameter nail hole situated near the apex (Fig 12.14).

7.6 Period 5: Modern (1750 to present day) (Figure 9)

A circular brick-lined well [1199] was constructed of red frogged bricks (1198) and then backfill by (1197). This feature was linked to a similar well to the east by a brick-lined conduit [1196], which measured 1.0m wide and 1.0m deep. The second well, [2066], was built of modern local 'Ansley Hall' bricks (2065) and backfilled by (2064). Well [2066] was excavated by machine to a depth of c. 2.5m below existing ground level. These two features were designed to be operated in tandem and may have been used for water extraction in connection with mining activities, possibly for drainage to make the mining easier or as a source of water supply for the industrial processes.

Areas of previous excavation were identified across the site and their location planned. These were recorded as [1006], [1010], [1012], [1014], [1017], [1019], [1085], [1087], [1089] and [1091], [1093] and [1251]. Also in this area were two previously excavated geotechnical pits [1032] and [1030] and the trench from the 1967 excavations [1204]. The site was visited by M. Wilson, who confirmed the location and nature of the intrusions. On the eastern side of the site pit [2063] was irregular shaped in plan and profile and relates to modern disturbance in this area, probably associated with the excavation of structure (301). This structure had been completely removed prior to the excavation undertaken by AOC Archaeology Group. At the north of the site a rectangular modern intrusion was recoded as pit [54].

A substantial modern intervention was recorded during the 1996-1997 excavations as a "modern disturbance infilled with mining clod" (Wilson 2000). This feature was fully exposed in plan in 2004 and found to be roughly circular and just over 6.00m in diameter. It was recorded in the more recent excavations as a "modern brickle pit"[18].

Around the southern edge of the stripped area, large spreads of coal slack were seen, and again only partially excavated, as they were clearly of very recent date. These extended with an increasing thickness down the slope to the south and are thought to have been the product of dumping of mining waste from the Griff Colliery during the 19th and 20th centuries. Similar deposits were seen in thinner layers along the eastern boundary of the site and extensive modern dumping was also seen in the evaluation trenches excavated in the earlier part of 2004 to the north of the excavation areas.

[18] The words "clod" and "brickle" are used interchangeably in this report and are understood to mean the waste material left over from soaking clay in pits with water to produce the raw material for brick-making. The practice is widespread in post-medieval Britain, although the words appear to have a very limited local usage.

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A modern railway crossed the site from the southeast to the northwest to service the brickyard. This railway line ran on a raised embankment, which was machined out within living memory. The twin action of raising up the mound from the surrounding layers and ground reduction had removed any archaeological remains in the immediate vicinity.

Context (1001) / (2001) was allocated to unstratified finds recovered during machine stripping. Context (1002) was the number allocated to the topsoil and upper subsoil. Context 1001contained the remains of a number of unusual socketed circular water pipes. The most complete would have measures just over 238mm in length and has a diameter of 75-95mm (Fig 12.11). A number of partially complete nib tiles were recovered from the topsoil (1002), together with a few ridge tiles (Fig 12.9) and Outwoods Shale stone roofing. Unstratified finds (2001) included a probable nib/peg tile, a quartzite pebble that may have been deliberately cut to form a crude 42-44mm disc and a fired ceramic object. The latter has an appearance of a Roman *tegula*, but the presence of a possible glaze splash would indicate a medieval date.

7.7 **Undated Features** (Figure 10)

Posthole [1292] stood somewhat apart from any others and could not be seen to be part of any definable structure. Posthole [1292] was truncated on the north side by a modern linear feature, but its original dimensions appear to have been 0.36m in diameter by 0.12m deep.

A small pit [1283], filled by (1282), truncated late medieval deposits, but contained no dating evidence. A single posthole [1331] lay to the south and measured 0.38m by 0.32m and was 0.11m deep. It was filled by (1330), which contained no dating material. Pit [1109] with fills (1288) and (1108) measured 0.65m by 0.45m and 0.17m deep but the eastern half was truncated by [1099].

A group of postholes [1065], [1067], [1069], [1071], [1073], [1075] and [1079] were all located directly to the east of robber cut [1063]. None of the postholes contained any dating evidence however postholes [1065] and [1071] cut a robbed out wall and must post-date the robbing of the wall in Period 4. The postholes had similar fills and several contained packing stones in the base. All these postholes appear to relate to a timber structure in this area of the site, probably dating to late Period 4 or early Period 5 based on its stratigraphic location.

Pit [1159] measured 0.80m in diameter and 0.46m deep and was filled by firm a primary fill mid brown clay (1373), with freq stone inclusions, and a secondary fill (1158) of mid grey silt. Neither contained any datable material.

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Plate 17: Postholes [1071], [1073], [1075] and [1079] looking south

To the north postholes [1057], [1226], [1261], [1279] and [1281] were also undated, whether they were associated with the Period 3 building in this area, or a later structure, is not clear. Pit [1047] pit was oval-shaped, measuring 3.00m by 1.94m and 0.63m deep. It was filled by soft dark grey silty clay (1033) and was of unknown function. To the east undated postholes [2007], [2009], [2017] were cut into the natural clay.

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8 DISCUSSION

8.1 On-Site Preservation and Recording

The archaeological remains at Bermuda Park had been very heavily disturbed, both by deliberate robbing of building stone, and later industrial disturbance. Archaeological survival on the site was still sufficient to give some indication of the range of activities being carried out on the site. In some areas of the site a thick layer of material dumped during the industrial exploitation of the site helped preserve the underlying archaeological remains.

The partial nature of the archaeological remains has been compounded by the fragmentary, and sometimes troubled, nature of the archaeological investigations. The original excavation of the site, undertaken in the 1970s was conducted during an unusually hot summer. The site was covered with a layer of sun-baked mining slurry, which combined with dust on the site, resulted in poor archaeological visibility. Almost nothing of this original excavation was published, and few records of the work survive. Archaeological work in the 1990s was able to re-locate some of the features identified. More recent work by M. Wilson (2000 and in this report) has successfully collated much of the available information of the earlier excavation.

The excavation undertaken by AOC Archaeology Group in 2004 suffered from a very different range of problems. The excavation was conducted in very wet weather and the adverse weather conditions and flooding seriously hindered on site work. Time pressures also limited the scope of the work undertaken in some areas of the site. During the investigation of the site in the 1990s a number of bulk samples were taken (and analysed by James Gregg of Birmingham University) in order to recover environmental and botanical remains. No environmental remains were recovered from these samples, and it was concluded that the nature of the soils were unsuitable for the preservation of such material. The poor preservation of environmental remains on the site means there is little environmental data available, a fact that limits the interpretation of some of the features.

8.2 The Extent of the Archaeological Remains

Archaeological excavations were undertaken to as close to the eastern limit of the recent development of the site as possible. The eastern area of the excavation contained few features, and it appears archaeological survival in this area of the site was poor. This was probably a result of the activities associated with the construction of the 19th century industrial railway and subsequent 20th century disturbance. It seems likely however the eastern area of the excavation would have been beyond the main area of medieval activity.

During the 2004 archaeological investigations a number of infrastructure works, in the form of drainage and road construction, around the excavation area were conducted under archaeological observation. The results of these observations supported the results of the 2004 evaluation, that there were no archaeological remains in the northern area of the site. The structural remains of Buildings 1 and 2 extended beyond the northern and western extent of the excavation area. No evaluation trench was

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excavated in this area, and it is likely that archaeological remains survive beneath these relatively shallow road construction works to the west of the excavation area.

To the south and southwest of the excavation area a watching brief was carried out during summer 2004, along the line of the new foul water drainage trenches. No archaeological remains were observed in this area. Modern activity, believed to be clay-extraction for the brickworks, had resulted in truncation of all deposits to a depth of c.4.00m below existing ground level.

8.3 Early Occupation of the Site

No evidence of prehistoric occupation of the site was identified. A Romano-British tile kiln was excavated by Mr. K. Scott on land to the west of the site, to the southeast of Dennis Farm. Excavations on the site in the 1990's recovered 4.20 kg of Roman tile, thought to be from these kilns. No evidence of Roman occupation was identified on the site, and the small amount of Roman material identified in the most recent investigations is all residual, brought onto the site in association with the later dumping of material.

8.4 The Knights Templar Manor

Documentary sources indicate the Templar occupation of the site lasted from 1191 until the first decade of the 14th century; recorded archaeologically as Period 2. The earliest archaeological features recorded on the site were Building 1, several ditches and a pond. The documentary sources indicate a more substantial complex of buildings on the Templar site than were attested to archaeologically. There are potentially several reasons for this discrepancy. Many of the buildings associated with the Templar occupation of the site may have been constructed of timber and left little trace archaeologically. Equally to robbing of masonry and post-depositional disturbance of the site may have erased much of the evidence of the early occupation.

The chapel is likely to have been seen as the most important building on the site, and was perhaps the only stone-built structure on the site at this time. This could imply Building 1 represents an ecclesiastical structure, although there is little to substantiate this suggestion. Other Templar chapels, such as Old Holborn; Garway, Herefordshire, Temple Bruer, Lincolnshire; and Dover[19], were round in plan but this is clearly not the case with Building 1.

As well as the masonry of Building 1 significant quantities of building stone was reused in later phases of occupation. The main stone types were Attleborough and Halesowen Sandstone, and Tuttle Hill and Park Hill Quartzite. This is potentially significant as these stone types are used locally in other important stone buildings during the 12th-13th centuries, for example at Nuneaton Priory and Hartshill Castle, where walls are constructed of quartzite rubble with sandstone dressings are known. The small Norman chapel within the enclosure castle of Hartshill, dates to the 12th–13th century, and provides a possible analogy for the former Templar chapel at Chelverscote (Chatwin 1928: 206-10). In the later phases of the site reused sandstone blocks comprised of fragments of roughly cut dressed blocks, occasionally bearing

[19]A general classification of round churches and chapels is in Marshall, G: 1927: The Church of the Knights Templars at Garway, Herefordshire, Tr*ans. Woolhope Naturalists Field Club*, pp.86-101

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tool-markings. There were no identifiable architectural fragments other than a single segment from a hexagonal-sectioned pillar. Many pieces of sandstone had been re-used for sill-beam foundations of the large three-bayed Building 3, and adjacent Building 4. They were well worn and would probably have been originally incorporated in a Period 2 building.

The function of the stonework, (1329) and (1325), on the edge of the pond was not clear. It was interpreted on site as being associated with possible mill workings, however the documentary sources suggest this is unlikely as no reference to a mill is made. Trample deposits to the north of the stones, associated with early medieval pottery, suggest a focus of activity in this area, the nature of the activity remains elusive however.

A series of ephemeral occupation layers, refuse pits and postholes were associated with Period 2. The date of the pottery from these features indicates occupation of the site by the Templars towards the end of the 13th century. A series of pits in the centre of the site contained early medieval pottery and were sealed by later (Period 3) medieval building activity. This appears to represent an area designated for the disposal of household waste and rubbish. Although used as rubbish pits at the end of their lives it is possible these features had a different primary function, such as quarry pits.

The fills of these features produces a number of small animal bone assemblages, which allow tentative suggestions to be made about the diet of the early medieval occupants of the site. The impression given is of a meat diet dominated by beef and taken from carcase areas of good and moderate meat bearing quality. There is a noticeable absence of elements indicative of poor quality meat or of primary carcase processing. It is important to note however that bone preservation on the site was poor, and this may have introduced bias into the bone assemblage. Poor bone preservation is illustrated by the recovery of horse teeth, without any fragments of maxilla or mandible. The lack of smaller and more fragile bones, such as poultry, and the scarcity of 'sheep-sized' mammal and pig may reflect dietary preference, or be merely an artefact of preservation and relative robustness. The largest bone group, from fill (1294), provides the only evidence for consumption of calf as well as young adult cattle. There is no evidence for old animals and no evidence for pathological change; therefore no reason to suggest consumption of cattle slaughtered at the end of a working life rather than of purpose-reared beef cattle.

The area of inter-cutting pits appears to represent an area of possible quarrying that was also used for dumping midden material. This area of the site does not appear to have been built on until the construction of Building 3, probably in the 14th century. No early medieval structures were present on the eastern half of the site, raising further questions about the location of the Templar farmstead, thought to consist of a great hall, chapel, granary, ox-house, stables, plough-shed and auxiliary buildings. If Building 1 is part of the Templar farmstead ranged around a courtyard, it seems likely the complex would have extended beyond the excavation area to the west.

In general the Period 2 pottery assemblage is very mundane, comprising of standard cooking pots, jars and a few glazed jugs. There is in fact little evidence of the affluence of Knights Templar order in any of the artefacts recovered from the site.

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Given the importance of the site suggest by the documentary evidence, including the possibility of a Royal visit the lack of higher status artefacts needs some explanation. Many of the more valuable, high status objects, such as tableware or chapel paraphernalia, may have been made of metal and therefore recycled as opposed to discarded. The short period of Crown administration following the Templars persecution ended with the site being abandoned. There is documentary evidence of the Templars' possessions being sold or taken to Temple Balsall (see Section 4.4). As a result a whole range of more valuable objects would not have entered the archaeological record.

The Period 2 pottery assemblage is primarily one of local ceramic products with only a small number of imported wares bought from other regional markets. From the medieval period Warwickshire had a thriving ceramic industry. The production of ceramics at Chilvers Coton throughout the medieval and into the post-medieval periods is well known (eg. Mayes, P and Scott 1984). The earliest pottery on site is represented by fabric group IGN and dated to c.1150-1250. There are no clear parallels to this fabric from local kiln sites, however it is not clear whether these wares were imported to Nuneaton before the local industry developed, or produced at Chilvers Coton/Nuneaton using imported clay in kilns that predate the known industry.

Excavations on granges, preceptories and manor houses of the Knights Templar have been infrequent. An extensive programme of excavation was carried out in the late 1960s at South Witham, Lincolnshire (Mayes 2002). The South Witham site was abandoned in the late 13th century and never reoccupied. This combined with a lack of post-abandonment agricultural disturbance resulted in good preservation of the archaeological deposits. Although stone robbing removed much of the above ground stone an extensive plan of the preceptory layout exists for this site. Phase 1 at South Witham consisted of a small, nucleated group of buildings, consisting of an aisled hall, two small ancillary buildings and a waterwheel. The moderate scale of the site at this time may prove a useful analogy for the earliest Templar structures recorded at Bermuda Park. The Phase 1 hall at South Witham consisted of a heavily robbed external masonry wall and internal timber supports and earth floors.

Phase 2 at South Witham saw the transformation of the site into a more substantial farming establishment. A new range of structures was constructed, and domestic and agricultural buildings were clearly separated for the first time. A metalled access road was constructed and fishponds established. The buildings were ranged around a central open area or courtyard (Mayes 2002: 56). This scale of construction is not seen until Period 3 at Bermuda Park.

The standing buildings and archaeological excavations conducted at Cressing Temple, Essex (Andrews 1993) suggests a preceptory of not dissimilar layout and size to that at South Witham. Two great barns and a well from the Templar period still survive on the site. Archaeological excavation has revealed further early structures, however only six broadly contemporary structures have been identified. Several of these have been rebuilt a number of times, with stone structures replacing timber ones; a sign of both the Templars growing affluence and the increasing importance of the Cressing Temple site. As a Bermuda Park however the surviving archaeological remains are not as extensive as is expected from the documentary records of the site. This suggests that

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either the earlier structures have been obscured by later site use, or that early ephemeral structures left little trace in the archaeological record.

8.5 The Crown Administration

Following the dissolution of the Templar order in 1307 the manor fell under the administration of the crown. The manor continued to operate as a profitable farm until 1314, when the household was released and the livestock, ploughs and tools sold. All the paraphernalia of the chapel appears to have removed to the former regional headquarters at Balsall. The Knights Hospitaller did not take charge of the manor until 1324 and it is likely to have been in a poor state of repair, following a decade of abandonment. The lack of structural evidence of the early Templar occupation may be in part be associated with this occupational hiatus. Abandoned by both the Templar and the Crown is possible the site was heavily robbed of any useful or valuable building material. Archaeologically this is represented by the layers of demolition material, crushed roof-tile and roofing slate fragments both sealing Building 1 and lying above the natural ground surface over parts of the site.

8.6 The Knights Hospitaller

The manor appears to have been under the control of the Hospitallers from 1324 until the crown seized the manor in 1540, following the Dissolution of the Monasteries. This equates to the archaeological remains recorded in Period 3. Several masonry structures as well numerous more ephemeral post holes and beam slots were recorded in this period of occupation. Extensive water management was undertaken on the site with east-west and north-south orientated ditches as well as the pond in the south of the site continuing in use.

Building 2 was poorly preserved and it is difficult to interpret both the original floor plan and function. It is possible the building represents more than one construction event. The location of Building 2 in close proximity to north-south Ditches 4 and 5 may suggest it had a specialist or industrial function, which required running water. Several wooden joists were recorded, suggesting Building 2 may have had some form of suspend floor. To the east there was an indication that this would have originally continued over the top of Ditches 4 and 5.

A small amount of flake hammerscale was found adhering to slag recovered from masonry associated with Building 2 (1060), and the fill of Ditch 4 (1184). This indicates that these pieces had been produced during secondary smithing, hot working by a smith, using a hammer, of one or more pieces of iron to create an object or repair it. Slag was also recovered from the fills of later medieval Ditches 3 (1106), 4 (1184), and 5 (1262) as well as from feature [1412]. None of the slag was recovered from a primary context; all had re-deposited and were generally broken up and worn. None of the slag is diagnostic of smelting. However, the shape of some of the slag recovered indicates that it may once have formed part of a smithing hearth bottom. These plano-convex shaped slag pieces form as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. It is not surprising that such material has been removed from the hearth and re-deposited, as hearths would have to be regularly cleaned out.

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The smithing hearth bottoms and broken fragments of slag from Ditches 3, 4 and 5 are large, and so heavy that it is unlikely that they would have been transported any great distance. This indicates that smithing activity was taking place very near to the features into which the slag was dumped. The slag recovered, particularly the smithing hearth bottoms, is larger and more common in Period 3 than at any other time on the site. This suggests that metal working in this period was more intense and prolonged than at other periods of occupation. Excavations at Bordesley Abbey have revealed a well preserved example of a mill that powered bellows, which maintained the temperature of hearths used for iron working (Astill et al 2004: 133-8). This much better preserved structure is slightly early than Building 2. However the construction of Building 2, its proximity to Ditches 4 and 5 and evidence of metal working in this area of the site suggest this is one possible explanation of the function of this structure.

It is clear that some water management was required on site throughout the medieval period. Ditches 4 and 5 represent a complex sequence of inter-cutting channels and fills, suggesting they were maintained over a considerable period of time. This water management may relate to an industrial process on site, as well as simply to drain water from the land to make it habitable. The build-up of silty clay in the base of these features implies they were allowed to silt up naturally and that the flow was relatively slow.

At the southern extent of the site a pond [1355] appears to have been in use from Period 2, and continued to be used through the Hospitaller occupation of the site. The soil micromorphology, soil chemistry and diatom analyses of the pond deposits suggest the depositional environment was either still water or an area of very slow water movement. The pond deposits seem to have been subject to constant management, and were frequently re-cut. The pond would have been consistently shallow and prone to drying out, possibly in part due to it silting up and requiring maintenance. All the evidence points to generally a shallow but clear freshwater pond. Occasional pollution by waste dumping was often contained fragments of coal, charcoal and brick. Variations in phosphate levels indicate latrine or animal waste was also being dumped in the watercourses. Despite the presence of coal and charcoal waste, the lack of any magnetic susceptibility enhancement and heavy metal concentrations, or micro-inclusions indicative of high temperature burning, may suggest a lack of local industrial activity. However, this does not necessarily indicate that the original sediments entering the pond had not been subject to heating or burning, since natural gleying processes (leading to loss of Fe) within the pond may have diluted the anthropogenic signature (Crowther, 2003). Equally later re-cutting of the pond and associated ditches may have removed evidence of earlier iron working activity on the site

Building 3 represented the fragmentary remains of a three-bayed structure. The size and layout of the structure may suggest a domestic dwelling, however it was not possible to identify specific activity areas. “No floors levels of the three-bayed structure were present in 1996 and indeed, it appears that upper levels had been removed by farming activity, prior to 1970” (Wilson 2000: 40). The layout of the Period 3 buildings represents a departure from the early Templar farmstead; Building 3 and its associated cobbled surfaces sealed a number of inter-cutting pits dated to Period 2.

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Cobbling to the north and west of Building 3 formed a rough surface overlaying earlier (Period 2) postholes. These cobbled surfaces appear to have been associated with more ephemeral timber buildings, the foundations of which were represented by to beam slots [1061], [1063] and associated postholes. The cobbling appears to represent external yard areas and the timber buildings may have been workshops or arm buildings. The northern cobbled area contained a large millstone, this may have been brought to the site and there is no evidence that it was associated with any of the structures excavated on the site.

To the south Building 4 had been heavily disturbed by repeated stone robbing and later intrusions. The stratigraphic relationship between Buildings 3 and 4 was not clear but it seems likely they would have been part of one continuous range. There was no evidence of pottery production on the site, however two kiln breaks had been incorporated into a possible heath or internal wall of Building 4. The bricks are perforated by multiple holes, and would have originally been used in the floor of an oven or kiln structure, the holes allowing hot air to pass into a chamber above. Similar bricks were found associated with the pottery and tile kilns at Chilvers Coton (Mayes and Scott 1984, 167–70, kilns 28, 29, 32a-b). It appears small numbers of kiln bricks were being recycled as building material on the site,

Throughout the medieval period the southern edges of the area of habitation appear to have been defined by a series of east-west aligned ditches (Ditches 1-3), directly to the north of the pond. Linear feature [1051] may represent a hedgeline, which would again act as an east-west aligned division. An area of cobbles (2029) was recorded to the east of Building 3, with areas of tree-rooting on either side of it. This appears to have been a track or driveway in the later medieval period, possibly representing the main entrance to the site at this time.

Most of the medieval pottery appears to have been produced locally as part of the Chilvers Coton industry. Small quantity of Chilvers Coton fabric C kiln waste and poor quality vessels, which are seconds are being used on the site. Vessels which are seconds include a jar with warped everted rim and a jar base on which the glaze has crawled and shrunk. Unstratified finds include clay waste and a Cistercian ware mug fragment with kiln scar on the base. A mug base in Midlands purple ware from [1098] has kiln scars on the underside of the base and is chipped at the base angle as if it had to be separated from the other pot post-firing. Two fine whiteware bases from [1062] and [1098] that were recorded as Midlands yellow ware but have a kiln scars and traces of brown glaze on the underside of the base, suggesting that they too were locally made.

The fabrics of the medieval ceramic building material recovered from the site have been compared to pottery fabrics in the regional reference collections from Warwickshire, Coventry and Birmingham. Only one definite match was identified, tile fabric WH1 clearly comes from the same source as the pottery in fabric CCC (Chilvers Coton type C), indicating manufacture of both tile and pottery at Chilvers Coton.

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8.7 The Later Medieval and Early Post-Medieval Period

By the 16th century the manor land, while still owned the Knights Hospitallers, was leased to other parties, specifically the Augustinian house of Erbury Priory and Sir Edward Grey[20]. In a conveyance of 1567 the manor is now referred to as the "Capital Messuage known as the Temple". In 1540 after the dissolution of the monasteries, the land was taken over again by the crown and sold on. The property continued in use as a substantial farm until the early 17th century, although many of the original building were probably in a fairly derelict state by this time. During the second half of the 16th century successive occupants, tenants and owners of Temple Hall were farmers of considerable wealth and substance, although this is not necessarily reflected in the archaeological record. It may be inferred from the documentary evidence that Temple Hall farm and St. John's manor began to regain status and prosperity in the late 15th century, which was maintained until the late 16th century, at which time it was the court house of the manor. (Wilson forthcoming).

In the centre of the site an enigmatic feature consisted of a large north-south aligned linear cut [1099], which contained timbers (1289) and (1290) as well as staining associated with decayed timbers. The feature included in Period 4 on due to its stratigraphic location. The pottery and tile recovered from the feature was of late medieval or early post-medieval date. The feature appears to have been associated with the increasingly industrial use of the site in the post-medieval period. It is likely that this feature is associated with water management, possible a timber shoot or sluice gate. The lack of any channels running into or out of the feature is frustrating, however it is possible, given the variegated nature of the natural deposits, that ephemeral channels were missed during the excavation. A timber drain at Bordesley Abbey (Astill et al 2004: 128-9) provides a possible analogy for this feature, but is of 12th century date.

8.8 Early (17th Century) Industrial Disturbance

In the early 17th century it is likely that further building material robbing took place among the buildings of the derelict farm. A timber-lined trough in cut (1099) dates from this period, and relates to the increasing industrial exploitation of the meadow. In his Court of Survey document Sir Richard Newdigate describes the extent of his estates in the late 17th century. The Manor formally owned by the Templars is described, and the Manor house is derelict, or even demolished by this time. To the east of the site of the Templar manor house a pool has been recently made to run a "coalpit water wheel"

Archaeologically this was recorded as Period 4 and is represented by a series of north-south aligned ditches recorded on the eastern half of the site. A watching brief to the south of the excavation area recorded extensive truncation, some of which may have been associated with the mine and millpond of this period.

[20] See also "The manor House of the Knights Templars at Chilvers Coton, North Warwickshire: New Identification" by M.D. Wilson, in *West Midlands Archaeology*, Volume 40, 1997.

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8.9 Modern Industrial Disturbance

A wide range of modern industrial disturbance was recorded on the site. The most obvious of these were an extraction pit along the southern edge of the site, the brick-works in the western part of the site, the industrial light railway and its embankment crossing the eastern part of the site. In addition there were large dumps of coalmining and brick-making waste over many parts of the site. Some of these activities, such as clay extraction and coal mining, had their origins in the earlier medieval and post-medieval periods.

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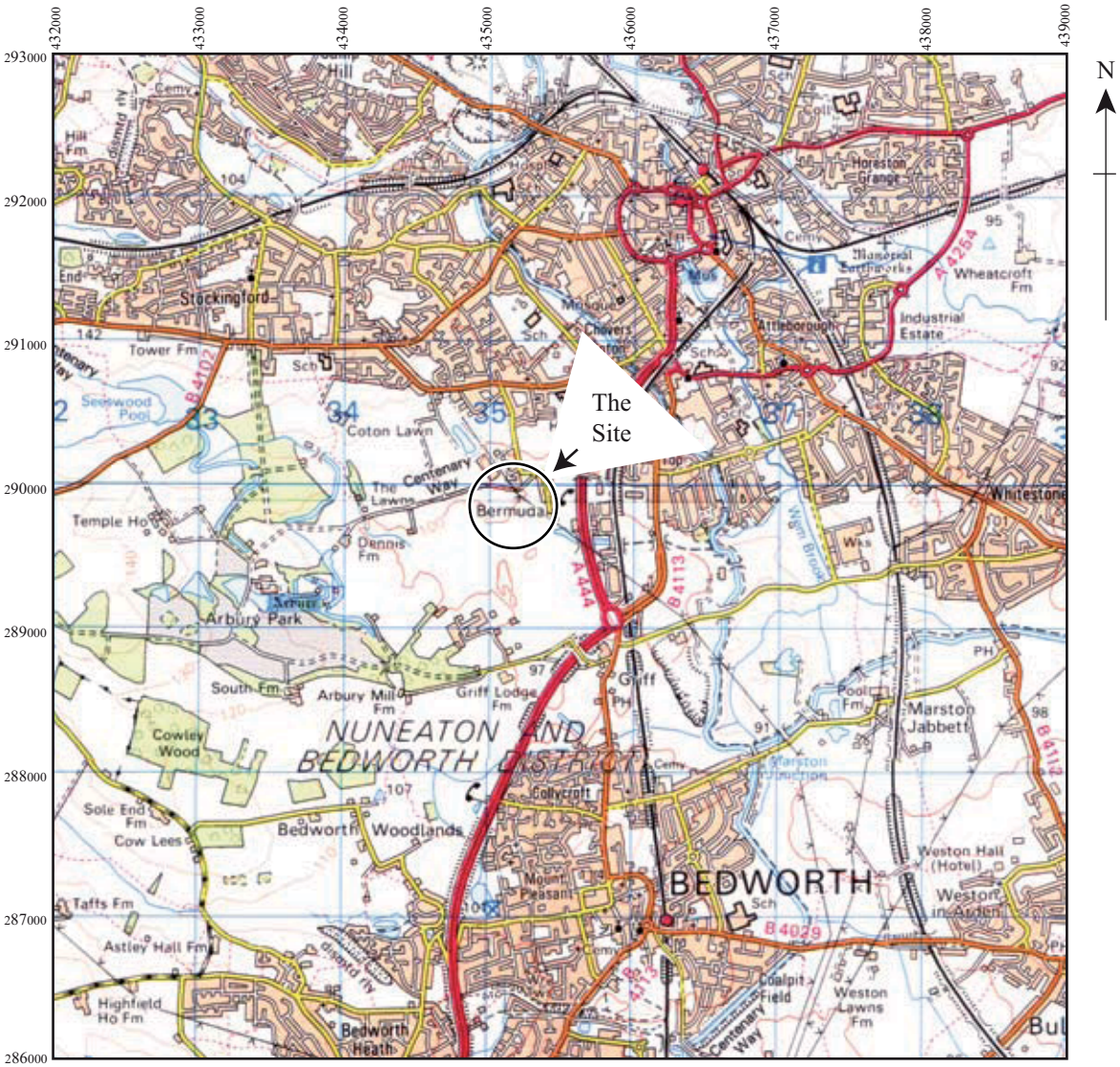
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Abbreviations used

WRCO	Warwick County Records Office
NC	Newdigate Collection (held by the Warwick County Records Office)
PRO	The National Archives, Kew
Cal. Pat. Rolls	Calendar of Patent Rolls
FofF	Feet of Fines
Chanc. Inq. Post. Mort	Inquisitions post mortem
Trin.	Trinity Term or Sessions
Mich.	Michaelmas Term or Sessions

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Based on the Ordnance Survey's 1:50 000 Landranger map of 1997
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500m 0 2 km

1:50 000

Figure 1: Site Location

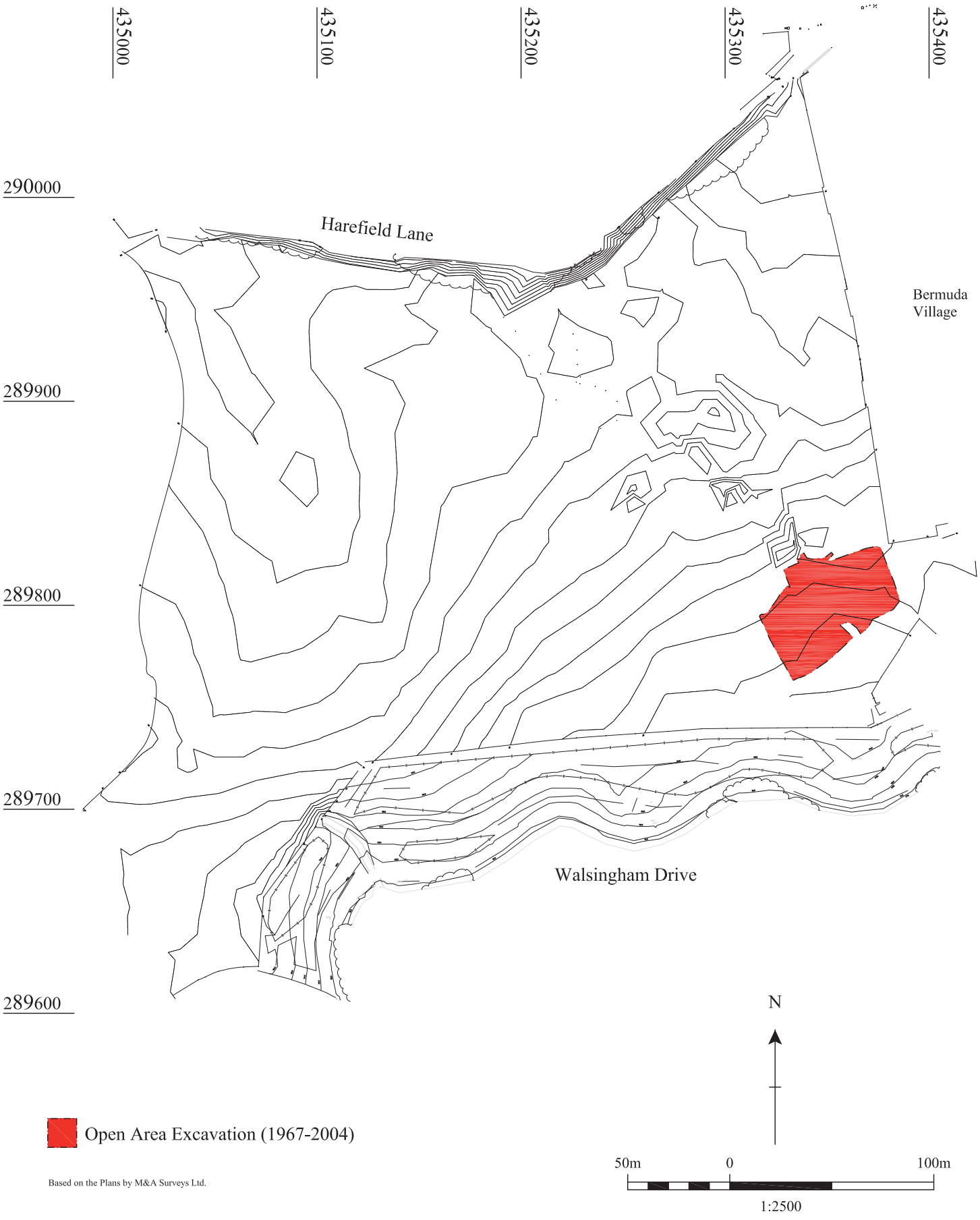


Figure 2: Detailed Excavation Areas Location

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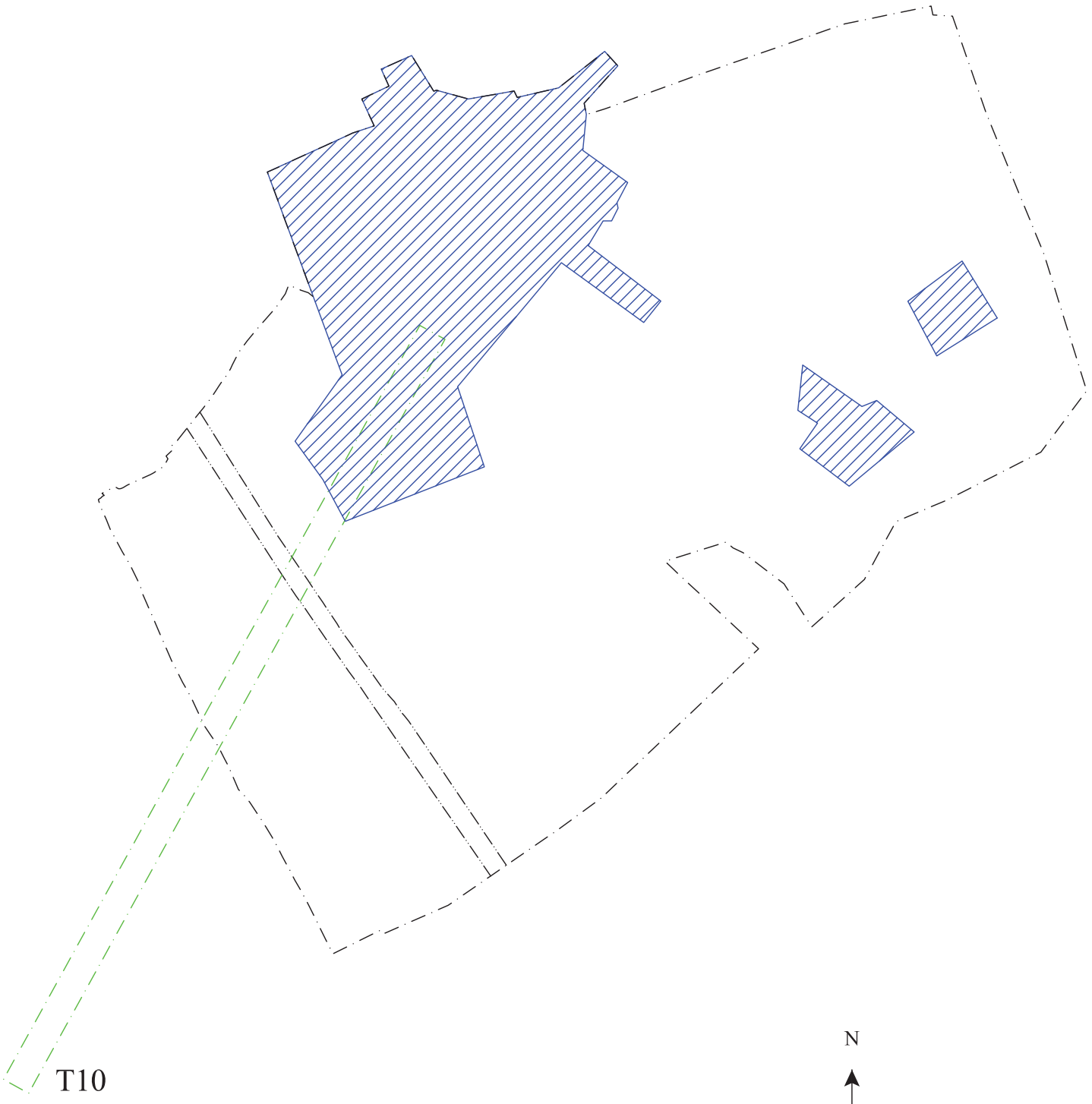


Figure 3: Phases of Archaeological Excavation Location Plan

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Figure 4: Plan of Early Medieval Features (Period 2)

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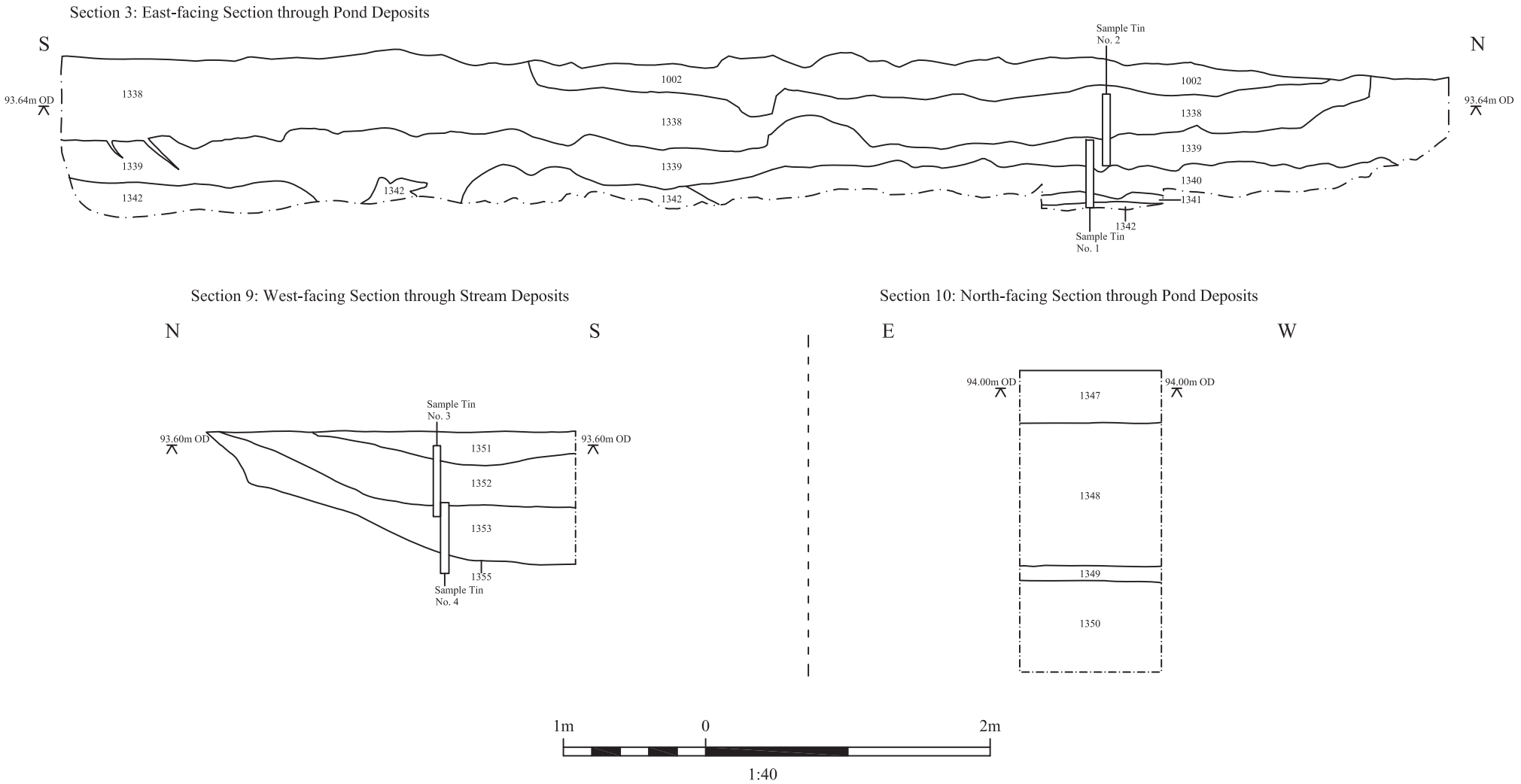


Figure 5: Sections through Pond and Stream Deposits

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Figure 6: Plan of Late Medieval Features (Period 3)

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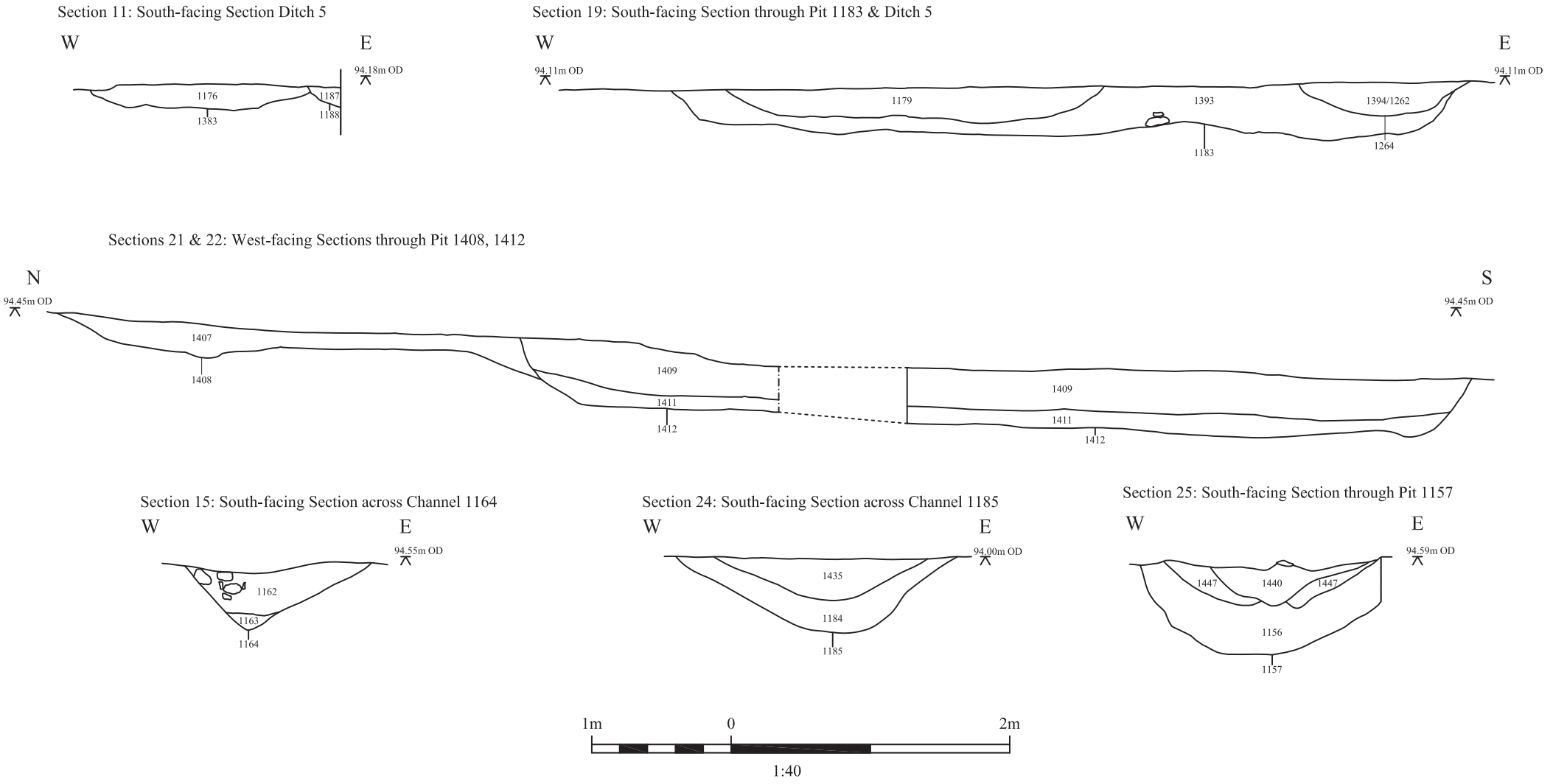


Figure 7: Sections through Ditches 4 & 5

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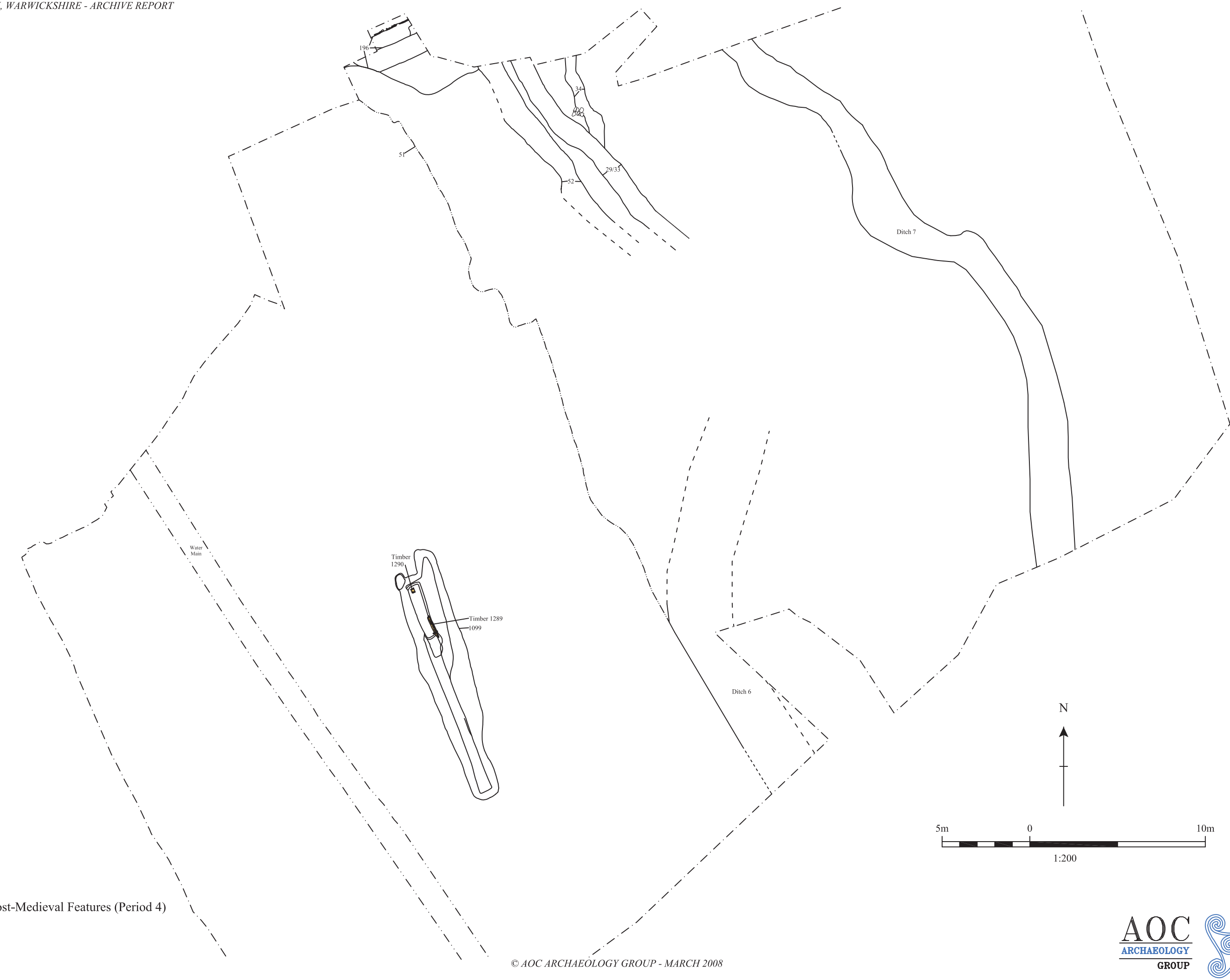


Figure 8: Plan of Post-Medieval Features (Period 4)

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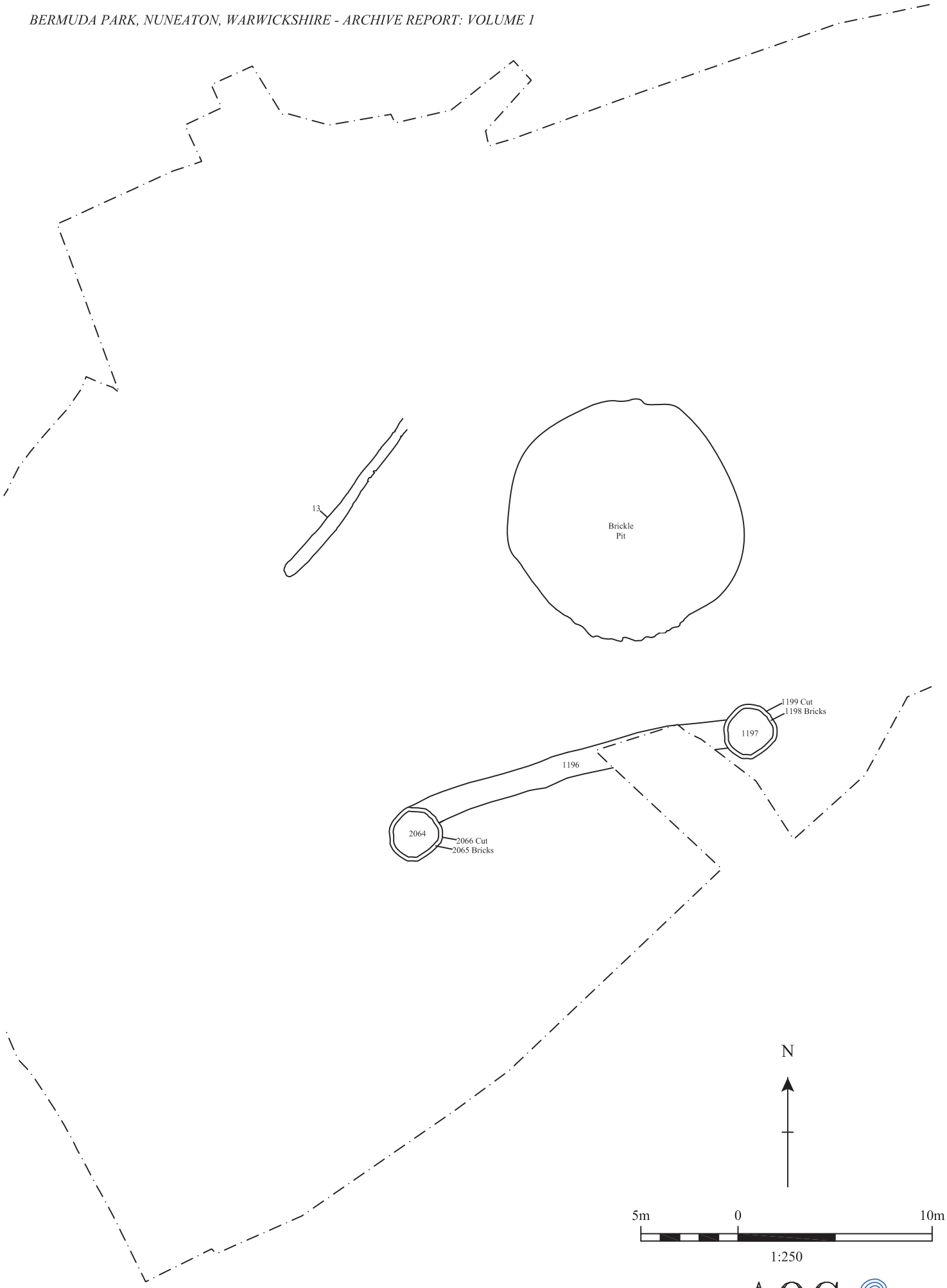


Figure 9: Plan of Modern Features (Phase 5)

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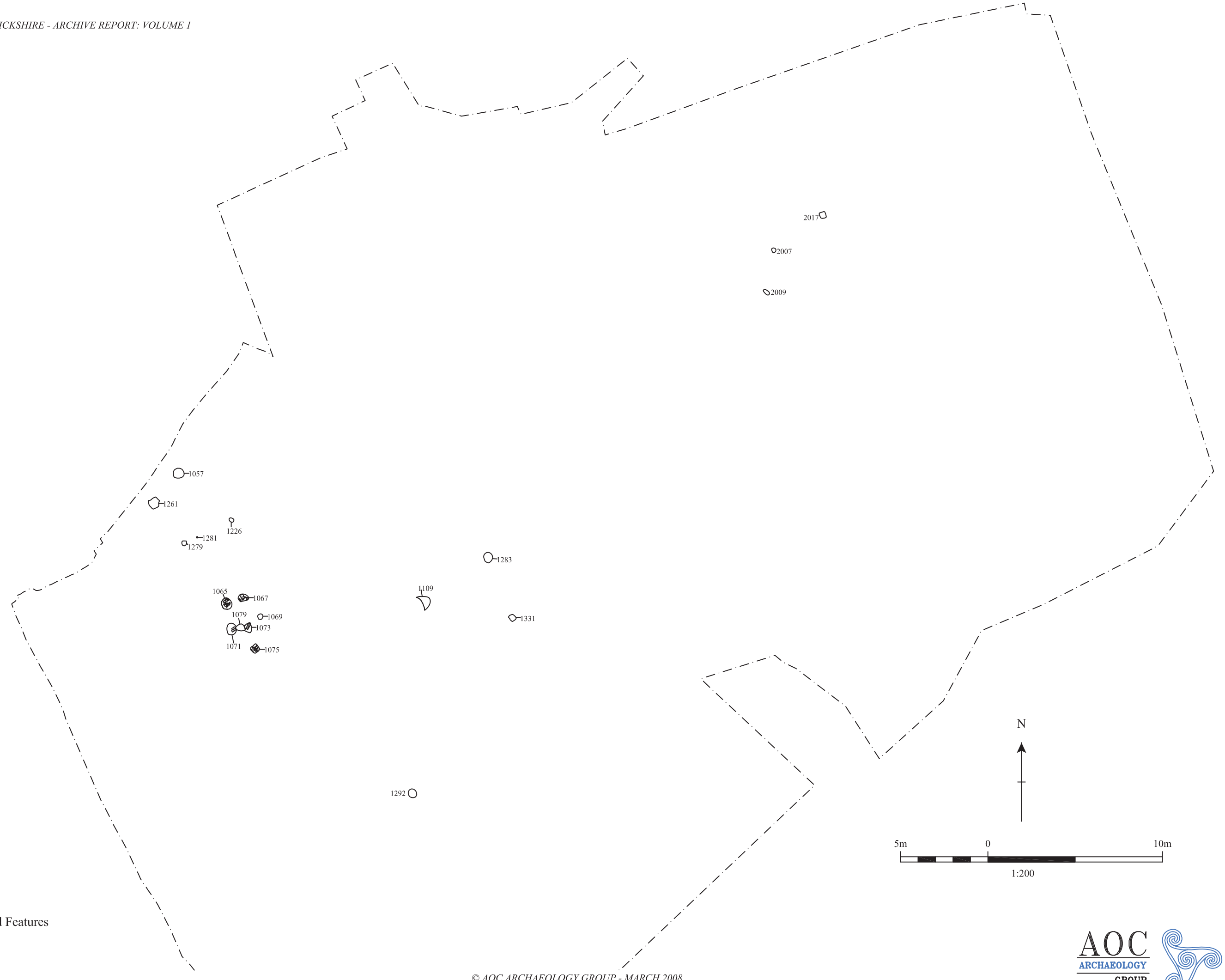


Figure 10: Plan of Undated Features

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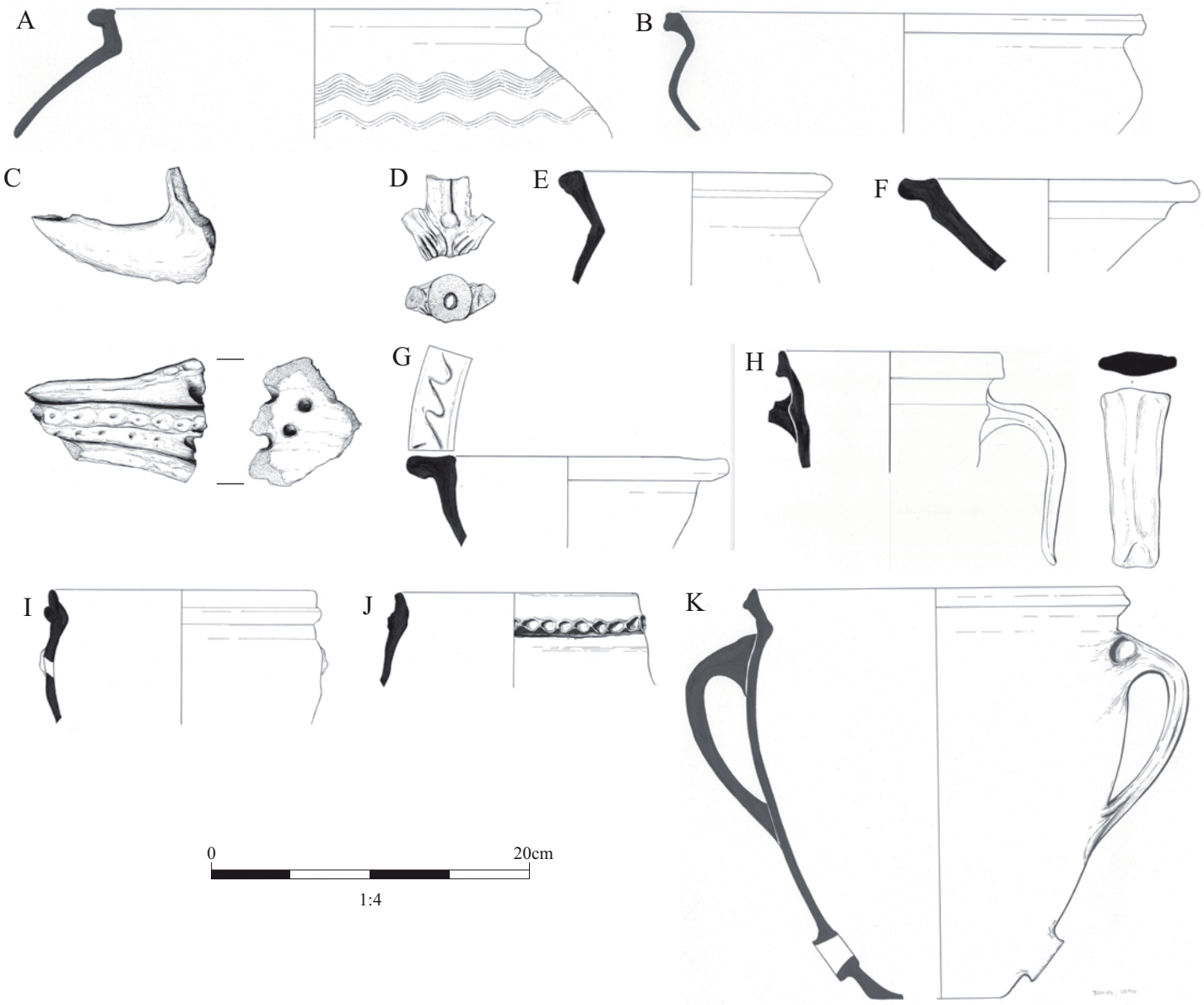


Fig A: Cooking pot in fabric IGN1, with combed wavy line decoration. Context [1332].
Fig B: Globular cooking pot in fabric IGN2. Context [1329].
Fig C: Decorated Curfew handle in fabric IGN2. Context [2002].
Fig D: Tubular spout from an anthropomorphic jug in fabric WW3. Context [1327].
Fig E: Wide mouthed bowl in Chilvers Coton fabric C. Context [1098].
Fig F: Wide mouthed bowl in Chilvers Coton fabric C. Context [2001].
Fig G: Wide mouthed bowl in Chilvers Coton fabric C, with incised line decoration. Context [1022].
Fig H: Rounded jug with tall neck and collared rim in Chilvers Coton fabric C. Context [1076].
Fig I: Handled jar in Chilvers Coton fabric D. Context [1098].
Fig J: Butterpot/jar in Chilvers Coton fabric D, with thumbed cordon on the rim exterior. Context [1022]
Fig K: Handled jar in Chilvers Coton fabric D . Context [1094].

Figure 11: Pottery Illustrations

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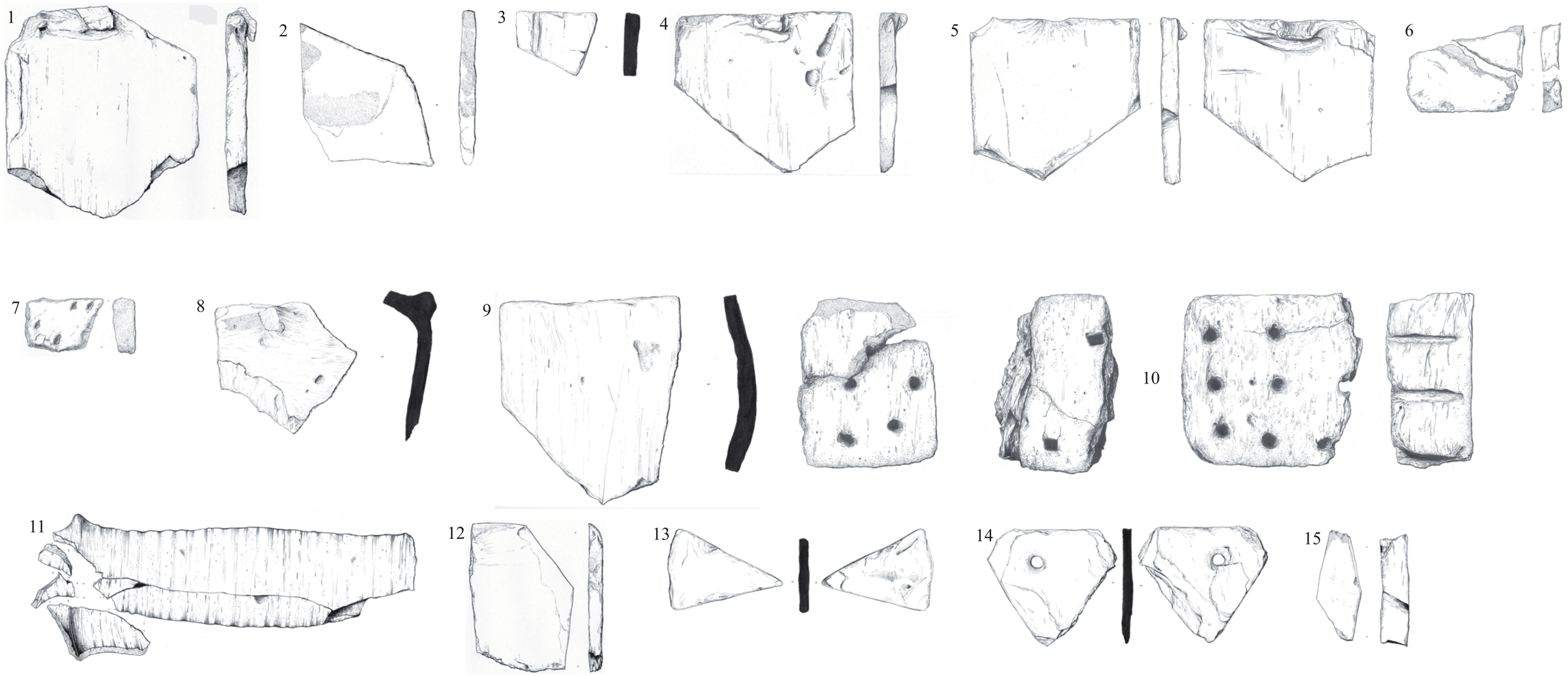


Fig 1: Nib/peg tile with nib and square nail holes in fabric WH1. Context (1153)
Fig 2: Nib/peg tile with light brown glaze 'runs' on the top and edge. Context (1153).
Fig 3: Probable nib/peg tile in fabric WH1, with possible batch mark. Context (1001)
Fig 5: Partly complete nib tile in fabric WH3, with probable bird foot print. Context (1329)
Fig 4: Partly complete nib tile in fabric WH3, with deep groove along base of the nib. Context (2030)
Fig 6: Green glazed ridge tile in fabric WH5. Context (1391)
Fig 7: Green glazed ridge tile in fabric WH5, with slab marks. Context (1001)
Fig 8: Decorated green glazed ridge tile in fabric WH1. Context (2030)
Fig 9: Ridge tile in fabric WH2. Context (1002)
Fig 10: Two perforated kiln bricks. Context (1322)
Fig 11: Socketed water Pipe in fabric WH2. Context (1001)
Fig 12: Grey siltstone flooring with cut edges. Context (1001)
Fig 13: Triangular grey and dark red siltstone roofing. Context (2030)
Fig 14: Triangular grey siltstone roofing with nail hole. Context (1131)
Fig 15: Probable paving stone cut from grey siltstone. Context (1062)

Figure 12: Ceramic Building Materials Illustrations

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APPENDIX A: CONTEXT REGISTER

Context No.	Context Description	Length	Width	Depth
1001	Unstratified finds	All trench	All trench	*
1002	Topsoil	All trench	All trench	0.30-0.80m
1003	Layer, cobbled surface associated with (1004)	490mm	420mm	120mm
1004	Wall foundation	420mm	330mm	190mm
1005	Backfill of test trench	*	*	1.00m
1006	Remains of test trench cut	4.50m	*	*
1007	Natural deposit, light gray sand	NFE	NFE	NFE
1008	Interface between natural deposits, recorded as a cut	1.20m	0.70m	NFE
1009	Backfill of (1010)	1.20m	0.38m	*
1010	Cut of feature dug in trial trench	1.20m	0.38m	*
1011	Backfill of modern cut	0.70m	0.30m	*
1012	Cut of modern feature	0.70m	0.30m	*
1013	Cut of modern feature	1.20m	0.50m	*
1014	Cut of modern feature	1.20m	0.50m	*
1015	Natural deposit, mid-brownish grey clayey sand	4.00m	2.00m	*
1016	Backfill of several modern features	3.20m	4.00m	*
1017	Cuts for trial trench dug features	3.20m	4.00m	*
1018	Backfill of modern cut feature	1.45m	0.50m	*
1019	Cut of modern feature	1.45m	0.50m	*
1020	Possible fill/variation in natural	9.00m	1.20m	*
1021	Interface between natural deposits, recorded as a cut	9.00m	1.20m	*
1022	Layer, Cobbled surface	200mm	100mm	50mm
1023	Pit fill	1.10m	0.90m	0.28m
1024	Cut of pit	1.10m	0.90m	0.28m
1025	Layer, leveling surface	2.70m	2.20m	0.09m
1026	Linear feature running NE-SW	*	*	*
1027	Fill of linear gully	8.10m	0.50m	0.18m
1028	Cut of linear gully	8.10m	0.50m	0.18m
1029	Pit fill	*	*	*
1030	Cut of pit	*	*	*
1031	Modern pit fill	*	*	*
1032	Modern cut of pit	*	*	*
1033	Fill of linear feature	3.00m	0.94m	0.63m
1034	Natural clay deposit	*	*	*
1035	Tertiary fill of linear feature	*	*	*
1036	Secondary fill of linear feature	0.75m	0.25m	0.17m
1037	Primary fill of linear feature	*	*	*
1038	Cut of ditch	*	*	*
1039	Fill of posthole	0.15m	0.10m	0.08m
1040	Cut of Posthole	0.45m	0.24m	0.33m
1041	Fill	0.45m	0.47m	0.25m
1042	Cut	0.45m	0.47m	0.25m
1043	Fill	*	*	0.25m
1044	Cut	*	*	0.25m
1045	Fill	0.20m	0.32m	*
1046	Cut	0.20m	0.32m	*
1047	Post-Medieval pit cut	3.00m	1.94m	0.63m
1048	Variation in natural drift deposits	*	1.00m	*
1049	Interface between natural deposits	*	1.00m	*
1050	Fill of hedge-line	6.60m	0.50m	0.30m
1051	Possible hedge-line	6.60m	0.50m	0.30m
1052	Shallow variation in natural clay	0.40m	0.32m	*
1053	Undulation / cut	0.40m	0.32m	0.04m
1054	Fill of pit	1.60m	1.08m	0.28m
1055	Cut of pit	1.60m	1.08m	0.28m
1056	Fill of posthole	0.60m	0.55m	0.08m

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Context No.	Context Description	Length	Width	Depth
1057	Cut of posthole	0.60m	0.55m	0.08m
1058	Top layer of cobbled surface	1.80m	1.40m	*
1059	Edge of cobbled surface	1.80m	1.40m	*
1060	Fill of plank-built wall trench	2.55m	0.19m	0.20m
1061	Cut of plank-built wall trench	2.55m	0.19m	0.20m
1062	Fill of possible beam slot	5.00m	0.40m	0.24m
1063	Cut of possible beam slot	5.00m	0.40m	0.24m
1064	Fill of posthole	0.62m	0.54m	0.26m
1065	Cut of posthole	0.62m	0.54m	0.26m
1066	Fill of posthole	0.49m	0.28m	0.28m
1067	Cut of posthole	0.49m	0.28m	0.28m
1068	Fill of posthole	0.37m	0.30m	0.08m
1069	Cut of posthole	0.37m	0.30m	0.08m
1070	Fill of posthole	0.69m	0.57m	0.20m
1071	Cut of posthole	0.69m	0.57m	0.20m
1072	Fill of posthole	0.55m	0.48m	0.36m
1073	Cut of posthole	0.55m	0.48m	0.36m
1074	Fill of posthole	0.48m	0.42m	0.12m
1075	Cut of posthole	0.48m	0.42m	0.12m
1076	Fill of irregular pit	0.98m	0.83m	0.44m
1077	Cut of irregular pit	0.98m	0.83m	0.44m
1078	Fill of posthole	0.32m	0.28m	0.15m
1079	Cut of posthole	0.32m	0.28m	0.15m
1080	Modern backfill	0.60m	0.30m	0.07m
1081	Cut of modern feature	0.60m	0.30m	0.07m
1082	Fill of posthole	0.33m	0.23m	0.12m
1083	Cut of posthole	0.33m	0.23m	0.12m
1084	Backfill of cut feature	1.00m	0.60m	*
1085	Cut of feature	1.00m	0.60m	*
1086	Backfill of cut feature	1.20m	1.00m	*
1087	Cut of feature	1.20m	1.00m	*
1088	Backfill of cut feature	1.00m	0.50m	*
1089	Cut of feature	1.00m	0.50m	*
1090	Backfill of linear cut feature	3.50m	0.65m	*
1091	Cut of linear feature	3.50m	0.65m	*
1092	Fill of linear gully	8.10m	0.50m	0.18m
1093	Cut of linear gully	8.10m	0.50m	0.18m
1094	Fill of posthole	1.25m	*	0.40m
1095	Cut of posthole	1.27m	*	0.57m
1096	Geomorphological anomaly	2.00m	1.20m	*
1097	Geomorphological anomaly	2.00m	1.20m	*
1098	Fill of ditch	14.00m	2.60m	0.45m
1099	Ditch cut	14.00m	2.60m	0.96m
1100	Upper fill of ditch	3.20m	1.00m	*
1101	Cut of ditch	3.20m	1.00m	*
1102	Primary fill of ditch	12.10m	0.80m	0.50m
1103	Cut of ditch	2.50m	0.70m	*
1104	Fill of ditch	1.60m	1.00m	*
1105	Cut of ditch	1.60m	1.00m	*
1106	Fill of ditch	1.50m	*	0.27m
1107	Cut of ditch	*	2.20m	0.65m
1108	Secondary fill of pit	0.65m	0.45m	0.15m
1109	Cut of pit	*	*	*
1110	Fill of pit	1.65m	1.40m	0.98m
1111	Cut of pit	1.65m	1.40m	0.98m
1112	Deposit associated with (1002)	1.40m	1.20m	*
1113	Natural depression in subsoil	1.40m	1.20m	0.02m
1114	Topsoil remnant	0.60m	0.30m	*
1115	Depression in natural clay	0.60m	0.30m	*
1116	Fill of ditch	0.90m	2.30m	*
1117	Interface between natural deposits, recorded as a cut	0.90m	2.30m	*

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Context No.	Context Description	Length	Width	Depth
1118	Variation in natural layer	4.20m	2.2m	*
1119	Overburden remnant	0.60m	0.60m	*
1120	Depression in natural layers	0.60m	0.60m	*
1121	Fill of posthole	0.20m	0.20m	*
1122	Cut of posthole	0.20m	0.20m	*
1123	Clay deposit	0.60m	1.10m	*
1124	Spread interface, recorded as cut	0.60m	1.10m	*
1125	Fill of tree-root hole	0.98m	2.54m	0.10m
1126	Cut of tree-root hole	0.98m	2.54m	0.10m
1127	Natural clay deposit	*	*	*
1128	Wall foundation	1.80m	0.50m	*
1129	Deposit associated with (1128)	0.30m	0.25m	0.10m
1130	Interface recorded as cut	*	*	*
1131	Fill of wall-foundation cut	6.78m	1.30m	0.35m
1132	Wall foundation cut	6.78m	1.30m	0.35m
1133	Deposit	1.00m	0.40m	0.10m
1134	Deposit	1.00m	0.60m	0.10m
1135	Fill of linear feature	1.56m	0.14m	0.07m
1136	Cut of linear feature	1.56m	0.14m	0.07m
1137	Deposit of mixed demolition	3.20m	1.40m	0.10m
1138	Natural clay deposit	*	*	*
1139	Subsoil overburden remnant	1.80m	1.00m	*
1140	Subsoil remnant recorded as having cut	1.80m	1.00m	*
1141	Natural clay deposits	2.60m	3.20m	*
1142	Natural deposit variant	5.60m	2.40m	*
1143	Sandstone wall foundation	*	*	*
1144	Robbed sandstone wall foundation	4.40m	0.80m	*
1145	Deposit	2.80m	0.26m	0.20m
1146	Secondary fill of linear feature	6.10m	0.30m	0.19m
1147	Linear cut	6.10m	0.30m	0.20m
1148	Subsoil deposit	4.00m	2.00m	*
1149	Subsoil deposit	7.00m	5.00m	*
1150	Natural deposit	0.90m	0.90m	*
1151	Demolition deposit	2.30m	2.50m	0.30m
1152	Deposit	2.50m	0.44m	0.30m
1153	Hearth / tile structure	1.50m	1.60m	*
1154	Fill of linear feature / beam slot	1.80m	0.22m	*
1155	Linear cut	1.80m	0.22m	*
1156	Primary fill of ditch	0.30m	1.73m	0.67m
1157	Cut of ditch	0.30m	1.73m	0.67m
1158	Fill of post hole	0.68m	0.76m	0.46m
1159	Cut of posthole	0.68m	0.76m	0.46m
1160	Masonry: wall foundation	3.00m	0.80m	0.40m
1161	Layer	7.50m	*	0.25m
1162	Coal deposit	1.80m	0.45m	0.05m
1163	Waterlain deposit	4.50m	1.60m	*
1164	Coal deposit	2.00m	0.54m	*
1165	Cut: impression left by (1164)	2.00m	0.54m	*
1166	Dumped deposit	2.40m	3.20m	0.20m
1167	Natural sand	1.00m	1.00m	*
1168	Cut: depression left by (1167)	1.00m	1.00m	*
1169	Timber stake	0.37m	0.10m	0.90m
1170	Clay deposit	7.50m	2.20m	*
1171	Backfill of evaluation trench	2.20m	0.20m	*
1172	Backfill variant, recorded as cut	2.20m	0.22m	0.10m
1173	Fill of channel	5.40m	1.20m	0.23m
1174	Cut of channel	5.40m	1.20m	0.23m
1175	Clay deposit	3.00m	0.60m	0.10m
1176	Fill of water channel	*	1.60m	0.20m
1177	Fill of modern water main	38.00m	1.30m	1.20m
1178	Cut of water main trench	38.00m	1.30m	1.20m
1179	Dumped deposit	2.70m	1.50m	0.35m

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Context No.	Context Description	Length	Width	Depth
1180	Fill of water trench	4.50m	1.15m	0.12m
1181	Cut of water channel	4.50m	1.15m	*
1182	Variable waterlain deposit	3.50m	0.90m	0.35m
1183	Cut of water channel	1.50m	6.60m	0.48m
1184	Fill of channel	1.90m	1.00m	0.22m
1185	Cut of channel	1.90m	1.00m	0.22m
1186	Channel overflow deposit	15.00m +	1.20m	0.50m
1187	Fill of channel	10.00m	1.00m	0.40m
1188	Cut of channel	10.00m	1.00m	0.40m
1189	Clay deposit	2.00m	0.40m	0.10m
1190	Fill of channel	3.90m	1.50m	*
1191	Cut of channel	3.90m	1.50m	1.00m
1192	Fill of channel	10.00m	1.00m	0.40m
1193	Cut of channel	10.00m	1.00m	0.40m
1194	Cobbled surface	2.46m	1.46m	*
1195	Fill of brick-lined trough	9.00m	1.20m	*
1196	Cut of modern feature	9.00m	1.20m	*
1197	Backfill of modern well	2.60m	2.60m	*
1198	Modern backfill	2.60m	2.60m	2.00m
1199	Cut of modern feature	2.60m	2.60m	2.00m
1200	Dumped deposit	1.60m	1.50m	0.50m
1201	Fill of modern cut	0.90m	0.45m	*
1202	Cut of modern feature	0.90m	0.45m	*
1203	Backfill of evaluation trench	10.00m	0.50m	*
1204	Cut of evaluation trench	10.00m	0.50m	*
1205	Fill of linear feature	4.55m	3.44m	0.44m
1206	Modern deposit	1.00m	0.60m	*
1207	Depression left by (1206)	1.00m	0.60m	*
1208	External occupation surface	3.80m	1.30m	0.10m
1209	External occupation surface	2.40m	1.70m	0.10m
1210	External occupation surface	2.00m	1.60m	0.10m
1211	External occupation surface	2.20m	0.50m	0.10m
1212	Occupation deposit, recorded as fill	0.90m	0.25m	*
1213	Depression left by (1212)	0.90m	0.25m	*
1214	Deposit, recorded as fill	0.90m	0.30m	0.05m
1215	Depression left by (1214)	0.90m	0.30m	0.05m
1216	Layer	*	*	0.10m
1217	Fill of stream channel	3.00m	0.80m	0.50m
1218	Cut of stream channel	3.00m	0.80m	0.50m
1219	Fill of stream channel	3.40m	1.00m	0.50m
1220	Cut of stream channel	3.40m	1.00m	0.50m
1221	Fill of stream channel	3.00m	1.00m	*
1222	Cut of stream channel	3.00m	1.00m	*
1223	(Context not validated)	*	*	*
1224	(Context not validated)	*	*	*
1225	Fill of posthole	0.32m	0.22m	0.37m
1226	Cut of posthole	0.32m	0.22m	0.37m
1227	Natural sand / clay: glacial till	-	-	-
1228	Fill of posthole and post remnants	0.17m	0.10m	0.43m
1229	Cut of postpipe	0.17m	0.10m	0.43m
1230	Fill of posthole	0.38m	0.34m	0.30m
1231	Cut of posthole	0.38m	0.34m	0.30m
1232	Fill of posthole	0.49m	0.47m	0.37m
1233	Cut of posthole	0.49m	0.47m	0.37m
1234	(Context not validated)	*	*	*
1235	Fill of pit	0.56m	0.46m	0.11m
1236	Cut of pit	0.56m	0.46m	0.11m
1237	Fill of posthole	0.20m	0.14m	0.05m
1238	Cut of posthole	0.20m	0.14m	0.05m
1239	Fill of posthole	0.30m	0.30m	0.08m
1240	Cut of posthole	0.30m	0.30m	0.08m
1241	Fill of posthole	0.36m	0.36m	0.32m

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Context No.	Context Description	Length	Width	Depth
1242	Cut of posthole	0.36m	0.36m	0.32m
1243	Fill of postpipe	0.27m	0.24m	0.23m
1244	Cut of postpipe	0.27m	0.24m	0.23m
1245	Fill of posthole	0.28m	0.27m	0.41m
1246	Cut of posthole	0.28m	0.27m	0.41m
1247	Fill of posthole	0.72m	0.64m	0.40m
1248	Cut of posthole	0.72m	0.64m	0.40m
1249	Remains of timber post	0.20m	0.20m	0.20m
1250	Fill of gully (1026)	5.90m	0.60m	0.10m
1251	Cut of gully	5.90m	0.60m	0.10m
1252	Cut and fill of tree-root holes	0.15m	0.15m	0.10m
1253	Fill of posthole	0.19m	0.18m	0.18m
1254	Cut of posthole	0.19m	0.18m	0.18m
1255	Fill of posthole	0.30m	0.20m	0.06m
1256	Cut of posthole	0.30m	0.20m	0.06m
1257	Layer	14.40m	3.40m	0.12m
1258	Fill of posthole	0.14m	0.18m	0.12m
1259	Cut of posthole	0.14m	0.18m	0.12m
1260	Fill of pit	0.68m	0.63m	0.11m
1261	Cut of pit	0.68m	0.63m	0.11m
1262	Secondary fill of ditch	8.05m	1.34m	0.38m
1263	Primary fill of ditch	5.47m	0.39m	0.13m
1264	Cut of ditch	8.05m	1.34m	0.45m
1265	Fill of shallow ditch	8.05m	1.15m	0.30m
1266	Cut of shallow ditch	8.05m	1.15m	0.30m
1267	Fill of ditch	1.71m	2.68m	0.79m
1268	Cut of ditch	1.71m	2.68m	0.79m
1269	Fill of posthole	0.40m	0.40m	0.27m
1270	Cut of posthole	0.40m	0.40m	0.27m
1271	Primary fill of linear feature, associated with (1333)	*	0.70m	0.31m
1272	Secondary fill of linear, associated with (1334)	*	0.30m	0.08m
1273	Cut of linear feature	4.55m	1.08m	0.44m
1274	Timber post	0.22m	0.13m	0.13m
1275	Primary fill of pit	0.70m	0.70m	0.20m
1276	Fill of pit	0.80m	0.94m	0.17m
1277	Cut of pit	0.80m	0.94m	0.17m
1278	Fill of posthole	0.30m	0.30m	0.14m
1279	Cut of posthole	0.30m	0.30m	0.14m
1280	Fill of stakehole	0.08m	0.08m	0.07m
1281	Cut of stakehole	0.08m	0.08m	0.07m
1282	Fill of posthole	0.55m	0.55m	0.30m
1283	Cut of posthole	0.55m	0.55m	0.30m
1284	Fill of posthole	0.35m	0.35m	0.11m
1285	Cut of posthole	0.35m	0.35m	0.11m
1286	Fill of gully	0.20m	0.30m	0.15m
1287	Cut of gully	0.20m	0.30m	0.15m
1288	Primary fill of pit	0.85m	0.65m	0.10m
1289	Timber plank	1.33m	1.50m	0.40m
1290	Timber plank	0.20m	0.22m	0.16m
1291	Fill of posthole	0.36m	0.27m	0.12m
1292	Cut of posthole	0.36m	0.27m	0.12m
1293	Cut of pit	2.32m	1.48m	0.61m
1294	Fill of pit	2.32m	1.48m	0.61m
1295	Deposit of rocks	4.00m	3.00m	*
1296	Fill of stakehole	0.12m	0.12m	0.43m
1297	Cut of stakehole	0.12m	0.12m	0.43m
1298	Fill of posthole	0.36m	0.36m	0.28m
1299	Cut of posthole	0.36m	0.36m	0.28m
1300	Cut of posthole	0.64m	0.52m	0.22m
1301	Fill of posthole	0.64m	0.52m	0.22m
1302	Fill of ditch	0.80m	1.00m	0.12m
1303	Fill of ditch	1.70m	1.80m	0.18m

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Context No.	Context Description	Length	Width	Depth
1304	Secondary fill of ditch	2.46m	1.80m	0.13m
1305	Primary fill of ditch	0.70m	1.80m	0.05m
1306	Primary fill of ditch	3.80m	1.00m	0.15m
1307	Cut of shallow ditch	3.80m	1.00m	0.15m
1308	Fill of ditch	3.64m	0.96m	0.48m
1309	Cut of ditch	3.64m	0.96m	0.48m
1310	(Context not validated)	*	*	*
1311	(Context not validated)	*	*	*
1312	Layer	2.48m	1.59m	*
1313	Fill of ditch	1.20m	0.56m	0.52m
1314	Cut of ditch	1.20m	0.56m	0.52m
1315	Fill of linear feature	1.86m	1.25m	0.10m
1316	Cut of linear feature	1.86m	1.25m	0.10m
1317	Fill of ditch	12.58m	0.90m	0.28m
1318	Cut of ditch	12.58m	0.90m	0.28m
1319	Layer	1.80m	1.20m	*
1320	Wall foundation	1.22m	1.19m	*
1321	Wall foundation	1.73m	0.59m	0.58m
1322	Internal wall foundation	1.83m	0.49m	*
1323	Cobbled surface of passageway	1.54m	0.57m	*
1324	Layer	1.54m	0.57m	0.35m
1325	Cobbled floor surface	1.26m	0.75m	*
1326	Occupation layer	1.26m	0.75m	0.30m
1327	Burnt deposit	0.82m	0.64m	0.03m
1328	Make-up layer for cobbled surface	2.46m	1.46m	0.05m
1329	Dumped rock deposit	7.40m	1.70m	0.90m
1330	Fill of posthole	0.38m	0.37m	0.11m
1331	Cut of posthole	0.38m	0.37m	0.11m
1332	Fill of ditch	8.80m	1.46m	0.36m
1333	Secondary fill of ditch	*	0.70m	0.31m
1334	Primary fill of ditch	*	0.30m	0.08m
1335	Cut of ditch	8.80m	1.40m	0.64m
1336	Make-up layer for structure interior	*	*	0.35m
1337	Layer	*	*	0.04m
1338	Modern dumped soils	*	*	0.26m
1339	Alluvial deposit	*	*	0.28m
1340	Alluvial deposit	*	*	0.20m
1341	Alluvial deposit	*	*	0.70m
1342	Natural layer	*	*	0.20m
1343	Cut of posthole	0.44m	0.32m	0.16m
1344	Fill of posthole	0.44m	0.32m	0.16m
1345	Cut of posthole	0.28m	0.26m	0.19m
1346	Fill of posthole	0.28m	0.26m	0.19m
1347	Coal waste deposit	*	*	0.40m
1348	Dumped clay deposit: "clod"	*	*	1.00m
1349	Decayed organic deposit	2.00m	*	0.15m
1350	Natural blue-grey clay	2.00m	*	-
1351	Dumped deposit	2.50m	*	0.30m
1352	Dumped deposit	2.50m	*	0.40m
1353	Fill of stream channel	2.50m	*	0.40m
1354	Natural waterlogged clay	2.50m	*	2.50m
1355	Cut of stream channel		*	1.00m
1356	Coal-rich backfill of (1357)	0.21m	0.22m	0.13m
1357	Very modern cut	0.21m	0.22m	0.13m
1358	Fill of posthole	0.42m	0.32m	0.18m
1359	Cut of posthole	1.05m	0.75m	0.23m
1360	Fill of series of root holes	2.10m	1.60m	0.08m
1361	Cuts for series of root holes	2.10m	1.60m	0.08m
1362	Deposit: floor surface	0.94m	0.94m	0.06m
1363	Fill of drain feature	0.30m	0.30m	0.70m
1364	Stonework fill of drain feature	0.50m	0.40m	0.33m
1365	Cut of drain feature	0.30m	0.30m	0.70m

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Context No.	Context Description	Length	Width	Depth
1366	Fill of feature	0.46m	0.18m	0.06m
1367	Cut of feature	0.46m	0.18m	0.06m
1368	Fill of posthole	0.38m	0.40m	0.18m
1369	Cut of posthole	0.38m	0.40m	0.18m
1370	Dumped rock deposit	2.40m	1.8m	0.25m
1371	Variant within (1374), recorded as cut	0.61m	0.48m	0.10m
1372	Demolition spread, recorded as fill	0.61m	0.48m	*
1373	Fill of posthole	0.18m	0.20m	0.46m
1374	Fill of wall cut, same as (1450)	2.20m	0.45m	0.12m
1375	Wall cut, same as (1451)	2.20m	0.45m	0.12m
1376	Fill of pit	0.70m	0.65m	0.22m
1377	Cut of pit	0.70m	0.65m	0.22m
1378	Bedding layer of floor surface	0.94m	0.94m	0.06m
1379	Timber drain lining	0.27m	0.23m	*
1380	Fill of posthole	0.46m	0.42m	0.20m
1381	Fill of posthole	0.30m	0.24m	0.16m
1382	Cut of posthole	0.24m	0.16m	0.30m
1383	Cut of stream channel	20.0m	1.60m	0.20m
1384	Spread of stones	1.15m	0.80m	0.13m
1385	Layer of sand	1.30m	0.92m	0.05m
1386	Cut of pit	1.43m	1.10m	0.30m
1387	Fill of cut (1147)	6.10m	0.30m	0.20m
1388	Cut for 1389	0.52m	0.29m	0.14m
1389	Burnt fill of 1388	0.52m	0.29m	0.14m
1390	Tile hearth	0.45m	0.35m	0.06m
1391	Rubble deposit	4.06m	6.80m	0.39m
1392	Burnt deposit	2.02m	2.16m	0.11m
1393	Fill of channel	1.50m	0.90m	0.37m
1394	Clay deposit	1.50m	1.20m	0.23m
1395	Cut of posthole	0.20m	0.30m	0.20m
1396	Fill of posthole	0.20m	0.30m	0.20m
1397	Burnt demolition deposit	0.65m	0.44m	0.08m
1398	Clay deposit with charcoal	*	*	*
1399	Fill for several stake holes, recorded as one context	4.80m	4.10m	0.09m
1400	Cut for several stake holes, recorded as one context	4.80m	4.10m	0.09m
1401	Wall foundation	*	*	*
1402	Fill of stakehole	0.30m	0.33m	0.32m
1403	Cut of stakehole	0.30m	0.33m	0.32m
1404	Demolition	1.40m	0.55m	0.10m
1405	Deposit of broken tiles	0.48m	0.35m	*
1406	Deposit, same phase as (1404)	3.0m	1.5m	0.10m
1407	Fill of channel	1.70m	1.0m	0.25m
1408	Cut of natural channel	1.70m	1.0m	0.25m
1409	Fill of channel	1.85m	*	0.35m
1410	Interface between two fills, recorded as cut	5.70m	6.70m	0.35m
1411	Fill of channel	1.75m	5.60m	0.15m
1412	Cut of channel	1.75m	5.60m	0.48m
1413	Wall foundation	6.0m	1.60m	*
1414	Fill of water channel	*	1.15m	0.12m
1415	Cut of water channel	*	1.15m	0.12m
1416	Fill of beamslot	3.60m	0.30m	0.14m
1417	Cut of beamslot	3.60m	0.30m	0.14m
1418	Fill of posthole	0.90m	0.40m	0.20m
1419	Cut of posthole	0.90m	0.40m	0.20m
1420	Fill of posthole	0.50m	0.30m	0.29m
1421	Fill of posthole	0.40m	0.40m	0.30m
1422	Cut of posthole	0.40m	0.40m	0.30m
1423	Fill of several stakeholes, recorded as one number	0.10m	0.09m	0.10m
1424	Cut of several stakeholes, recorded as one number	0.10m	0.09m	0.10m
1425	Cut of posthole	0.42m	0.38m	0.10m
1426	Fill of posthole	0.42m	0.42m	0.10m
1427	Cut of posthole	0.44m	0.34m	0.18m

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Context No.	Context Description	Length	Width	Depth
1428	Fill of posthole	0.40m	0.38m	0.18m
1429	Cut of posthole	0.20m	0.12m	0.09m
1430	Fill of posthole	0.19m	0.11m	0.10m
1431	Cut of posthole	0.48m	0.44m	0.10m
1432	Fill of posthole	0.43m	0.47m	0.10m
1433	Cut of posthole	0.27m	0.18m	0.05m
1434	Fill of posthole	0.21m	0.18m	0.10m
1435	Secondary fill of water channel	1.42m	1.0m	0.31m
1436	Fill of possible posthole	0.25m	0.25m	0.05m
1437	Cut of possible posthole	0.25m	0.25m	0.05m
1438	Fill of depression in ground	0.25m	0.25m	0.04m
1439	Cut of depression	0.25m	0.25m	0.04m
1440	Coal spread	1.20m	1.20m	0.06m
1441	Fill of wall cut	6.30m	1.50m	0.35m
1442	Cut for wall	6.30m	1.50m	0.35m
1443	Fill of posthole	0.40m	0.46m	0.26m
1444	Cut of posthole	0.40m	0.46m	0.26m
1445	Fill of posthole	0.46m	0.38m	0.17m
1446	Cut of posthole	0.46m	0.38m	0.17m
1447	Fill of channel	3.0m	1.55m	2.10m
1448	Fill of linear	5.50m	0.66m	0.15m
1449	Cut of linear	5.50m	0.66m	0.15m
1450	Fill of foundation cut (1132)	2.20m	0.45m	0.12m
1451	Foundation cut	2.20m	0.45m	0.12m
1452	Fill of hearth-type cut	0.65m	0.62m	*
1453	Cut of possible hearth	0.65m	0.62m	*
1454	Fill of linear	0.80m	0.50m	*
1455	Natural sandstone deposit	*	*	*
1456	Deposit	*	*	0.17m
1457	Fill of posthole	0.30m	0.20m	0.32m
1458	Cut of posthole	0.30m	0.20m	0.32m
1459	Ash deposit	1.0m	0.66m	0.03m
1460	Carbonised deposit from hearth	1.0m	0.66m	0.30m
1461	Secondary bedding deposit for hearth	1.0m	0.66m	0.60m
1462	Primary bedding deposit for hearth	1.0m	0.66m	0.60m
1463	Fill of pit	0.80m	0.50m	0.15m
1464	Cut of pit	0.80m	0.50m	0.15m
2001	Unstratified finds from Area 2	N/A	N/A	N/A
2002	Fill of possible foundation cut	3.94m	4.76m	0.12m
2003	Foundation cut	3.94m	4.76m	0.12m
2004	Fill of tree-root hole	1.10m	1.75m	0.14m
2005	Cut of tree-root hole	1.10m	1.75m	0.14m
2006	Fill of posthole	0.25m	0.25m	0.15m
2007	Cut of posthole	0.25m	0.25m	0.15m
2008	Fill of posthole	0.40m	0.20m	0.08m
2009	Cut of posthole	0.40m	0.20m	0.08m
2010	Various fills of unexcavated modern extraction pit	4.40m	5.40m	*
2011	Cut of extraction pit	4.40m	5.40m	*
2012	Various fills of unexcavated modern pit.	5.20m	3.20m	*
2013	Cut of pit	5.20m	3.20m	*
2014	Fill of water channel	8.10m	1.50m	0.38m
2015	Cut of water channel	8.10m	1.50m	0.38m
2016	Fill of posthole	0.40m	0.40m	0.20m
2017	Cut of posthole	0.40m	0.40m	0.20m
2018	Fill of linear feature	7.0m	0.58m	0.29m
2019	Cut of linear feature	7.0m	0.58m	0.29m
2020	Fill of linear feature	4.20m	1.10m	*
2021	Cut of linear feature	4.20m	1.10m	*
2022	Fill of water channel	*	*	0.52m
2023	Cut of water channel	9.0m	3.0m	0.52m
2024	Cut of modern pit	5.2m	4.5m	*
2025	Subsoil deposit	15m	10m	*

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Context No.	Context Description	Length	Width	Depth
2026	Natural drift deposit	*	*	*
2027	Fill of small clay feature	0.70m	0.60m	*
2028	Cut of small clay feature	0.70m	0.60m	*
2029	Stone surface	9.86m	3.52m	*
2030	Fill of ditch	12.0m	4.0m	0.35m
2031	Fill of ditch	1.0m	0.85m	0.15m
2032	Fill of channel	4.60m	0.28m	*
2033	Cut of channel	4.60m	0.28m	*
2034	Fill of channel	5.5m	0.60m	*
2035	Cut of channel	5.5m	0.60m	*
2036	Cut of ditch	12.0m	1.18m	0.84m
2037	Deposit: bedding for stone surface 2029	12.0m	2.10m	0.12m
2038	Cut of linear feature	3.0m	1.15m	*
2039	Deposit: padding for 2040	3.0m	1.15m	0.34m
2040	Stone surface	3.06m	1.42m	0.14m
2041	Interface between (2026) and (2037)	1.70m	1.0m	0.15m
2042	Cut of modern pit	0.80m	0.80m	*
2043	Fill of small pit / large posthole	0.54m	0.48m	0.26m
2044	Cut of small pit / large posthole	0.54m	0.48m	0.26m
2045	Fill of water channel	1.0m	1.8m	0.42m
2046	Cut of water channel	1.0m	1.8m	0.42m
2047	Fill of water channel	1.0m	1.8m	0.07m
2048	Primary fill of water channel	1.0m	1.8m	0.07m
2049	Metalled surface	3.65m	1.66m	0.26m
2050	Bedding for stone surface (2049)	3.65m	1.66m	0.26m
2051	Fill of pit	1.33m	0.98m	0.28m
2052	Cut of pit	1.33m	0.98m	0.28m
2053	Cut of water channel	1.0m	1.3m	0.58m
2054	Fill of pit	5.5m	1.2m	0.27m
2055	Cut of pit	5.5m	1.2m	0.27m
2056	Natural clay deposit	3.4m	1.0m	0.45m
2057	Cut of pit	*	0.80m	0.52m
2058	Fill of pit	*	0.80m	0.52m
2059	Foundation cut, same as (2003)	0.62m	0.84m	0.06m
2060	Fill of cut, same as (2002)	0.62m	0.84m	0.06m
2061	Fill of pit [2057]	*	0.80m	0.52m
2062	Fill of tree root hole	*	*	*
2063	Cut of tree root hole	*	*	*

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APPENDIX B: POTTERY REPORT

Lucy Whittingham

Introduction

The assemblage comprises 1262 sherds, (695 ENV, 32 kg) ranging from 12th to late 17th/early 18th century and comes from in 56 contexts. Of these, 60% are medieval/late medieval products of the Chilvers Cotton pottery industry (767 sherds, 421 ENV, 23 kg). The remainder are local early medieval coarsewares and early post-medieval regional wares.

Methodology

The pottery has been fully quantified recording sherd count, weight, estimated vessel number (ENV), form and decorative attributes. These details are recorded on an Excel database spreadsheet and can be consulted with the site archive. Each fabric type has been dated and a spot date established subsequently for each context. Fabric codes have been allocated following the Warwickshire County fabric type series (WCTS) for which the author is indebted to Stephanie Ratkai for her assistance (see Table 1). Reference is also made to the system of fabric codes devised by Mayes and Scott for the Chilvers Coton kiln material (1984, 40-1) (see Table 2). The author is extremely grateful to Lyn Blackmore for the thorough record of the material undertaken in the MOLAS assessment of this material. As the material in Context [1001] and [2001] was recovered by machine stripping and recorded as unstratified these finds have been excluded from any further identification for publication.

Fabrics Types

Igneous rock-tempered wares (IGN1, IGN2)

Coarse pottery recorded as Igneous type 1 (IGN1) contains granitic and/or other igneous rock fragments (eg grano-diorite), sub-rectangular fragments of a grey stone-like material, probably mudstone, as well as sandstone and shale-like rock. The stone-like inclusions vary both in size and frequency from sparse to abundant and from small (2mm) to large, but are usually around 5mm across. This fabric corresponds with WCTS StR11 at Wolvey and Burton Dasset (Ratkai and Soden 1988) where it is thought to date from the 12th and possibly early 13th century. At Wolvey it was suggested that the igneous rock inclusions in this fabric might originate in the Caldecote volcanic series (Ratkai 1998). A similar source was suggested for finds from Coventry (Gryspeerdt and Le Bas 1982, 129-30) but there seems to be a variety of fabrics and their origins are debated as these wares have a widespread distribution in Warwickshire (Ratkai in prep). This fabric is relatively common at Bermuda Park, comprising 11% of the assemblage (145 sherds, 95 ENV, 3.2 kg) found primarily as cooking pots and jars. These vessels are simple rounded jars with an everted round or squared rim (Fig 11.1) ranging from 200mm to 260mm in diameter. Combed decoration is quite common on sherds in this fabric as demonstrated in Fig 11.1 occurring in bands around the body of the vessel and frequently on rims. Sooting and burning marks are clearly visible on the everted part of the cooking pot rims covering the interior rim section and extending over the rim surface to the outer edge. Two examples of strap handles with stabbed decoration indicate that jugs were also produced in this ware but are a less significant product. One sherd with applied thumbed decoration may be from a curfew.

A similar coarseware fabric containing more sand has been recorded as Igneous type 2 (IGN2). The matrix is silty with sparse and fine opaque white/grey rock fragments with slag-

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like inclusions, fine black glassy inclusions and other volcanic material. This ware could be a relatively local product, but may be from another source, such as Potters Marston, Leicestershire, where the pottery contains syenite (McCarthy and Brooks 1988, 273-4), a coarse-grained igneous rock that in some cases resembles granite. This fabric can also be paralleled with WCTS StR12 at Wolvey where it is thought to date from the 12th and possibly early 13th century (Ratkai and Soden 1988). This fabric is found in a similar proportion to IGN1 at Bermuda Park, comprising 15% of the assemblage (184 sherds, 88 ENV, 3.5 kg) and occurs primarily as similar rounded cooking pots and jars with simple everted rim forms (Fig 11.2) decorated with combed or incised wavy lines. A particularly large strap handle with applied thumbed strip in the centre and stabbed decoration on either side may be from a curfew (Fig 11.3). A single strap handle again indicates the production of jugs in this fabric but suggests they are an insignificant purchase on this site.

At Bermuda Park 60% of fabric IGN1 occurs in the medieval Periods 2 and 3; 33% in Period 2 (1150-1350) and 28% in Period 3 (1350-1550). Likewise in fabric IGN2 70% occurs in Period 2 and 17% in Period 3. At Wolvey the igneous rock-tempered fabrics StR11 and StR12 are dated as 12th and possibly early 13th century and thought to pre-date the Chilvers Coton products (Ratkai and Soden 1988). Although the distribution of these wares at Bermuda Park is not able to refine this date there is strong evidence of a bias towards the Period 2 stratigraphy indicating that these wares are early medieval (1150-1350) and may predate the Chilvers Cotton industry

Potters Marston ware
Fifteen sherds in a coarse earthenware fabric are characterised by abundant medium to large angular quartz grits and sparse to moderate limestone inclusions. These wares are likely to be the late 11th/early 12th to 13th-century products of Potters Marston, Leicestershire which used an iron-rich boulder clay, firing light red or reddish yellow, with large igneous rock inclusions of syenite (McCarthy and Brooks 1988, 273). Vessels are rarely glazed and the most common forms are hand or coil-built cooking pots/storage jars. All of the sherds at Bermuda Park are from jars, two of which have combed decoration. With the exception of two sherds in Period 2 these sherds are likely to be residual at Bermuda Park.

Sandy Calcareous wares
Three very abraded sherds are tempered with sand and calcareous inclusions. One of the sherds is vesicular, where the calcareous content has leached out, but the other two contain abundant fine sand and are an iron-rich fabric. Further identification of these sherds is limited by their abraded, small size and their lack of stratification in context [1001], but it is thought that these are from a source more likely to be in Leicestershire than Warwickshire.

Shell-tempered Stanion/Lyveden ware
Two small, abraded sherds containing abundant fine plate-like voids that are presumed to be the remains of fossil shell are likely to be the products of the extensive Stanion/Lyveden industry in Northamptonshire. Similar shelly wares are more common at Wolvey (Ratkai 1998), but are not noted at Nuneaton Priory. This industry operated from the end of the 13th century through to the early 15th century (McCarthy and Brooks 1988, 285). The sherds at Bermuda Park are from the unstratified collection in Context [1001].

Coventry ware (COVD)
Fifteen sherds from six vessels can be paralleled with type sherds of Coventry D ware (WCTS Sq21) and would appear to equate with sand-tempered fabric 4 at Much Park Street,

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Coventry, dated 12th to early 13th century (Wright 1982, 119) and fabric 136 at Warwick (Ratkai 1987, 55). The fabric has a fine matrix with abundant fine sand, and is characterised by rounded iron-rich inclusions. Diagnostic sherds include the everted rim of a small jar/cooking pot with oxidised surfaces (possibly Coventry A ware: WCTS Sq20.3) and a jug with thin green glaze, lattice decoration on the body and a strap handle decorated with an applied thumbed strip down the spine. The Coventry A cooking pots occur in Period 2 (1150-1350) whereas the Coventry glazed ware which predate the Chilvers Coton industry at Coventry (ibid), occur at Bermuda Park in Period 3, (1350-1550).

Chilvers Coton ware

The various products of the Chilvers Cotton industry account for 60% of the pottery vessels found at Bermuda Park. These wares fit with the broad divisions established by Mayes and Scott (1984, 41) for the Chilvers Coton products, ranging from the late 12th to the late 16th/early 17th centuries. The fabric inclusions are described from the results of thin section analysis carried out by David Williams (ibid, 196). The fabric groups from such a large production centre working over a long period are somewhat blurred where the end of one tradition overlaps with the advent of another. In these cases the vessel forms are as significant as the fabric identification in defining some of the Chilvers Coton products.

Chilvers Coton fabric A

At Bermuda Park four grades of whiteware have been recorded. These fabrics are the finer wares producing decorated jugs in glazed fabrics with decoration.

Whiteware type 1 (WW1; WCTS WW03)) has sparse to moderate angular quartz and a fine white matrix whilst Type 2 (WW2; WCTS WW01) has more abundant angular quartz. Both can have a grey core and are sometimes quite thick walled. The majority of sherds in this fabric are undiagnostic, but jugs, small drinking jugs, jars, bunghole jars and dishes can be identified. Whiteware type 1 forms include baluster type jugs identified from bases that are flared and decorated with continuous thumbing around the lower edge. Decorated sherds from jugs have vertical applied thumbed strips in the north French style (as in Mayes and Scott 1984 fig 105 no. 212) and combed incised decoration. Small drinking jugs are represented by two upright rims of 80mm diameter. Bunghole jars are represented by the decorated collar from around the bunghole, which has been stabbed in a similar style to an example from Chilvers Cotton Kiln10a (ibid, fig 22 no. 54). The base sherds of a large open vessel are likely to be from a dish. A greater variety of jugs are found in Whiteware type 2 with a small number of jars, wide mouthed bowls and some possible dripping dishes. The primary form in this fabric are jugs found in baluster-type jugs with continuous thumbing around the base edge (ibid, fig 46 no.331 and fig 99, no.97), with a rilled external surface, jugs with applied trailing decoration or horizontal incised decorative lines, a herringbone pattern of incised lines and one sherd, which may be a waster, in which the outer surface is partly covered by a layer of grey clay into which two rows of notches have been rouletted under a thin green glaze. Strap handles have simple oblique slashed decoration (ibid, fig 93 no.14). Some jars are decorated with applied thumbed strips. Single examples of a glazed, possible dripping dish and a skillet with pulled handle (as in Mayes and Scott 1984 fig 93 no.8) also survive. Wide mouthed bowls are poorly represented by a few sherds, one of which has external thumbing just below the rim (see ibid, fig 21, no.45).

Whiteware type 3 (WW3; WCTS WW01.7)) contains abundant very fine quartz sand and appears to correspond with Warwick fabric F154 (Ratkai 1987, 56). Jugs with green glaze are again the predominant form in this fabric but individual examples of a jar, wide mouthed

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bowl with internal glaze, a skillet/pipkin handle and cup are also found with green glaze. Jugs with a tall neck and cordon are exclusive to this fabric. Other highly decorated jugs are represented by a copper glazed strap handle with groups of four and five incised longitudinal lines separated by single transverse lines and the tubular spout of an anthropomorphic jug held by two applied hands. Down the centre of the tubular spout are further applied decorative elements in the form of a red clay pad and a long strip with incised decoration (Fig 11.4).

Whiteware type 4 (WW4; WCTS WW03)) contains abundant fine yellow quartz sand and moderate red iron ore inclusions similar to Chilvers Cotton fabric Ai (Mayes and Scott 1984, 40). This ware produced the most complete example of a jug from the site in the form of 22 sherds from a large rounded jug with applied stabbed, vertical strips under a copper green glaze. Six further sherds in this fabric are possibly from an unglazed jar, a second glazed jug and glazed sherds from a pipkin.

All four medieval whiteware fabrics are associated with the same contexts in particular association with Buildings 2 and 4; in B2 wall foundation [1160], B2 external dumps [1025], [1406] and [1397], in B3 floor [1022] and B4 cobbled surface [2002] as well as in pits [1095] and [1277] and in the demolition spread associated with Building 4, presumed to date from the dissolution of the monasteries in *c* 1540. This is of interest as it suggests that whitewares were still in use in the 15th century. There is no distinction in the dating of these various wares at Bermuda Park. #

Chilvers Coton fabrics B and Bi
Twenty-one sherds (8 ENV, 612g) have been recorded as IGN1 FINE and correspond with igneous fabric (WCTS StR 20.3; Chilvers Cotton fabric Bi) found at Wolvey (Ratkai 1998) There are no diagnostic sherds but all appear to be from cooking pots/jars , two of which have combed wavy decoration (as in Mayes and Scott 1984, fig 50, no.365). Some sherds also have traces of green glaze, suggesting that they are the products of Chilvers Coton. In addition there are 17 sherds (5ENV, 167g) recorded as Chilvers Cotton fabric B, one of which is glazed. These are very abraded coarse, sandy sherds, which are undiagnostic. Both fabrics B and Bi are dated by Mayes and Scott as 13th century and are predominantly associated with Period 2 (1150-1350) at Bermuda Park.

Chilvers Coton fabric C
A large proportion of the assemblage (37%) belongs to the Chilvers Coton group C (WCTS Sq30); a hard sandy orange-red ware with a lighter coloured variant recorded as CCCBUF. The latter merges with fabric A (probably in the earlier stages), while the redder wares share common form typologies with fabric D (in the later stages). The large discrepancy between sherd count (413 sherds) and estimated number of vessels (232 ENV) demonstrates the abraded nature of these sherds, a large number of which are undiagnostic. However, those that can be attributed to a vessel form come from a limited range of basic forms; wide mouthed bowls being the most common form, followed by a small number of jars and jugs all of which can be dated typologically to different periods of production at Chilvers Coton.

Wide mouthed bowls in fabric CCCBUF with squared rims (280mm diameter) on a straight-sided body can be paralleled by 13th century forms from Site 13, Kiln 32a-b (Mayes and Scott 1984, fig 83 no.630.376.222, fabric A). Further 14th-century examples of wide mouthed bowls in fabric CCCBUF include examples with simple flared rims with a rounded edge paralleled at Chilvers Cotton by examples from Site 2, Kiln 10c (ibid, fig 67 no.96.70.425). Bowls in fabrics C and D, with flared rims of 280mm (Fig 11.5) to 400mm diameter (Fig

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11.6), can be paralleled with 14th-century forms from Site 9, feature 43 (ibid, fig 80 no.521.323.386) as well as 15th-century forms from Site 15, Kiln 34 (ibid, fig 55 no.440, fig 86 no.720.437.474 and 726.0.374). Flattened everted rims (440mm diameter) on a slightly carinated rounded body (Fig 11.7) can be paralleled in 15th-century forms from Site 15, Kiln 34 (ibid, fig 86 nos. 731.0.334 and 734.0.306). This particular example has incised wavy decoration on the upper surface of the rim. Other decorative motifs found on the rim of a possible wide mouthed bowl or cauldron are applied pellets.

Cooking pots in the form of globular jars with simple everted rims (120mm) can be paralleled by 14th-century examples at Chilvers Cotton Site 2 Kiln 10e (Mayes and Scott 1984, fig 68 no. 132.100.220). Rounded cooking pots which occur with squared rims of *c* 200 to 280mm diameter, could be either 13th but more likely 14th-century forms as at Site 15 Feature 74 (ibid, fig 87 nos. 764.0.194 and 765.0.226). The smaller examples with incised wavy line decoration on the top surface of the rim are possibly 13th century (cf ibid, fig 88 no 804.0.156, Site 16, Kiln 36a-b). Some sherds with applied thumbed decoration in fabric CCCBUF maybe from cooking pots. A sherd from a large jar in fabric C has an applied circular stamp or medallion, possibly a crude version of the rosette stamped pads seen on 15th-century jars and jug from Chilvers Coton Site 18, Kilns 40 and 42 (ibid, fig 59 nos. 492-4).

Several lids in fabric C are typical of 15th-century examples produced at Chilvers Coton with a central raised flat dome in the middle (Mayes and Scott 1984, fig 40 no.259). These must have been wheel-thrown vessels which are used effectively upside down.

Jugs are more common in fabric CCCBUF than in CCC. The best preserved example is a large jug with a lipped rim and strap handle decorated with oblique slashes. Other examples of jugs are suggested by lead-glazed sherds with incised horizontal lines, combed decoration or rilled surfaces. In the hard-fired, dense fabric C rounded jugs are represented by a tall cylindrical neck with a central cordon and a small collared rim (120mm diameter) (Fig 11.8). This particular example has a simple handle with raised central spine tapering to a small base which is attached with one central thumbed imprint. Further examples of jugs are represented by strap handles with a central raised spine which is stabbed in a vertical line and also stabbed into on either side of the central raised section. Similar 13th-century examples are illustrated from Site 3, Kiln 15 at Chilvers Cotton (Mayes and Scott 1984, fig 98 no. 82).

One possible example of a dripping dish in fabric C is represented by sherds from the rim and base. A small percentage of the fabric C wares are glazed in a pale lead green glaze. Some sherds have a darker brown/orange glaze which may be an indictor of a later date in the 15th or 16th century (Ratkai pers comm.). Unfortunately this cannot be substantiated at Bermuda Park as both glaze types occur in Period 3 (1350-1550).

Chilvers Coton fabric D

Fabric D has a smooth, dense matrix. Most of the vessels range from red to grey in colour and are unglazed. The high firing temperature and sometimes overfired quality of sherds in fabric D are very similar in appearance to Midlands Purple products. Jars, cisterns, wide mouthed bowls and the occasional jug are all produced in fabric D which is suggested by Mayes and Scott to date from the late 14th to late 15th century (Mayes and Scott 1984, 40).

The two most common forms in fabric D are rounded jars with an inturned rim and handled jars with a very short, squared rim. The handled jar also serves as a cistern where there is a

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bunghole at the base. The distinction between the two is therefore impossible without the lower half of the vessel present. Jars with a slightly rounded body have inturned lid-seated rims with a cordon the exterior edge (Fig 11.9). These vessels have a small rim diameter (160mm) and where there is no handle present are similar to butterpots as illustrated from the 15th-century products at Site 15, Kiln 34 (Mayes and Scott 1984, fig 55 no.445 and fig 86 no.741.445.138). At Bermuda Park some of these vessels (Fig 11.10) have an applied thumbed cordon around the base of the small rim (120mm). Larger and more globular handled cisterns have a small rim in comparison to the size of the vessel. These rims can be rounded (Fig 11.11) (ibid, fig 85 nos. 699.422.180 and 700.423.194), chamfered (ibid, fig 87 no. 758.457.172) or lid-seated (ibid, fig 87 no. 763.0.196) ranging in size from the smallest at 100mm diameter to the more common vessels of 240mm in diameter. Some of the rims have scalloped cut edges on the top which may be a crude form of decoration. The handles are large grooved strap handles or have a raised central spine which has been attached to the body of the vessel with a plugged hole, the plug is clearly visible on the inside of the vessel. These vessels are similar to the 15th-century products at Site 15, Kiln 34 (ibid, fig 54 no.422-3). A sherd with rouletted decoration may be from a jar or cistern.

A small number of wide-mouthed bowls are also found in similar forms to those in fabric C (see Figs 11.2 and 11.5) frequently with incised wavy line decoration on the rim and internal glaze.

Very few jugs are found in fabric D but are of a similar style to those with a tall neck and collared rim found in fabric C (Fig 11.3). Strap handles with oblique slashed decoration and a thumbed base are assumed to be from jugs rather than cisterns.

Midlands Purple (MPUR)
Nineteen sherds of highly-fired Midlands Purple ware are found in an estimated 16 vessels, the majority of which are thick-walled, glazed jars and butterpots with collared rims. The most complete vessel is a bunghole jar/cistern found in a pit in Period 3. Midlands Purple ware dates from the late 14th/early 15th century and continued in the manufacture of butterpots into the 18th century (Ford 1995, 35).

Midlands Blackware (MB)
Fourteen sherds in a red earthenware with lead glaze which varies from brown to black are found in classic Midlands Blackware forms; a mug, tyg and jar. These wares compare with the late 16th/mid-late 17th-century Warwick sample (WCTS MB01) (Ratkai pers comm.), though Midlands Blackware continues into the early 18th century (Barker 1986, 59).

Midlands yellow ware (MY)
Ten sherds from seven vessel include lead glazed mugs, cups, a possible jar, and pipkin. There are no diagnostic sherds except for the mug and cup bases which have the typical thick lead glaze over a buff fabric. Midlands yellow ware was produced from the mid 16th century in small quantities in local regional centres and became much more popular in the early to mid 17th century. In Coventry the earliest occurrence is in a deposit dated from 1574 and it is most common thereafter in the 17th century (Ratkai pers comm.). By the late 17th century Staffordshire became the major producer (Brears 1971, 32). With the exception of one sherd in Period 3, all of the Midlands Yellow ware at Bermuda Park is associated with Period 4 (1550-1750).

Cistercian ware (CIST)

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True Cistercian ware is very rare on the site. The one definite find is a small mug with decoration in the form of an applied pad of white-firing clay found in Period 4 (1550-1750). Six other black-glazed sherds from five vessels are from the bases of mugs/cups. Cistercian ware, though noted as produced from the 14th century onwards at Chilvers Cotton is usually found in the late 15th to mid 17th centuries (Barker 1986, 53). There is no evidence for Cistercian ware in the West Midlands before the late 15th century (Ratkai pers comm).

Post-medieval coarseware (CW(IP) or CW (IR)
Forty seven sherds from 23 vessels in post-medieval coarseware have a characteristic red slip applied under a manganese glaze, usually on the inner wall. The ware has been studied in detail at Dudley Castle and published as 16th to 17th-century post-medieval coarseware with an iron-rich (IR) or iron-poor (IP) fabric (Ratkai 1987b). All of the sherds at Bermuda Park are body sherds from large open bowls/pancheons and jars.

Staffordshire-type red-slipped ware (STRS)
A single example of post-medieval slipware is a late 17th/early 18th-century Staffordshire red slipped earthenware, decorated with white slip on the interior. This is intrusive in a floor in Period 3, context [1022].

Discussion
The various distinctive fabric types within this assemblage can be used to indicate a division between early and late medieval activity and a transitional late medieval/early post-medieval period at Bermuda Park. The earliest wares are those with igneous rock temper and shell temper (IGN1, IGN2, Chilvers Cotton Bi, Stanion/Lyveden,) and sand-tempered wares from Potters Marston, Coventry oxidised cooking pots (type A) and Chilvers Coton fabric B, which are predominantly associated with Period 2 (1150-1350). All of these wares are primarily associated with domestic features in Area 1 of a provisional 12th and 13th century date; posthole [1246], pits [1111] and [1293], pitched tile hearth [1153] in Building 1, occupational debris [1326] and [1161], ditches [1264] and [1335], gully [1287] and a pond [1329]. These features are therefore an indictor of domestic activity on this site by the late 12th century or early 13th century, if not earlier.

Medieval activity from c 1350 to 1550 (Period 3) can be traced through the presence of the Chilvers Coton products and Coventry glazed ware (type D) on the site. The few sherds of Coventry glazed ware (type D) occur only in Period 3 on this site and cannot be relate to specific buildings. The longevity of some of the Chilvers Cotton fabric types compromises the ability to date some of the archaeological features closely. It is, however, noticeable that Chilvers Cotton fabric B (dated by Mayes and Scott as 13th century), which occurred as 6% of the Period 2 assemblage, is only 0.2% of the Period 3 assemblage confirming that its popularity is over by *c* 1350. Similarly there is a difference in the presence of Chilvers Cotton fabric D that is virtually non-existent in Period 2 (0.3%) but is 20% of the Period 3 assemblage, indicating that it is most popular after *c* 1350. Chilvers Cotton fabrics A and C are longer lasting traditions, both present in Period 2 (as 7% and 11%) but doubling in popularity (as 15% and 40%) in the post-1350 assemblage in Period 3. Glazed and decorated jugs are consistently the most popular form in fabric A (n both Periods 2 and 3) whereas the 14th and 15th-century wide mouthed bowls and cooking pot/jars are the most popular products in fabric C in Period 3. Similarly in Chilvers Cotton fabric D 15th-century handled jars and bunghole cisterns are the most popular products in use at Bermuda Park.

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Chilvers Coton fabrics C and D are found together in particular association with Buildings 2 and 4 and; in B2 wall foundation [1160], B2 external dumps [1025] and [1406], in B3 floor [1022] and B4 cobbled surface [2002] as well as in pits [1095] and [1277]. Chilvers Coton fabric A jugs are found in similar contexts in Buildings 2 and 4 and in addition in Building 2 external dump [1397] and in the demolition spread associated with Building 4, presumed to date from the dissolution of the monasteries in *c* 1540. This is of interest as it suggests the whitewares were still in use in the 15th century confirming a long-held suspicion that the original 1250-1300 date for later medieval whitewares is too narrow (Ratkai 1987, 56; pers comm). Building 2 is contemporary with the ownership of the land by the Knights Hospitallers between *c* 1308 and *c* 1540. It is not known what the function of the building was but is thought to be directly associated with the other buildings of this period.

By 1550 (Period 4) the introduction of late medieval wares such as Midland purple ware and the introduction of early post-medieval traditions (CIST, MY, MB) denotes which features are of a late 15th/16th-century transitional date. These four wares are significant introductions to the ceramic assemblage in this period and are all associated with post-medieval levelling [2030] in ditch [2031]. In addition Midlands Yellow ware and Midlands Purple ware are found in ditch [1099] and robbed out wall foundation [1063]. Post-medieval coarsewares (CW (IP/IR) are also introduced into the ceramic sequence during this period. These coarseware bowls and dishes are a local product dating from the 16th and 17th centuries and are found also in post-medieval levelling [2030] in ditch [2031] and in ditch [1099].

The 195 sherds in Period 5 are nearly all sherds collected from the machine stripping of Area 2 and are therefore not archaeologically stratified.

In general this assemblage is very mundane and comprised of standard cooking pots and jars, a few glazed jugs and no imports. The Knights Templar may have been an affluent order but there is little sign of it in this pottery assemblage. The earlier assemblage is primarily one of local ceramic products in fabrics IGN1, IGN2, Chilvers Coton fabric B and Chilvers Cotton Bi with a small number of imported wares bought from other regional markets, for example the Stanion/Lyveden wares from Northampton and the Potters Marston wares from Leicestershire. Given the local geology it is quite possible that fabrics IGN1, IGN2 and IGN1 FINE/CCBi were made locally. From the forms and from the evidence gained on other sites, it would appear that the IGN group dates to *c* 1150-1250. It is possible that these wares were made outside the area and imported to Nuneaton before the local industry developed. It is equally possible, however, that they were made at Chilvers Coton/Nuneaton using imported clay/ingredients in kilns that predate the known industry and which remain to be discovered.

The bulk of the late 13th- to 15th-century pottery in Period 4 is locally supplied by products of the Chilvers Coton industry. The local convenience of purchasing these wares is witnessed by a small quantity of Chilvers Coton fabric C kiln waste and poor quality vessels which are seconds being used on the site. Waster material is present in [1317] and vessels which are seconds are found in the form of a jar with warped everted rim and a jar base on which the glaze has crawled and shrunk. Clay waste was also found in the machine excavated material in [1001]. A Cistercian ware mug fragment found in [2001] is probably a second, with kiln scar on the base. A mug base in Midlands purple ware from [1098] has kiln scars on the underside of the base and is chipped at the base angle as if it had to be separated from the other pot post-firing. Of interest are two fine whiteware bases from [1062] and [1098] that were recorded as Midlands yellow ware but have a kiln scars and traces of brown glaze on the underside of the base, suggesting that they too were locally made.

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Period	Code	From	To	Expansion	Regional equivalents
M	CCB	1150	1300	Chilvers Coton type B	
M	CCC	1275	1500	Chilvers Coton type C	WCTS Sq30
M	CCCBUF	1275	1500	Chilvers Coton type C buff	
M	CCCLM	1400	1500	Chilvers Coton type C later medieval	
M	CCD	1380	1500	Chilvers Coton type D (early Midlands purple)	
M	COVA	1150	1250	Coventry ware, oxidised	
M	COVD	1150	1250	Coventry ware, glazed jugs	WCTS Sq21
M	CS	1150	1250	Calcareous shelly ware	Stanion/Lyveden
M	IGN1	1150	1250	Igneous rock-tempered type 1	StR11 at Wolvey & Burton Dasset (Ratkai 1998)
M	IGN1 FINE/CCBi	1150	1250	Igneous rock-tempered type 1 fine	CCBi
M	IGN2	1150	1250	Igneous rock-tempered type 2	StR20.1 at Wolvey (Ratkai 1998)
M	MISC	1150	1500	Miscellaneous	
M	SC	1150	1250	Sandy calcareous ware	
M	PMAR	1150	1250	Sandstone and limestone-tempered ware	Potters Marsden
M	WW	1230	1500	Whitewares (various)	Chilvers Cotton A
M	WW1	1230	1500	Whiteware type 1	Chilvers Cotton A Warwick Fabric F108; WCTS WW03
M	WW2	1230	1500	Whiteware type 2	Chilvers Cotton A Warwick Fabric F118; WCTS WW01
M	WW3	1350	1500	Whiteware type 3	Chilvers Cotton A Warwick Fabric F154;WCTS WW01.7
M	WW4	1230	1500	Whiteware type 4	Chilvers Cotton Ai; WCTS WW03
PM	CIST	1575	1650	Cistercian ware	
PM	MY	1570	1725	Midlands Yellow ware	WCTS MYW
PM	CW (IP/IR)	1500	1700	Post-medieval coarseware	
PM	MPUR	1400	1720	Midlands Purple ware	WCTS MP
PM	MB	1550	1700	Midlands Blackeware	WCTS MB01
PM	STRS	1650	1750	Staffordshire-type red slipped ware	

Table 1 summary of fabric codes

	Descriptions (Mayes and Scott; Williams 1984)	Dating
A	White/cream or pink; fine inclusions giving a sandy feel	13th-early 14th century
Ai	As above with large reddish inclusions (3mm)	
B	Coarse reddish sandy ware	13th century
Bi	As above with large reddish inclusions	
C	Pink/orange/red slightly sandy ware	14th and 15th centuries
D	Orange/brick red/dark red fabric, finely gritted; often darker surfaces (Midlands purple ware)	Late 14th and 15th century
E	Red-firing, no inclusions (Cistercian ware)	Late 14th century onwards
F	White-firing, no inclusions	Middle period of production

Table 2 The fabric codes devised for the Chilvers Coton material

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APPENDIX C: BUILDING MATERIALS REPORT

Ian M. Betts

Introduction

The ceramic and stone building material assemblage comprised almost 80 kg of tile, brick and stone from 49 contexts. The bulk of the assemblage comprises ceramic roofing tile with smaller amounts of stone roofing and stone rubble together with a few fragments of floor tile and brick.

Methodology

All the building material has been recorded using the standard recording forms used by the Museum of London. This has involved fabric analysis undertaken with a x10 binocular microscope. The information on the recording forms has been added to an Excel database.

Ceramic Brick and Tile Fabric Types

A building material fabric reference collection has been established for Bermuda Park (numbered WN1 to WN7, where W = Warwickshire, and N = Nuneaton). These fabric types have been compared to pottery fabrics in the regional reference collections from Warwickshire, Coventry and Birmingham. There is only one definite match, tile fabric WH1 clearly comes from the same source as the pottery in fabric CCC (Chilvers Coton type C), indicating manufacture at the nearby tile and pottery manufacturing centre at Chilvers Coton, Nuneaton.

WN1
Form: nib/peg, ridge, brick
Colour: white, pink, cream, orange, some with grey core
Fabric: Common quartz (up to 0.8 mm) with scatter of round black and dark red iron oxide (up to 1 mm). Thin cream, red and orange clay/slit bands in certain tiles. The clay on some tiles has an almost fused appearance.
Pottery fabric: CCC (Chilvers Coton type C)

WN2
Form: nib, ridge, floor?
Colour: various shades of red and orange
Fabric: Moderate to common quartz (up to 0.8mm) with scatter of rock fragments and black and dark red iron oxide inclusions (up to 1.5 mm). Occasional silty inclusions.

WN3
Form: nib, ridge
Colour: various shades of red and orange
Fabric: Similar to WN2 but with only moderate quartz. Identified by fine moulding sand (most up to 0.2 mm).

WN4
Form: floor
Colour: orangey-red

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Fabric: scatter of quartz (up to 0.5 mm) and occasional rock fragments and iron oxide (up to 0.8 mm). Similar to WN3 and less sandy versions of WN2.

WN5
Form type: ridge, floor, brick
Colour: white, some with grey core
Fabric: coarse sandy fabric with numerous well sorted large quartz (up to 0.8 mm) with scatter of black rock/iron oxide inclusions (up to 1 mm).
Pottery fabric: possibly SSTL, SC or CCA (see text)

WN6
Form: brick
Colour: various shades of red and orange
Fabric: Similar to WN4.
Possibly pottery fabric SSTL

WN7
Form: brick
Colour: various shades of red and orange
Fabric: Similar to WN3.

Fabric types WN3, WN4, WN6, WN7 and perhaps WN2 may come from the same production site or sites. It may prove possible to amalgamate some or all of these at a later date.

Ceramic form types

Nib/peg roofing tile
The earliest nib/peg tiles (Fig 12.1) were used in a pitched tile hearth in Building 1 (context 1153). There is also evidence that they were also used as a roof covering on the same building. All the peg/nib tiles were almost certainly made at Chilvers Coton, Nuneaton where nib/peg tiles were found in a 14th century AD kiln dump (Mayes and Scott, 1984, 170, fig 118). The Bermuda Park tiles are in Chilvers Coton pottery fabric CCC that occurs sporadically in the late 13th century, but almost universally throughout the 14th and 15th centuries AD (Maynes and Scott, 1984, 40-41, 63-64). At 122-123 Much Park Street, Coventry the earliest nib/peg tiles are somewhat earlier, having been date to the period *circa* 1200-1250, although it is uncertain where these were made (Wright 1982, 102-103). The Bermuda Park nib/peg tiles would seem to date to the late 13th-mid 14th century.

If the tiles belong to the initial construction phase of Building 1 then it is likely that they are they are associated with occupation of the site by the Knights Templar in 1185-1308. However, if they are later replacements for an earlier stone roof (see below), they could date from when the site was under royal control until 1324, or even the subsequent occupation by the Knights Hospitallers from 1324 to 1540.

Nib/peg tiles are so-named called because both nibs and nail holes are present in the same tile. These tiles have both smoothed and sanded sides. The nib are centrally located on the top edge of the smoothed sides, whilst the nail holes are positioned each side of the nib near the tile corners. Most of these holes are square or almost square in shape. When positioned on the building the other (sanded) side would have been upper-most on the roof.

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No complete tiles were recovered, but there are a number with complete breadth measurements (169-175 mm). Tile thickness varies between 11-17 mm. The nibs vary more widely in size but most are around 30-42 mm in length by 17-20 mm in breadth by 11-15 mm in height (excluding tile thickness). Most of the nail holes are around 5-8 mm square; although an oval (distorted round) nail hole (6 x 10 mm) is also present in context (1401). Nib/peg tiles with round holes were also made at Chilvers Coton (Mayes and Scott 1984, 168, fig 116). A number of tiles have areas of green and brown glaze but this seems to have been an accidental application from other glazed products, perhaps pottery or floor tile, which were being fired at the same site (Fig 12.2). The glaze is frequently on the tile edge or has run down the tile front indicating the tiles were stacked on edge during the firing process.

One tile (Context 1001) has a mark made by a finger or blunt tool set at a 90 degree to the tile edge (Fig 12.3). This may be some kind of batch mark, which are found on medieval roofing tiles elsewhere in Britain, although no other marks were observed on any of the other roofing tile examined.

Nib roofing tile

The red and orange coloured nib tiles (Fig 12.5) found on the site (fabrics WN2 and WN3) are slightly less sandy that the peg/nib tiles. There is no definite match with any of the pottery fabric samples examined, however, Stephanie Ratkai (pers comm) has noted that the redder versions of Chilvers Cotton fabric C tends to be later, mainly 15th century, which suggests that Chilvers Cotton may again be the production source.

Nib tiles in fabrics WH2 and WN3 probably covered the roofs of Buildings 2 and 4, where they were found associated with pottery of 1450-1550, although if they are made at Chilvers Coton, then they are unlikely to be date much beyond c. 1500. This would put the use of nib tiles in the period of the Knights Hospitallers, which occupied Bermuda Park until it was taken over by the crown in 1540 as part of the Dissolution of the Monasteries.

Although fabric WH2 and WH3 would appear to derive from the same production source certain tiles in WN2 have more frequent quartz. A more major difference is that the nib tiles in WN2 tend to be thicker, have larger nibs and have coarser moulding sand. It should be noted, however, that the sanding on certain tiles lies midway between that found on WN2 and WN3, so the fabric allocation of these tiles is less certain. In south-east England many late medieval and post-medieval roofing tiles have finer moulding sand that their medieval counterparts. If a similar change happened in the West Midlands then nib tiles in with finer moulding sand (WH3) could be slightly later than those with coarser sanding (WH2).

The nib tiles in WN2 measure 14-16 mm in thickness and have a nib size of around 33-43 mm long by 19-20 mm in breadth by 14-17 mm in height. The front of the nib is often marked by a prominent groove; the same feature is also present of the nib tiles in fabric WN3. One small area of tile from Context 2030 has part of a paw print on the smoothed side indicating they were laid out to dry during manufacture with their nib pointing upwards.

The nib tiles in WN3 are more complete. They have a length of over 269 mm, a complete breadth of 158-171 mm and a thickness of 12-18 mm (most are 12-15 mm). The nibs measure 23-33 mm in length, 14-17 mm in breadth by 11-16 mm in height. One nib tile (Context 1329) has what appears to be a bird footprint (Fig 12.4), whilst another (Context 1029, with sanding near WN2) is a kiln 'waster' or second having been overfired and distorted during the firing process. This is of interest as some of the Chilvers Coton pottery vessels found on site

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are also seconds, which suggests a deliberate import of kiln waste on to the site perhaps as hard core.

Ridge tile
Buildings covered with tiles of nib/peg and nib type would have had a line of curved ridge tiles running along the top of the roof, as would buildings with slate roofing tile. In the case of ridge tiles in fabrics WH1, WH2 and WH3, it seems reasonable to assume they are contemporary in date to the flat roof tiles in the same fabrics.

Fabric WH5
The earliest ridge tiles on the site are probably those in sandy fabric WN5 (Fig 12.6). They seem unlikely to have been used with ceramic roofing tile, as there is no nib/peg, nib or other roofing tile in the same fabric. Instead it would appear they were used to cover the crest of slate clad roofs as one fragment has mortar on the underside with a piece of grey roofing slate still attached.

The ridge tiles in fabric WH5 are generally white in colour, which is similar to certain nib/peg tiles, but they are made from slightly sandier clay. The fabric cannot be matched precisely with those used for pottery, but it does share many of the characteristics of pottery classified as 'SSTL, SL or CC'. The date of SSTL (sandstone and limestone tempered ware) is uncertain, but probably 13th century, SC (sandy calcareous ware) is dated 1150-1250, whilst CC (Chilvers Coton) has a date range of 1150-1500, although it would appear to be closest to CCA (Chilvers Coton type A) dated 1230-1350.

The ridge tiles in WN5 have a covering of green or greenish-brown glaze and are 9-16 mm in thickness (most are 11-14 mm). One fragment has small stab marks in the top surface (Fig 12.7), but this is the only sign of possible decoration. Similar glazed ridge tiles were found at found at 122-123 Much Park Street, Coventry (Group 1) where the earliest tiles are dated to around 1250-1350. They are described as products of the Chilvers Coton kilns (Wright 1982, 101), although it is unclear which fabric type is represented. The published descriptions suggest they are Chilvers Coton Fabric A or Ai, dated to the period 1230-1350.

One interesting feature of the Much Park Street material, which is paralleled at Bermuda Park, is that although glaze ridge tiles were present there are no flat ceramic tiles in the same fabric, which again indicates they were used in conjunction with stone roofing. It is therefore significant that slate roofing first appears at Much Park Street at the same date as the glazed ridge tiles (Period 4A), suggesting the two are connected (Wright 1982, 99 & 101).

Fabric WH1
The ridge tiles (WN1) used with the nib/peg system measure 13-15 mm in thickness and have knife trimmed edges with areas of green glaze. They would have had decoration along the top crest although this only survives on one example (Context 2030) (Fig 12.8). Unfortunately, the decorated area has been largely removed but it could have been similar to some of the decorated ridge tiles made at Chilvers Coton illustrated by Mayes and Scott (166-171, figs 114-116).

Fabrics WH2 and WH3
The ridge tiles associated with the nib system (WN2, WN3) are highly fragmented but appear to have lack both decoration and glaze (Fig 12.9). The thickness of these tiles is 18-20 mm (WN2) and 14 mm (WN3).

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Floor tile
There are only two definite and two probable ceramic floor tiles. The former comprise a plain green glazed tile showing slight wear in fabric WN5. This measures 23 mm in thickness and is presumably contemporary with the glazed ridge tiles discussed above. The other definite floor tile has an unworn plain brown glaze which does no cover the entire top surface. This measures 22 mm in thickness and is the only tile in fabric type WN4. The two probable floor tiles are in fabric WN2 and have a plain yellowish-brown glaze. Both plain and decorated floor tiles were made at Chilvers Coton during the medieval period which is the likely source of some, or all of the Bermuda Park examples.

Brick
Very little brick was found on the site. Most is red and orange in colour (WN6, WN7) and dates to the mid 15th-16th century. Only one red brick is substantially intact, this has a breadth of 100 mm and a thickness of 48 mm (WN6), another brick is slightly thicker (56mm). Both were found in post-medieval contexts in Period 4. There is also an unstratified lighter coloured fragment in fabric WN1. The similarity in fabric to medieval tile from Chilvers Coton suggests that the brick may have come from a post-medieval brickworks close to the site. There were certainty clays suitable for brickmaking, as a 20th century brickworks was located at Bermuda Park.

Kiln flooring?
Two large cream coloured bricks were found reused in one wall (1322) of Building 4. These are in fabric WN5, although they are not necessary from the same production site as the roof tile. These cream bricks, which measure 290 x 161-162 x 76-78 mm, are of particular interest as they are perforated by numerous tapering holes (Fig 12.10). These are round in one brick and square in shaped in the other. They were presumably used as flooring in some kiln of hearth or oven structure.

Water pipe
Circular water pipes (Fig 12.11) were recovered from topsoil (1001). They are in a similar fabric to roofing tiles in fabrics WH2 and WH3, and pottery belonging to the Chilvers Coton type D group, the latter dating to the period 1380–1500. An almost complete pipe was measured 75-95mm in diameter and would have had a length of just over 328mm. The pipes are socketed to allow the pipes to lock together. Water pipes, along with various varieties of field drain, are fairly common in Britain in the 18th-19th century, but are rarer before this date.

Stone form types

Roofing tile
The majority of stone from the site comprises fine grey laminated siltstone, identified as the Outwoods Shale, a formation of the Stockingford Shale Group of Cambrian date, probably from nearby quarries at Griff Hollows. The same stone was used for roofing at Nuneaton Priory during the late medieval period, and at Kenilworth and Sudeley castles in the 13th and 14th centuries (Cook 1981, 66).

Outwoods Shale roofing slate is generally light grey but dark red and brown patches can be present. The slates were hung using iron, or possibly wooden nails, placed through round nail

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holes 7-10 mm in diameter. A number of roofing slates, which measure 7-10 mm in thickness, show cut edges (Figs 12.12 and 12.13), including one of triangular shape from a wall foundation (1131) in Period 4 (Fig 12.14). The most complete roofing slate, found associated with Building 2, measures… *(not seen – context (1160) - AOC to add size).*

The crest of the building, or buildings, with slate roofing would have been covered by curved ceramic ridge tile. This seem to have been the glazed tile in sandy fabric WH5, as a fragment of slate was found mortared to the underside of a ridge tile in this fabric (context 2065). The dating of these glazed sandy ridge tiles is still problematic (see above), but their fabric is closest to Chilvers Coton type A (CCA) dated 1230-1350.

Pottery production in Chilvers Coton type A starts earlier that the nib/peg tiles in Chilvers Coton type B (tile fabric WH1), so if the ridge tiles in fabric WH5 were indeed made at Chilvers Coton they may well predate nib/peg tile production. This would in turn imply that stone roofing was used on the site before the introduction of nib/peg tiles, which would linked there use to occupation of the site by the Knights Templar. More work will be required to establish the precise chronology of stone and ceramic roofing tile use in the Nuneaton area, although at Bermuda Park the evidence suggests stone roofing with ceramic ridge tiles was used at a different date to nib/peg roofing with ceramic ridge tiles.

Paving?
There are two fragments of cut stone which may have been used as a decorative element in a stone or mixed stone and ceramic floor. The first (Context 1001) comprises a triangular shaped (123 x 73 x 25 mm) fine grained indurated (well cemented) meta-sediment known as greywacke. This is from the Lower Palaeozoic of northern England, probably from the Lake District. The non-local source suggests the stone is probably of 19th century, or later date. The second is a rectangular shaped (? x 41 x 24 mm) indurated siltstone from the Stockingford Shale Group (Fig 12.15). This stone, which was recovered from a post-medieval wall foundation (1062) with pottery of 1500-1700 date, appears to have a worn top surface.

Rubble
The majority of stone rubble from the site comprises various fine and medium grained sandstones, together with mudstones and siltstones. The mudstones, siltstones mainly derived from the Stockingford Shale Group, as do fragments of indurated sandstone from contexts (1390) and (1397).

A number of younger Carboniferous rocks are found in demolition dumps (1397) overlaying Building 1, and in a pitched tile hearth associated with Building 1 itself. These comprises mainly brown and light grey, fine and medium grained sandstones together with a solitary light grey, fine grained siltstone. One of the fine sandstones has bits of black carbon present indicating it is from the Coal Measures. The only other Carboniferous stone present was brown medium grain sandstone from a linear fill (1001) in Period 4. The latter is probably from the Etruria Formation. Of uncertain function is an unstratified pebble with the top and bottom broken off to create a rough circular counter shape. This is a quartzite, probably from the Permo-Trias drift deposits.

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APPENDIX D: ANIMAL BONE REPORT

Alan Pipe

Introduction

This report quantifies, describes, records and interprets the assemblage of hand-collected animal bone recovered from ten contexts; (1001), (1058), (1098), (1110), (1156), (1257), (1276), (1294), (2001) and (2030). This work follows on directly from an earlier assessment report (Pipe 2005) which identified the group as of only limited potential value for post-assessment study, mainly to demonstrate major domesticate recovery in terms of species, carcase-part representation and age at death. Text given in this report, with the accompanying catalogue provides an account of each context group and an interpretation of significance for local meat diet and waste disposal subject to the constraints on the data imposed by small sample size and poor preservation.

Methodology

Each context group was described directly onto the MoLAS Access animal bone post-assessment database, as individual bone fragments in terms of fragment count, species-identification, completeness, body side, epiphysial fusion, butchery, sex and estimated age at death. Each context was then grouped with period, interpretation and parent context. All identifications of species and skeletal element were made using the MoLAS animal bone reference collection together with Schmid 1972. When accurate identification to species or genus level was impossible, fragments were assigned to the approximate categories 'ox-sized mammal' and 'sheep-sized mammal' as appropriate on the basis of size and wall thickness. Multiple records were made for unidentifiable fragments of 'ox-sized' and 'sheep-sized' longbone and fragmented 'ox-sized' tooth only. Estimates of age from epiphysial fusion also followed Schmid 1972.
Table 1 provides a complete catalogue of all recorded fragments.

The assemblage/general

A total of 51 fragments of animal bone were recovered by hand-collection from contexts (1001) – (2030) (Table 1). At the time of writing, contexts (1001) and (2001), together producing ten bones, are listed as unstratified, giving a smaller assemblage of 41 fragments of stratified bone. As a whole, the assemblage was in a 'poor' state of preservation often with sufficient surface damage to prevent identification of taxon, skeletal element or modification. Fragment size was generally in the 25->75mm range in terms of greatest length.

The identifiable bone assemblage included mainly ox *Bos taurus* (15 fragments) with smaller components of pig *Sus scrofa* from (1001) and (2001) (two fragments), and horse *Equus caballus* from (1001) and (1294) (three teeth). All other bones derive from 'ox-sized' and 'sheep-sized' rib and longbone fragments. There were no wild 'game' or scavenger species, fish, amphibians, birds or small mammals.

In terms of carcase-part recovery; ox (including 'ox-sized') was represented mainly by elements of the head (teeth and lower jaw), vertebrae, ribs, upper limb (humerus, femur) and lower limb (carpal, astragalus, calcaneum, tarsal), areas of moderate and good meat-bearing quality and with a bias towards areas of greatest robustness. No horncores were recovered. Pig was represented by single fragments of mandibular tooth (1001) and tibia from (2001); horse was represented only by tooth fragments from (1001) and (1294). The bones generally

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derived from adults with no recovery of obviously old or of foetal or neonate animals. Single examples of juvenile ox calcaneum and infant calf carpal and tarsal bones were recovered from fill (1294) of medieval pit (1293). Evidence for butchery was confined to a single ox astragalus from fill (1276) of pit (1277) which had been chopped transversely. There was no evidence for pathological change, gnawing or burning, or of working of horn or bone. Evidence for age at death was provided by three ox epiphyses; two from fill (1294) of pit (1293) and one from unstratified contexts (2001); and obviously infant cattle carpal and tarsal from (1294). There were no mandibular tooth rows and no measurable or complete bones.
The context groups

Unstratified (1001)
This group produced five fragments derived from two adult, worn horse mandibular teeth, ox axis vertebra and humerus and a single adult male pig mandibular canine tooth. The horse teeth derived form the premolars or molars in the cheek tooth row, between the third premolar and the second molar inclusive.

Cobbling (1058)
This context produced five unidentifiable fragments of 'ox-sized' tooth.

Fill (1098) of post-medieval ditch [1099]
This group produced single fragments of ox left femur midshaft and thoracic vertebra.

Fill (1110) of medieval pit [1111]
This group produced three fragments of 'ox-sized' longbone.

Medieval fill (1156)
This deposit produced a single fragment of ox mandible articulation.

Medieval cobble bedding sand (1257)
This group produced three fragments of 'ox-sized' longbone.

Fill (1276) of medieval pit [1277]
This group produced a distal fragment of ox astragalus which had been chopped transversely with a cleaver or heavy-bladed knife, the only evidence of butchery from the assemblage. This very robust and solid bone forms a major component of the ankle joint; chopping through the midshaft would disarticulate the hind leg at the ankle and detach the hind foot, possibly during preparation of a leg joint.

Fill (1294) of medieval pit [1293]
This fill produced 22 fragments, the largest group within the assemblage. Although the majority of the group derived from 'ox-sized' longbone fragments with single examples of 'sheep-sized' rib, there were single examples of ox maxillary tooth, mandible, radius, lunate carpal, astragalus, calcaneum and central tarsal; elements of the head, lower jaw, lower fore leg, 'wrist' and ankle joints. The calcaneum and astragalus articulate together and obviously derive from the same left hind leg; the unfused proximal epiphysis of the calcaneum indicates an animal less than three years old, an animal reared for beef production rather than one slaughtered after use for a primary function such as traction or dairying. The carpal and tarsal derive from a calf in the first few months of life, probably an indication of veal consumption. Fusion of the proximal radius indicates an animal in at least the second year of life but probably not old, perhaps again a purpose-reared beef animal.

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Unstratified (2001)
This deposit produced single fragments of ox humerus, 'ox-sized' rib, 'sheep-sized' longbone and pig tibia. The ox humerus was fused distally indicating an age of at least two years.

Levelling deposit (2030) in post-medieval ditch (2031)
This deposit produced only an ox mandibular tooth fragment and five fragments of 'ox-sized' longbone.

Discussion
Preliminary impressions of the local meat diet given by the very small assemblage of stratified animal bone suggest an overall dominance of beef taken from carcase areas of good (vertebrae, rib, upper limb) and moderate (head, lower limb) meat bearing quality with an absence of elements indicative of poor quality meat or of primary carcase processing (horncore, foot, toe). With the exception of a single adult horse mandibular tooth, all other stratified bone derived from 'ox-sized' mammal; pig and 'sheep-sized' mammal derived entirely from unstratified contexts.

It should be stressed that bone preservation is poor throughout and that this will have introduced severe bias into the bone assemblage. This is shown by recovery of horse as teeth only, without any fragments of maxilla (upper jaw) or mandible (lower jaw); predominance of highly robust skeletal elements (distal humerus, carpal, tarsal, astragalus, calcaneum) of cattle; and the absence of substantially complete 'sheep-sized' or pig bones even though very fragmented examples are present. By contrast, the absence of very robust elements such as the metapodials (feet) and phalanges (toes), even though preservation conditions would favour their recovery, perhaps implies that this is a credible reflection of local carcase-part selection and disposal and a lack of in-situ primary carcase processing.

The complete lack of smaller and more fragile bones e.g. poultry, and the scarcity of 'sheep-sized' mammal and pig may reflect dietary preference, or be merely an artefact of preservation and relative robustness. The largest bone group, from fill (1294) of medieval pit (1293] seems to correspond to the overall carcase-part distribution but also clearly provides the only evidence for consumption of calf as well as young adult cattle. There is no evidence for old animals and no evidence for pathological change; therefore no reason to suggest consumption of cattle slaughtered at the end of a working life rather than of purpose-reared beef cattle.

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DATE	INTERP	PARENT	CONTEXT	TAXON	BONE	PART	SIDE	NOS.	AGE
unstratified	backfill		(1001)	horse	tooth, mandibular	most	both	2	adult
unstratified	backfill		(1001)	ox	axis	anterior		1	
unstratified	backfill		(1001)	ox	humerus	midshaft	left	1	
unstratified	backfill		(1001)	pig	tooth, mandibular	most	left	1	adult
	cobbling		(1058)	ox-sized	tooth	fragment		5	
post-medieval	ditch fill	ditch [1099	(1098)	ox	femur	midshaft	left	1	
post-medieval		ditch [1099]	(1098)	ox	vertebra, thoracic	fragment		1	
medieval	pit fill	pit [1111]	(1110)	ox-sized	longbone	fragment		3	
medieval	fill	channel	(1156)	ox	mandible	fragment	right	1	
medieval	cobble bedding		(1257)	ox-sized	longbone	fragment		1	
medieval	pit fill	pit [1277]	(1276)	ox	astragalus	distal		1	adult
medieval	pit fill	pit [1293]	(1294)	horse	tooth, mandibular	whole	left	1	adult
medieval	pit fill	pit [1293]	(1294)	ox	astragalus	whole	left	1	
medieval	pit fill	pit [1293]	(1294)	ox	calcaneum	distal	left	1	juvenile
medieval	pit fill	pit [1293]	(1294)	ox	carpal, lunate	whole	right	1	infant
medieval	pit fill	pit [1293]	(1294)	ox	mandible	proximal	right	1	
medieval	pit fill	pit [1293]	(1294)	ox	radius	proximal	left	1	
medieval	pit fill	pit [1293]	(1294)	ox	tarsal, central	fragment	left	1	infant
medieval	pit fill	pit [1293]	(1294)	ox	tooth,maxillary	fragment	left	1	adult
medieval	pit fill	pit [1293]	(1294)	ox-sized	longbone	fragment		13	
medieval	pit fill	pit [1293]	(1294)	ox-sized	rib	fragment		1	
unstratified			(2001)	ox	humerus	distal	left	1	
unstratified			(2001)	ox-sized	rib	fragment		1	
unstratified			(2001)	pig	tibia	midshaft	left	1	
unstratified			(2001)	sheep-sized	longbone	fragment		2	
post-medieval	levelling	ditch [2031]	(2030)	ox	tooth, mandibular	fragment		1	
post-medieval	levelling	ditch [2031	(2030)	ox-sized	longbone	fragment		5	

Table 1: Summary of Animal Bone Recovered

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APPENDIX E: SLAG REPORT

Lynne Keys

A medium assemblage of just over twenty kilos of iron slag and related debris were recovered during excavations; all diagnostic types were indicative of smithing. A tiny amount of flake hammerscale was found adhering to slag in two contexts (1060) and (1184), indicating these pieces had been produced during secondary smithing: hot working by a smith, using a hammer, of one or more pieces of iron to create an object or repair it.

No slags diagnostic of smelting (manufacture of iron from ore and fuel in a smelting furnace) were present in the assemblage. Much of the slag could only be described as undiagnostic because it had been broken up during deposition, re-deposition or excavation; occasionally, however, the shape of unbroken side indicated the piece may once have formed part of a smithing hearth bottom (nine recognisable examples of these - two unstratified - were recovered). A 'smithing hearth bottom' is a plano-convex shaped slag formed as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. The iron silicate material from this reaction dripped down into the hearth base forming slag which, if not cleared out, developed into a smithing hearth bottom.

The Bermuda Park assemblage is almost certainly re-deposited material – i.e. not in-situ in hearths or in an area where smithing was taking place. Before it could grow large enough to block the tuyere hole (where the air from a bellows entered the hearth) a smithing hearth bottom was usually removed and dumped in the nearest pit, ditch or unused area. The number of fragments from Bermuda Park which had been broken long ago and had worn surfaces suggests that after their removal from the hearth the treatment of the slags was such that most were damaged. With no definite indications of smithing on the site they may have been brought from a distance or, at least, from outside the immediate excavation area. All the slag was recovered from ditches (1107, 1264, and 1335), channels (1157 and 1174), revetment dumps (1329 and 1391), in postholes (1077 and 1229) and beam slot (1061) fills, or hard core in a cobbled surface (1059). The slag pieces in the beam slot may have been used to provide a firm surface for the beam but this is entirely speculative.

One could suggest the slag was brought onto the site to be used specifically as hard core or dump material. The smithing hearth bottoms and broken fragments from channel (1157), deposit (1184), are so large and heavy they would not have been carried far unless they were intended for a specific use which required heavy weights; the smithing hearth bottom in ditch (1107), fill (1106), is also large. These two deposits have been assigned to Period 3. If the smithing activity was taking place in that period somewhere near the site, it was intense and prolonged: the smithing hearth bottoms and pieces from other periods are much smaller in size.

Although hearths were found on the site there is no evidence to associate them with iron working activity. It is probable, anyway, that iron working hearths may have been raised types with the fire bed on top (the type most people see in post-medieval or modern forges) and left little evidence when they collapsed or were demolished and the material used for other purposes. The absence of quantities of hammerscale (micro-slags produced during smithing

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activity), would also seem to argue for smithing having taken place somewhere outside this site.

Context	Slag Identification	weight	length	breadth	depth	comment
1001	smithing hearth bottom	296	0	0	35	incomplete
1001	smithing hearth bottom	581	110	90	40	
1001	undiagnostic	17				unstratified - discarded
1001	undiagnostic	442				
1001	undiagnostic	638				parts of smithing hearth bottoms? Three pieces
1058	iron on stone	109				
1058	stone	113				
1058	undiagnostic	239				two pieces
1058	undiagnostic	581				six pieces
1060	smithing hearth bottom	265	0	0	45	incomplete
1060	undiagnostic	85				magnetic & with flake hammerscale on surface
1060	undiagnostic	194				part of smithing hearth bottom?
1060	undiagnostic	664				abraded pieces
1076	undiagnostic	10				
1106	smithing hearth bottom	2406	255	140	80	
1184	hammerscale	0				a tiny amount of flake
1184	smithing hearth bottom	481	105	0	45	incomplete
1184	smithing hearth bottom	698	140	130	40	
1184	smithing hearth bottom	1986	180	160	55	
1184	smithing hearth bottom	3080	290	155	80	
1184	undiagnostic	131				
1184	undiagnostic	291				part of smithing hearth bottom?
1184	undiagnostic	420				part of smithing hearth bottom?
1184	undiagnostic	1160				part of smithing hearth bottom?
1184	undiagnostic	1859				part of smithing hearth bottom?
1228	undiagnostic	89				
1262	fired clay	62				
1262	undiagnostic	398				part of smithing hearth bottom?
1262	undiagnostic	474				
1329	undiagnostic	13				
1332	smithing hearth bottom	577	120	110	45	incomplete
1332	undiagnostic	136				
1332	undiagnostic	461				part of smithing hearth bottom?
1391	undiagnostic	285				part of smithing hearth bottom?
1392	charcoal	29				
1409	smithing hearth bottom	207	80	80	40	
1409	undiagnostic	116				possibily smithing: one piece with hammerscale flake on surface
1409	undiagnostic	322				part of smithing hearth bottom?
1409	undiagnostic	403				part of smithing hearth bottom?

Table 1: Summary of Slag Recovered

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APPENDIX F: REGISTERED FINDS REPORT

Beth Richardson

Introduction

The relatively small number of items in the assemblage recovered are all of medieval and post-medieval date. Preservation is neither very good, nor so poor as to preclude identifications being proposed for the majority.

Medieval

Iron

All items of this metal are heavily rusted apart from the last.

Horseshoes

<3> (1098]

Length 110mm; span 120mm; greatest width of web 26mm; wear has reduced the length marginally; Clark type 4, assigned to the late 13th to late 15th centuries. (Clarke 1995, 88-92 & 97)

<4> (1391]

One branch only: (?) three holes for nails, surviving length 100mm, greatest width of web 28mm; hint of calkin (cf. Clark 1995, 81 fig. 59); Clark type 3, assigned to the 13th and 14th centuries, with the main emphasis in the late 13th/early 14th-century period (ibid, 86-8, 92 & 96-7).

Buckle

<2> (1022]

Fragment comprising separate, outside-edge roller, length 75mm, and broken off stubs of both sides looped onto the former; X-ray plate shows white-metal coating. From a robust, rectangular frame this is almost certainly for a horse harness; assigned to the late 13th to late 14th centuries (cf. Egan 1995, 56-61 figs. 42 & 45 nos. 30-2).

Post Medieval

Glass

Vessel

(1378]

Fragment of pale green pushed-in base from a bottle/phial, diameter c60mm. Probably 18th-century.

Window

(2030]

Pale green fragment with several minor bubbles; maximum survival 47x38mm; no original edges survive. Probably 18th-century.

Stone

Whetstone

(1025]

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Pale grey-brown, medium sandy fabric with micaceous specks; broken off at both ends; tapering, with square section 38x36 to 31x31mm; surviving length 95mm; little obvious evidence of wear. Probably post-medieval.

Iron
Bolt
(1460]
Robust bolt with (?)rounded head: length 120mm. Probably post-medieval.

Unknown Date

Iron
Nails
(1001]
Length 35mm, (?)asymmetrical head.

Unidentified
(1290)
Curved strip with loop at one end (other end broken off); surviving length 65mm, width 10mm.

Discussion
These are all relatively routine finds. Within the diverse medieval and post-medieval items it is possible to see an emphasis on horse equipment in the earlier part of this timespan, with two horseshoes and the remains of an equine harness buckle (which could all be contemporary). Both of the definitive fragments of glassware appear to be routine 18th-century goods.

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Geoff Egan, September 2007.

APPENDIX G: GEOARCHAEOLOGICAL REPORT

By Graham Spurr

Summary
The soil micromorphology, soil chemistry and diatom analyses have refined our understanding of the sampled sediments that accumulated in Sections 3 and 9 at Bermuda Park. The natures of the depositional environments seem to have been either ponds or areas of very slow water movement. The ponds seem to have been consistently shallow and prone to drying out. Furthermore, they seem to have been subject to management practices such as recutting or clearance a number of times over their duration. They appear to have been occasionally polluted to a small degree by waste dumping often exhibiting fragments of coal, charcoal and brick as well as variations in phosphate levels indicating latrine or animal waste, but never to the extent of eutrophication or anything indicating industrial activity locally. All

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the evidence points to generally shallow but clear freshwater ponds, consistently managed until they finally became redundant and in filled.

Introduction

As part of an archaeological evaluation carried out by AOC Archaeology, a total of four monolith samples were taken from trench sections at the Bermuda Park site, Nuneaton (BDA04) which were assessed for their geoarchaeological and archaeo-environmental potential.

In the *Geoarchaeological Assessment Report* (Spurr 2004), the monolith samples were found to have good potential for refined understanding of the depositional environment of the sediments sampled. After the initial geoarchaeological examination of the monolith tins it was recommended that further analysis in terms of soil micromorphology, soil chemistry and diatom analysis be undertaken. The soil micromorphology and soil chemistry analyses would enable the micro-structural changes within and between the sedimentary units that are not necessarily visible in the field to be examined as well as relationships between potential agricultural and industrial processes on site. Furthermore, sedimentological variations in the deposits would interrelate with diatom analysis undertaken on the monolith samples to analyse water flow, eutrophication and nutrient content.

Aims and objectives

The aim of this geoarchaeological examination is to follow up recommendations from a previous *Geoarchaeological Assessment* (Spurr 2004), which recommended more detailed monolith examination in terms of sediment analysis and microfossil analysis.

The objectives of this further work would be to:
To combine soil micromorphology and soil chemistry analyses to determine changes in water levels and interrelationships of organic materials and heavy metals within the different contexts and possibly identify indirect evidence for local human activity

To analyse diatom species present to help interpret the nature of the water courses for example, in terms of water depth / periodic drying out; water quality, in particular concentrations of nutrients and organic waste and effluent from both agricultural and industrial processes.

Methodology

Sediments were recorded in the laboratory and sub-samples for soil micromorphology and diatom work were taken at selected locations within key sedimentary units.

The sedimentary analysis (Lithostratigraphy)

Dr. Richard MacPhail of the Institute of Archaeology, UCL and J.Crowther of the University of Wales, Lampeter, carried out the soil micromorphology and soil chemistry work. The aim of the work was to investigate in detail the nature of the sediments present, water flow, anthropogenic influences and any possible industrial activity traces within the sediment.

Soil Chemistry Methods

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Analysis was undertaken on the fine earth fraction (i.e. <2 mm) of the samples. LOI (loss-on-ignition) was determined by ignition at 375ºC for 16 hours (Ball, 1964). Phosphate-P_i (inorganic phosphate) and phosphate-P_o (organic phosphate) were determined using a two-stage adaptation of the procedure developed by Dick and Tabatabai (1977) in which the phosphate concentration of a sample is measured first without oxidation of organic matter (P_i), using 1N HCl as the extractant; and then on the residue following alkaline oxidation with sodium hypobromite (P_o), using 1N H_2SO_4 as the extractant. These were summed to give total phosphate (phosphate-P), and the ratios phosphate-P_i:P and phosphate-P_o:P (expressed as percentages) were calculated. Pb, Zn and Cu were determined by atomic absorption spectrophotometry following extraction with 1N HCl.

In addition to χ (low frequency mass-specific magnetic susceptibility), determinations were made of χ_{max} (maximum potential magnetic susceptibility) by subjecting a sample to optimum conditions for susceptibility enhancement in the laboratory. χ_{conv} (fractional conversion), which is expressed as a percentage, is a measure of the extent to which the potential susceptibility has been achieved in the original sample, viz: (χ / χ_{max}) x 100.0 (Tite, 1972; Scollar *et al.*, 1990). In many respects this is a better indicator of magnetic susceptibility enhancement than raw χ data, particularly in cases where soils have widely differing χ_{max} values (Crowther and Barker, 1995; Crowther, 2003). χ_{conv} values of ≥ 5.00% are often taken as being indicative of some degree of susceptibility enhancement. A Bartington MS2 meter was used for magnetic susceptibility measurements. χ_{max} was achieved by heating samples at 650°C in reducing, followed by oxidising conditions. The method used broadly follows that of Tite and Mullins (1971), except that household flour was mixed with the soils and lids placed on the crucibles to create the reducing environment (after Graham and Scollar, 1976; Crowther and Barker, 1995).

Soil Micromorphology Methods

The four 8 cm-long samples were impregnated with a clear polyester resin-acetone mixture; samples were then topped up with resin, ahead of curing and slabbing for 75x50 mm-size thin section manufacture by Spectrum Petrographics, Vancouver, Washington, USA (Goldberg and Macphail, 2006; Murphy, 1986). Thin sections were analysed using a petrological microscope under plane polarised light (PPL), crossed polarised light (XPL), oblique incident light (OIL) and using fluorescent microscopy (blue light – BL), at magnifications ranging from x1 to x200/400. Thin sections were described, ascribed soil microfabric types (MFTs) and microfacies types (MFTs) (see Tables below) and counted according to established methods (Bullock *et al*., 1985; Courty, 2001; Courty *et al*., 1989; Goldberg and Macphail, 2006; Macphail and Cruise, 2001; Stoops, 2003).

The ecological remains (Bio-stratigraphy)

Dr. Nigel Cameron, of UCL, carried out the diatom work. The aim of the work was to determine the preservation, presence, abundance and diversity of diatoms within the sequence and their potential to identify differences and trends, particularly in terms of salinity and eutrophication, within the sediment sequence.

Diatom preparation followed standard techniques: the oxidation of organic sediment, removal of carbonate and clay, concentration of diatom valves and washing with distilled water. Two coverslips, each of a different concentration of the cleaned solution, were prepared from each sample and fixed in Naphrax, a mountant of a suitable refractive index for diatom microscopy. A large area of the coverslips on each slide was scanned for diatoms, first at a

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magnification of x400, followed by more detailed scanning at a magnification of x1000, both searches using phase contrast illumination.

The results of the different types of work outlined above have been drawn together in this geoarchaeological report.

Results of the examination

The results of the separate soil micromorphology and diatom analyses have been combined with the results of the initial monolith interpretations for the purposes of this report (tabulated below).

The sedimentary analysis (Lithostratigraphy)

Monolith Interpretation

G.Spurr (MoLAS)

In Area 1 two overlapping monolith tins, designated as samples <1> and <2>, were sampled from Section 3. The tins covered contexts (1002) and (1338) through to (1342) inclusive. The sampled profile covered a height range of 0.82m, from 93.68m OD to 92.86m OD.

Context	Elevation of top and base of unit	Sedimentary description
1002	93.68mOD (top of tin) to 93.62m OD	10YR 4/1 dark grey silty clay; poorly sorted, with very occasional charcoal and coal fragment; clear horizontal contact unit below.
1338	93.62m OD to 93.43m OD	10YR 5/2 greyish brown firm silty clay with frequent 10YR 6/8 brownish yellow and 10YR 8/6 yellow sand patches; poorly sorted with very occasional brick fragments throughout; graded contact unit below.
1339	93.43m OD to 93.22m OD	10YR 4/1 dark grey clay silt with fine sand element; moderately frequent fine root traces mid to upper unit and very occasional chalk flecks throughout; clear horizontal contact unit below.
1340	93.22m OD to 92.96m OD	10YR 4/1 DARK GREY CLAY SILT GRADING INTO 2.5Y LIGHT YELLOWISH BROWN FINE TO MEDIUM SAND GRADING BACK INTO 10YR 5/2 GREYISH BROWN FIRM SANDY CLAY WITH DECREASING SAND ELEMENT WITH DEPTH; POORLY SORTED WITH OCCASIONAL CHARCOAL FRAGMENTS AND IRON FLECKING THROUGHOUT; CLEAR HORIZONTAL CONTACT UNIT BELOW.
1341	92.96m OD to 92.90m OD	10YR 5/2 greyish brown firm silty clay with fine sand element and iron staining at contact; clear horizontal contact unit below.
1342	92.90m OD to 92.86m OD (base of tin)	2.5Y 6/2 light brownish grey loose clayey sand; poorly sorted with occasional iron staining and charcoal fragment.

Table 1: The sedimentary sequence sampled from section 3 (BDA 04)

In another section from Area 1, Section 9, a further two overlapping monolith tins designated as samples <3> and <4>, were taken covering contexts (1351) through to (1354) inclusive. The sampled profile covered a height range of 0.9m, from 93.6m OD to 92.7m OD.

Context	Elevation of top and base of unit	Sedimentary description
1351	93.6mOD (top of tin) to 93.5m OD	10YR 6/6 Brownish yellow clay silt; very poorly sorted with occasional brick and charcoal fragments throughout; clear sloping contact unit below.

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1352	93.5m OD to 93.2m OD	10YR 5/2 greyish brown clay silt; poorly sorted with very occasional coal fragments, occasional brick and frequent charcoal fragments throughout but increasing toward base; clear horizontal contact unit below.
1353	93.2m OD to 92.83m OD	10YR 4/2 dark greyish brown clay silt; with occasional iron and charcoal fragments; clear sloping contact unit below.
1354	92.83m OD to 92.7m OD (base of tin)	5GY 6/1 greenish grey stiff oxidised mottled clay.

Table 2: The sedimentary sequence sampled from Section 9 (BDA 04)

Soil Chemistry
(R.MacPhail & J. Crowther)

The results of the soil chemistry work are tabulated below.

Ctxt	Description	LOI [a] (%)	Phosphate-P[b] (mg g^{-1})	χ^{c} (10^{-8} SI)	χ_{max} (10^{-8} SI)	χ_{conv} (%)	Pb[d] (µg g^{-1})	Zn[d] (µg g^{-1})	Cu[d] (µg g^{-1})
1339	Pond deposit	3.98	0.433	6.7	1270	0.528	50.4	12.6	14.7

Table 3: Soil chemistry results for Section 3

Ctxt	Description	LOI [a] (%)	Phosphate-P[b] (mg g^{-1})	χ^{c} (10^{-8} SI)	χ_{max} (10^{-8} SI)	χ_{conv} (%)	Pb[d] (µg g^{-1})	Zn[d] (µg g^{-1})	Cu[d] (µg g^{-1})
1352	Pond deposit	9.68*	1.54*	15.6	1390	1.12	56.9	41.9	19.3
1353	Pond deposit	3.37	2.11**	9.9	817	1.21	64.9	25.6	24.6
1354	Natural clay	1.25	0.526	6.1	573	1.06	3.1	13.4	65.7

Table 4: Soil chemistry results for section 9

The clay underlying the pond context (1354) is highly minerogenic (LOI, 1.25%); has quite a low phosphate-P concentration (0.526 mg g^{-1}), most of which is present in an inorganic form (phosphate-P_i:P, 74.0%); displays no evidence of magnetic susceptibility enhancement (χ_{conv} < 5.00%); and contains low concentrations of heavy metals. Of the latter, Cu stands out has having a notably higher concentration (65.7 µg g^{-1}), but even this is low and is likely to be of natural origin.

Of three pond deposits investigated, (1352) contained quite a lot of small fragments of coal which explains its notably higher LOI (9.68%). If due allowance is made for this, then the deposits are all highly minerogenic. This suggests that little organic matter was incorporated during the sedimentation process, either as a result of rapid sedimentation and/or limited plant growth within the pond. There is a marked increase in phosphate-P from (1339) (0.433 mg g^{-1}), through (1352) (1.54 mg g^{-1}), to (1353) (2.11 mg g^{-1}), which seems likely to reflect some degree of enrichment, especially in the latter context. The fact that there is a corresponding increase in the phosphate-Pi:P ratio (from 44.3-89.3%), combined with the minerogenic nature of the deposits, suggests that the phosphate enrichment is largely the result of inputs of phosphate-enriched minerogenic sediments, rather than being associated with nutrient accumulation and cycling by plants growing within the pond. Although the phosphate enrichment is largely minerogenic, the inorganic phosphate may well have been derived from the mineralisation of organic phosphates (e.g. from excreta, waste dumps, etc.) within the catchment.

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None of the samples show signs of magnetic susceptibility enhancement. This does not necessarily indicate, however, that the original sediments entering the pond had not been subject to heating or burning, since natural gleying processes (leading to loss of Fe) within the pond may have diluted the anthropogenic signature (Crowther, 2003). The concentrations of heavy metals in all the pond contexts are quite low, and provide no evidence of metal-working activity within the catchment of the pond.

Soil Micromorphology
(R.MacPhail & J. Crowther)

The results of the soil micromorphology work are tabulated below.
Table 5:Soil micromorphology results for Section 3

Context	Depth (mOD)	Bulk sample	MFT	SMT	Voids	Clayey	Silty	Sandy
1338	93.45-93.35 m		B4	SMT 2b, 1a, 1b (3b)	10-30%	fff	fff	f
1339	93.45-93.35 m	x1339	C2	3b (3a)	as fragment		ditto	ditto
1339	93.21-93.16 m		C2	3b (3a)	20%		ffff	ff
1340	93.16-93.13 m		C1	3a, 3b	15-20%		ff	ffff
Context	Root traces	Brick/pot	Charcoal	Coal	Phytoliths	Textural Intercalations	2nd Fe	2nd Fe-P
1338	a*	a-1	a	aaa	a	aaa	aaaaa	a*
1339	ditto	ditto	ditto	ditto	ditto	ditto	ditto	
1339	a	a-3	a	aa	a	aaaa	aaaa	
1340	a*	a-2	a*	a		aa	aa	
* - very few 0-5%, f - few 5-15%, ff - frequent 15-30%, fff - common 30-50%, ffff - dominant 50-70%, fffff - very dominant >70%								
a - rare <2% (a*1%; a-1, single occurrence), aa - occasional 2-5%, aaa - many 5-10%, aaaa - abundant 10-20%, aaaaa - very abundant >20%								

Context	Thin Sections	Bulk sample	MFT	SMT	Voids	Clayey	Silty	Sandy
1352	93.20-93.16 m	x1352	B3	2a, 2b (1a, 1b)	20%	ff		fffff
1353	93.16-93.12 m		B2	1a, 1b, 2a	10%	ffff		ff
1353	92.88-92.45(30) m	x1353	B1	2a	10-20%	ff		fffff
1354	92.45(30)-92.80 m	x1354	A	1a, 1b	10-15%	ffff		ff
Context	Root traces	Brick/pot	Charcoal	Coal	Phytoliths	Textural Intercalations	2nd Fe	2nd Fe-P
1352			aa	aaaaa	a	aaaaa	aaaa	a
1353		a-2	a	a	a*	aaaa	aaa	
1353	a	a-2	aa	a*	a*	aaa	aaa	a
1354	a*	a-1					aaaaa	
* - very few 0-5%, f - few 5-15%, ff - frequent 15-30%, fff - common 30-50%, ffff - dominant 50-70%, fffff - very dominant >70%								
a - rare <2% (a*1%; a-1, single occurrence), aa - occasional 2-5%, aaa - many 5-10%, aaaa -								

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abundant 10-20%, aaaaa - very abundant >20%		

Table 6: Soil micromorphology results for section 9

Section 3

The junction (examined in M1) between (1340) and (1339) is composed of clean (once-dry?) fine to medium sand dumped onto a wet(?) silt loam. The clean sands may well have come from a leached soil(s) formed locally on glaciofluvial drift (see above; Avery, 1990, 235). The dump included plant fragments and a coarse (40 mm) flint flake (?). This sand seems to have briefly dried out, forming a soil porosity of channels and vughs; on re-inundation dusty clay washed into some of these voids, inferring a period of subaerial exposure.

Overlying (1339) is a silt loam-dominated deposit with included fine organic matter and phytoliths, and a scatter of coal, charcoal and examples of brick. There are also *in situ* ferruginised roots, very abundant well developed intercalations and voids infills, and much iron staining has developed. This context, which was also examined in M2 apparently records the formation of a muddy silty sand. There seems to have been inputs of both charcoal and fine coal. There are also numerous ferruginous impregnative features and possibly fragments of these. As noted above, there is no magnetic susceptibility data supporting the presence of inputs of burned or iron-working material, although gleying will have the effect of removing any signal, and weathering any iron-slag (Crowther, 2003; Macphail, 2003).

Context (1338) (M2) is composed of coarsely mixed fragments of weathered and unweathered clay (from natural substrate) and silty clay (as in M3 and M4). Many fine coal and rare charcoal are embedded in silty clay and the weathered clay material. There are also intercalations and clayey infills, and rooting traces and an example of a broad burrow; these are all strongly affected by secondary iron impregnations. Fragments of context (1339), up to 8 mm size, occur at the junction of contexts (1339-1338) in Monolith 2. These fragments have developed iron stained margins.

Thin section M2 clearly shows disturbed upper (1339) and mixed dump of unweathered and weathered clay, and the coal-rich silty clay pond fills that make up (1338). These deposits may record dumping of wet sediments from pond cleaning and/or deepening, as material from the junction between the base of the pond and the natural clay (as described in M4) seems to have been dug out. The sediments of (1338) were subsequently affected by fluctuating water tables allowing some drying out and at least one example of probable terrestrial burrowing; strong iron mottling also records these fluctuating water tables. Overall, these sediments are clearly consistent with a managed pond rather than a natural stream.

Section 9

Context (1354) (natural clay) is comprised of pale massive clay and an overlying mixed iron-stained clay and sandy clay. It is also characterized by very fine detrital blackened and charred organic material, and rare traces of roots. Context (1354) has a sloping and microfaulted boundary with overlying (1353). The latter is a homogeneous, finely to coarsely rooted (now mainly ferruginised) sandy clay with humic staining and many fine to coarse charcoal and probable examples of fine coal and brick. There are many weakly-formed intercalations, much iron staining and rare possible yellowish iron-phosphate (Fe-P) amorphous infills. The last is consistent with phosphate-P being strongly enriched in this layer.

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Thin section sample M4 therefore seems to record a truncated and weathered junction to the natural underlying fluvioglacial clay at the base of the pond fill, presumably resulting from of the excavation of the pond. It was noted above (M2) that assumed deepening/over-enthusiastic cleaning out of the pond led to the dumping of such pale (unweathered) and iron-stained clay (1338). Sometimes such clay deposits were dug out to form clay bunds to manage water flow at mills.

The basal pond deposits here are a homogeneous, once-rooted sandy clay mixture containing phytoliths, and fine anthropogenic inclusions such as coarse charcoal and rarely brick and coal. Phytoliths and rooting are probably associated with the likely presence of wetland plants. Sedimentation was apparently co-eval with rooting, water table fluctuations, and generally muddy conditions. Plants would have slowed the water flow. Iron staining, associated with these water table fluctuating conditions, was also accompanied by secondary amorphous probable iron-phosphate deposition. The latter is indicative of waste, including latrine waste, entering the pond. Such phosphate-P enrichment is similar to that found in phosphate-enriched layers at the Tower of London moat (Macphail and Crowther, 2004).

Higher up in the Section 9 sequence (M3), (1353) is composed of coarse fragments of natural clay and disturbed clay from the base of a possible fill, with many intercalations and iron staining. These probably represent dumps of clay dug from base of the fill (1354). These lumps of clay became mixed with lower pond fills under muddy conditions, presumably because of recutting/cleaning-out of the pond fill, or even collapse of pond side deposits had accumulated from pond cleaning episodes.

Overlying (1352) is a weakly humic silty clay containing very abundant fine to coarse coal, with charcoal and charred fine organic matter; phytoliths continue to be present. The abundant textural pedofeatures, some associated with weakly formed laminae, formed through muddy sedimentation. There is also iron staining and organic matter mineralization and further examples of rare amorphous possible Fe-P impregnations that are consistent with phosphate-P enrichment. Clearly, this very coal-rich weakly humic silty clay is associated with the disposal/accidental spillage of coal dust etc., into this muddy fill. Although the amount of coal present strongly inflates the measured LOI (see above), minor amounts of organic matter seemed to have begun to accumulate in these sediments. Again, the deposits were affected by fluctuating water tables (iron mottling) and associated gravity water flow that also led to structural collapse.

Conclusions

The fills seem to record the construction of a pond, by excavation down through possible sands into unweathered clay of fluvioglacial origin. The latter was presumably a totally suitable medium for holding and retaining a body of water associated with the mill. The fragmented clay at the base of the dug pond became weathered as pond sediments, which included the presumed overlying sands of the fluvioglacial deposits, began to accumulate. Clearly, throughout the history of the pond, water depth and water flow was compromised by generally muddy sedimentation (indicative of generally very slow water flow) and the growth of wetland(?) plants. Local occupation and disposal/spillage of fuel (mainly coal with some charcoal) could also be linked to drainage into the pond of occupation waste, including human waste, which enriched two of the pond contexts in phosphate. Despite this amount of coal and charcoal waste present, the lack of any magnetic susceptibility enhancement and heavy metal concentrations (as for example found at the Tower of London moat), or micro-

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inclusions indicative of high temperature burning, etc., suggest a lack of local industrial activity, however.

The sediments clearly record weakly humic infilling of the pond by fine silt, clay and sand, and the apparent necessity for cleaning and re-digging of the pond in order to maintain the required depth of water and necessary flow. Some dumped pond material included fragments of possible wetland plant material, whereas the top of (1340) seems to have involved the dumping of (local?) leached sandy soil that included a possible flint artifact. In addition to water fluctuations associated with the use of the mill, the pond must have undergone several instances of being drained in order to carry out maintenance such as cleaning and re-digging. General fluctuations produced a variety of textural pedofeatures, iron mottling features and organic matter replacement, whereas possibly longer episodes led to the drying out of the sediments and instances of burrowing by soil meso-fauna.

The ecological remains (Bio-stratigraphy)

Diatom work
(Nigel G. Cameron)

The results of the diatom work are tabulated below.

Diatom Sample	*Context*	*Diatoms*	*Diatom numbers*	*Quality of preservation*	*Diversity*	*Assemblage type*	*Potential for % count*
D1	1339	present	low	poor	low-moderate	aerophile non-plankton	low
D2	1340	present	moderate	moderate-poor	moderate	non-plankton epiphyte	some
D3	1341	present	low	moderate-poor	moderate-low	non-plankton epiphyte	low
D4	1342	present	very low	poor	very low	aerophile non-plankton	none
D5	1338	present	very low	very poor	low	aerophile non-plankton (cf. epiphyte)	none
D6	1339 upper	present	moderate	poor-moderate	moderate	aerophile benthic non-plankton	some

Table 7:Diatom results for section 3

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Diatom Sample	*Context*	*Diatoms*	*Diatom numbers*	*Quality of preservation*	*Diversity*	*Assemblage type*	*Potential for % count*
D7	1351	present	very low	poor	low	aerophile epiphyte	none
D8	1352 upper	present	very low	poor-moderate	very low	aerophile epiphyte	none
D9	1352 lower	present	very low	poor	very low	aerophile	none
D10	1353 upper	present	low	very poor	low-moderate	aerophile non-plankton	low
D11	1353 lower	present	low	poor	low-moderate	aerophile non-plankton	low
D12	1354	absent	-	-	-	-	none

Table 8: Diatom results for section 9

Diatoms are present in eleven of the twelve samples assessed. Diatoms are absent from the bottom sample (D12) from (1354). However, the number of diatoms in the other samples is generally low and the quality of preservation is poor. Species diversity is also relatively low. There is therefore little or no potential for percentage diatom counting in nine of the eleven diatomaceous samples. Exceptionally, in diatom samples D2 (1340) and D6 (1339 upper) there are moderately high numbers of diatoms, the quality of preservation of some diatom valves is better and species diversity is moderately high. Only in these two diatom samples is there any potential for percentage diatom counting, but it is doubtful if any additional information could be gained than that discussed here.

Given the ubiquity of diatoms in natural water bodies, the poor preservation, absence or low numbers of their remains from water-lain sediments can be attributed to taphonomic processes. In particular this is often the result of silica dissolution caused by factors such as high sediment alkalinity, very high acidity, the under-saturation of sediment pore water with dissolved silica, cycles of prolonged drying and rehydration, or exposure of sediment to the air (e.g. Flower 1993; Ryves *et al.* 2001).

The diatom assemblages from all the monolith samples are composed entirely of non-planktonic diatoms. These diatoms grow attached to submerged surfaces such as aquatic macrophytes and stones (epiphytic and epilithic) or in some cases within the submerged mud surface (epipelic). The presence of non-planktonic diatoms only, without diatom plankton, indicates that the water depth was shallow. In addition there are a number of other non-planktonic diatoms present that are tolerant of desiccation. These aerophilous species are present in habitats that are subject to drying out for prolonged periods. They may originate from within the water body, for example on the bank or bottom if the pond or stream dried out. Alternatively they may have been introduced with dumped or eroded material (see introduction) including soil. Aerophilous diatoms were found in all the samples and in most there were also chrysophyte stomatocysts (the resting stages of another group of siliceous algae) that are indicative of periodic drying out. Many large, robust (heavily silicified) *Pinnularia* sp. were not identifiable to specific level but are types that are very likely to be aerophilous. Others such as *Pinnularia borealis, P. brebissonii, P. microstauron* and *P. subcapitata* are common aerophilous benthic diatoms. Fragments of the cosmopolitan aerophile *Hantzschia amphioxys* were very common and other aerophilic diatoms included *Diadesmis perpusila, Navicula mutica, Nitzschia recta* and *Nitzschia terrestris*.

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With the exception of *Anomoeoneis sphaerophora* in D11 (1353 lower) benthic diatoms are less abundant than epiphytes or epilithic diatoms. The epiphyte *Cocconeis placentula* (and varieties of the species) is particularly common in samples D2 (1340) and D3 (1341). Epiphytes such as *Epithemia* sp., *Gomphonema acuminatum, Gomphonema olivaceum, Rhoicosphaenia curvata* and *Synedra ulna* are most common in D2 (1340). This observation along with the relatively low numbers of benthic diatoms suggests that the macrophyte growth was dense during some periods and the growth of benthic diatoms was restricted either through shading or lack of available surface for colonisation.

Unfortunately there is no clear indication from the diatoms about the rate of current flow that might differentiate a pond from a stream. There are however no rheophilous diatoms present that are associated with flowing water and the indication here is of a pond or slow flowing water. Similarly there is no strong diatom evidence for nutrient enrichment. The diatoms present are found in circumneutral water with only moderately high nutrient levels. Therefore despite the archaeological evidence for industrial activity and dumping of material in the water there appears to have been no organic enrichment resulting in eutrophication. The debris dumped in the water and surrounding industry (mill) has not produced notably poor water quality that would have resulted in the presence of a distinct diatom flora.

Conclusions

Diatoms are present in eleven of the twelve samples assessed.
The diatom assemblages contain a high proportion of aerophilous diatoms that originate from drying out of the sediment, through bank or soil erosion or possibly with debris introduced into the water body.
The absence of diatom plankton and abundance of epiphytic and epilithic diatoms reflects the shallow depth of the water. Epipelic diatoms are less common suggesting that the mud surface was restricted by shading from macrophytes or the available area for colonisation.
It is not clear whether the water body is a pond or a stream. However, there are no rheophilous diatoms present that would indicate flowing water therefore current flow seems to have been slow.
Nutrient levels were only moderately high and there is no indication of eutrophication through organic pollution.

Realisation of the research objectives
Outlined in the following is the extent to which soil micromorphology, soil chemistry and diatom analysis have addressed the research objectives:
Objective: To combine soil micromorphology and soil chemistry analyses to determine changes in water levels and interrelationships of organic materials and heavy metals within the different contexts and possibly identify indirect evidence for local human activity
The soil micromorphology and soil chemistry analyses provided detail of the micro-structural changes within the deposits highlighting periods of exposure, dumping, water fluctuation and management of the section deposits. No heavy metals were detected to indicate industrial activity.

Objective: To analyse diatom species present to help interpret the nature of the water courses for example, in terms of water depth / periodic drying out; water quality, in particular

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concentrations of nutrients and organic waste and effluent from both agricultural and industrial processes.

The diatom analysis was able to determine the freshwater nature of a pond (or at least a very slow water flow) environment and periods of drying out and exposure. No signs of eutrophication were discerned indicating intensive industrial processes.

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Discussion

The drawing together and discussion of the separate analyses follows the division into Sections 3 and 9 as in the original monolith assessment.

Section 3

The sediments sampled in section 3 (contexts 1342 to 1338 inclusive) were described in the initial monolith assessment as, on the whole, reflecting dumping in a watery environment whether that be a pond or a stream. All sediments were found to be poorly sorted, often mixed with charcoal and coal and iron-rich sands. Context (1339) differed from the rest however through the presence of fine root traces suggesting that it was once a possible land surface.

The soil micromorphology and chemistry analysis refined this assessment in a number of areas. Fundamentally, none of the sediments examined indicated anything but a pond environment that had certainly suffered periods of drying out and probably management or maintenance including drainage. Initially, for example, a period of subaerial exposure was found to have occurred between (1340) and (1339) when a fine to medium sand containing plant fragments was dumped over (1340). Furthermore, the upper part of (1339) was found to have been disturbed with a mixing of natural clay and the fill of (1338) indicating anthropogenic activity thought to be cleaning and or deepening of the pond. The soil chemistry analysis however found neither indication of industrial activity through magnetic susceptibility indicators nor presence of heavy metals to indicate, for example, evidence of metal-working locally. Interestingly, although (1339) was thought to be a possible land surface in the original monolith assessment, the *in situ* ferruginous roots within it (confirmed in the soil micromorphological analysis) probably stemmed from the context overlying it (1338) which exhibited not only signs of a fluctuating water table but also terrestrial burrowing activity indicating this context to have been dry and exposed for a longer period.

Although the diatom analysis of Section 3 encountered poor preservation on the whole, the overall picture is one of shallow water conditions persisting throughout the period of sediment accumulation through the presence of, exclusively, non-planktonic diatoms. Furthermore, the lack of rheophilous diatoms (associated with flowing water conditions) again strongly indicates the presence of a pond rather than a stream. Interestingly, the environmental picture is further enhanced by the low numbers of benthic diatoms in parts suggesting dense macrophyte (water plant) growth on the surface of the pond presumably through the summer months.

Section 9

The initial monolith assessment for Section 9 reflected again, for the most part, dumping within a watery environment. Contexts (1351) through to (1354) are essentially silts with a clay element typical of an alluvial deposit but each context is highly mixed with debris such as brick fragments, charcoal or coal. The underlying deposit however, (1354), seems to be natural, possibly reflecting the local boulder clay as its source. Its greenish grey colour reflects a waterlogged environment, which has suffered fluctuations in the level of the water table causing it to partly oxidise.

Again, the soil micromorphology and chemistry analysis refined this assessment. The overall assessment is the section represents sediments accumulated in a pond that has been managed. For example (1353) was found to contain coarse fragments of (confirmed) natural clay (1354) indicating cleaning out or recutting episodes. Iron staining, as in section 3, was ever present throughout indicating water table fluctuation. The sediments were also found to be 'muddy' indicative of slow water movement. The soil chemistry analysis found phosphate enriched

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minerogenic sediments particularly in (1353) and (1352) - notably thought not to be associated with plants within the pond but stemming from outside sources such as waste dumps including possible latrine/animal waste. The presence of coal dust in the laminae of muds seen in the micromorphology analysis of (1352) indicate disposal of coal dust locally although no confirmed evidence of industrial activity (heavy metals for example) were encountered.

The diatom evidence was limited by poor preservation but the assemblage types were consistently dominated by aerophilous species indicating a habitat prone to drying out, much like those in section 3. Furthermore there seems no evidence for significant organic enrichment resulting in eutrophication and poor water quality, which, although not ruling out occasional spillage into the pond, does go against the idea of intense industrial activity occurring locally.

Both sections tend to indicate the depositional environment to have been shallow, freshwater ponds prone to drying out either naturally or through drainage for maintenance. The management of the ponds seem to have involved clearance or recutting to some degree in both. With the exception of slightly increasing phosphate levels particularly in Section 9 (possibly to some degree derived from animal or human waste) sediments from both ponds seem to have been subject to some pollution through refuse disposal although not enough to indicate industrial activity in the vicinity.

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Conclusion

The soil micromorphology, soil chemistry and diatom analyses have refined the understanding of the sampled sediments that accumulated in Sections 3 and 9 at Bermuda Park. The soil micromorphology and soil chemistry analyses enabled the micro-structural changes within and between the sedimentary units that are not necessarily visible in the field to be examined as well as relationships between potential agricultural and industrial processes on site. Furthermore, sedimentological variations in the deposits interrelated with diatom analysis undertaken on the monolith samples to analyse water flow, eutrophication and nutrient content.

The original question as to the nature of the depositional environment (pond or stream) seems to have been answered with the idea of ponds or very slow water movement environments predominating. The ponds seem to have been consistently shallow and prone to drying out. Furthermore, they seem to have been subject to management practices such as recutting or clearance a number of times over their duration probably with deliberate drainage occurring. They seem to have been occasionally polluted to a small degree by waste dumping often exhibiting fragments of coal, charcoal and brick as well as variations in phosphate levels indicating latrine or animal waste, but never to the extent of eutrophication or anything indicating industrial activity locally. All the evidence points to generally shallow but clear freshwater ponds, consistently managed until they finally became abandoned and in filled.

The geoarchaeological examination of the pond sediments at the Burmuda Park site, Nuneaton site has provided an informative and corroborative addition to the archaeological record of the area.

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APPENDIX H: OasIS FORM

OASIS ID: aocarcha1-39512

Project details

Project name	Bermuda Park
Short description of the project	An archaeological excavation was undertaken by AOC Archaeology Group between August and November. The land is known from documentary sources to have been within the demesnes of the monastic military order of the Knights Templar between 1185 and 1308 and subsequently the Knights Hospitallers of St. John of Jerusalem, until the dissolution of monasteries by King Henry VIII in c.1540. The western half of the site was subject to extensive modern industrial activity; the eastern half was less disturbed and had been the subject of several previous archaeological investigations over the last 40 years. The earliest evidence of activity on the site was in the form of large stone packed postholes and the ephemeral remains of masonry walls, probably representing the original Templars' 12th century manor. In a later medieval phase a building with stone foundation replaced this structure, and further structures associated with cobbled yards and a trackway were recorded to the east. Large amounts of 13th-14th century medieval pottery, probably from the nearby Nuneaton kilns, were found associated with these remains. A series of stream channels were managed in the medieval period and in the southern part of the site a pond was formed. Timber stakes and a substantial dump of stone formed what may have been a bridge abutment part of a mill, a further stone feature to the south may have been a related collapsed pier base.
Project dates	Start: 01-09-2004 End: 30-11-2004
Previous/future work	Yes / No
Any associated project reference codes	BDA04 - Sitecode
Type of project	Recording project
Current Land use	Vacant Land 3 - Despoiled land (contaminated derelict and brownfield sites)
Monument type	RESIDENTIAL BUILDING Medieval
Monument type	DITCH Medieval
Monument type	DITCH Post Medieval
Significant Finds	POTTERY Medieval

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Significant Finds	POTTERY Post Medieval
Significant Finds	CERAMIC BUILDING MATERIAL Medieval
Investigation type	'Full excavation'
Prompt	Direction from Local Planning Authority - PPG16

Project location

Country	England
Site location	WARWICKSHIRE NUNEATON AND BEDWORTH NUNEATON BERMUDA PARK, NUNEATON, WARWICKSHIRE
Postcode	CV11 4XX
Study area	10.00 Hectares
Site coordinates	SP 3520 8980 52.5045935448 -1.481355496650 52 30 16 N 001 28 52 W Point
Height OD	Min: 93.82m Max: 95.23m

Project creators

Name of Organisation	AOC Archaeology
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	AOC Archaeology
Project director/manager	Ron Humphrey
Project supervisor	Angus Stephenson
Type of sponsor/funding body	Developer

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Name of sponsor/funding body	George Wimpey Midland Ltd

Project archives

Physical Archive recipient	Warwickshire Museum
Physical Contents	'Animal Bones','Ceramics','Metal'
Digital Archive recipient	Warwickshire Museum
Digital Media available	'Images raster / digital photography'
Paper Archive recipient	Warwickshire Museum
Paper Media available	'Context sheet','Microfilm','Photograph','Plan','Report','Section','Unpublished Text'

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	BERMUDA PARK, NUNEATON, WARWICKSHIRE - ARCHIVE REPORT
Author(s)/Editor(s)	'Eddisford, D.'
Date	2008
Issuer or publisher	AOC Archaeology Group
Place of issue or publication	AOC Archaeology Group
Description	A4 bound report with illustrations

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