Archaeological Field Unit

Investigations on a Medieval Moated Site at Hall Orchard, Fulbourn: An Archaeological Training Dig

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Summary

This report concerns the archaeological investigation of the moated site at Hall Orchard in Fulbourn, Cambridgeshire. The project forms part of wider research on the Fulbourn Manor Estate and environs by Cambridgeshire County Council Archaeological Field Unit and Fulbourn Village History Society.

The excavation of the Hall Orchard site had a number of aims including: contributing to research about the medieval origins of Fulbourn; confirming that the site is medieval in origin; gathering information to inform future management plans; and allowing the local and wider community to become closely involved in the project.

The investigations were carried out over two summer seasons and included limited hand excavation of seven small areas of between four and thirty square metres each.

Investigations in the moat ditch showed that it had been regularly scoured and that limited archaeological remains are preserved. However details about the water management and construction method used for the moat platform including evidence of a possible timber bridge, were revealed.

Excavations on the moat platform revealed evidence for stone and timber buildings including a stone built house that may have been two storeys high with an internal chapel, and a kitchen with oven, adjacent midden and drains.

A fine assemblage of painted 14th century glass coupled with roofing material including glazed tiles and decorative finials suggests that the house was owned by someone of high status. Other finds indicative of wealth and high status include a black mineral (?jet) bead, small silver fittings, a silver finger ring, and a 17th century hooked clothing tag. Pottery includes a high percentage of ceramic glazed wares along with less usual items such as a bottle with a small spigot hole, bunghole cisterns and a curfew. Animal bones showing that species such as halibut, pheasant and pigeon squabs were eaten by the inhabitants of this site also attest to their high status. Other finds such as a fragment of a horseshoe, an iron harness buckle and a barbed hunting arrowhead show that the inhabitants and visitors to the house enjoyed leisure pursuits such as riding and hunting. The pottery recovered shows that the site was occupied continuously from the 13th to the 17th century.

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List of Abbreviations

BRIL	Brill-Boarstal ware
CSTN	Cistercian ware
DNEOT	Developed St Neots
DUTG	Dutch Tin glaze
DUTR	Dutch Red ware
EAA	East Anglian Archaeology
EMEMS	Early Medieval Essex Micaceous Sandy ware
FSW	Fen Sandy ware
HEDI	Sible Hedingham (Essex))
MART	Martincamp wares
MEMS	Medieval Essex Micaceous Sandy ware
MEL	Medieval Ely ware
MGC	Mill Green Coarse ware
MGF	Mill Green Fine ware
MPRG	Medieval Pottery Research Group
MSRG	Medieval Settlement Research Group
PMBL	Post-medieval Black Glazed ware
PMR	Post-medieval Red wares
RAER	Raeren stoneware
TGW	English tin-glazed wares

Drawing Conventions

Sections

Limit of Excavation

Cut

Cut-Conjectured

Soil Horizon

Soil Horizon - Conjectured

Intrusion/Truncation

Top of Natural

Top Surface

Break in Section

Cut Number 118

Deposit Number 117

Ordnance Datum 18.45m OD N

Brick

Chalk

Flint

Mortar

Shell

Stone

Wall

Plans

Limit of Excavation

Deposit - Conjectured

Natural Features

Intrusion/Truncation

Sondages/Machine Strip

Illustrated Section S.14

Archaeological Deposit

Excavated Slot

Modern Deposit

Cut Number 118

Small Finds

Auger Holes

1 Introduction

This report concerns the archaeological investigation of the moated site at Hall Orchard in Fulbourn which was identified for further work in the Fulbourn Manor Estate Survey (Malim 2001). The project forms part of wider research being conducted on the Fulbourn Manor Estate and environs by Cambridgeshire County Council Archaeological Field Unit and Fulbourn Village History Society.

A desk-based survey of the Fulbourn Manor Estate has been undertaken (Malim 2001). The aim of the survey was to compile an inventory and provide a comprehensive overview of archaeology on the estate, and to include sufficient detail to inform decisions on future land management so that the importance of the archaeological remains is apparent, leading to beneficial management for their long-term preservation. Public access to parts of the land along a number of bridleways and permissive paths also gives an opportunity to provide interpretation for a wide audience, including school children who use the nature reserve as an educational resource.

The report concluded that; *the information gathered together here will need to be examined and tested through further work including archaeological evaluation and recording in order to enhance present knowledge and allow a dynamic scheme of management to be pursued.*

2 Aims and objectives

2.1 General

The project forms part of wider research looking at the development of the landscape of the Fulbourn Manor Estate and environs from earliest settlement to medieval and post-medieval times. This wider research encompasses, a wide range of techniques, including geophysical survey, aerial photography, earthwork and standing building survey, documentary research, fieldwalking and metal detecting survey (including documenting metal detected finds collections held by individuals), and excavation.

The excavation which forms the subject of this report aimed to provide additional information specific to the earthwork site in Hall Orchard.

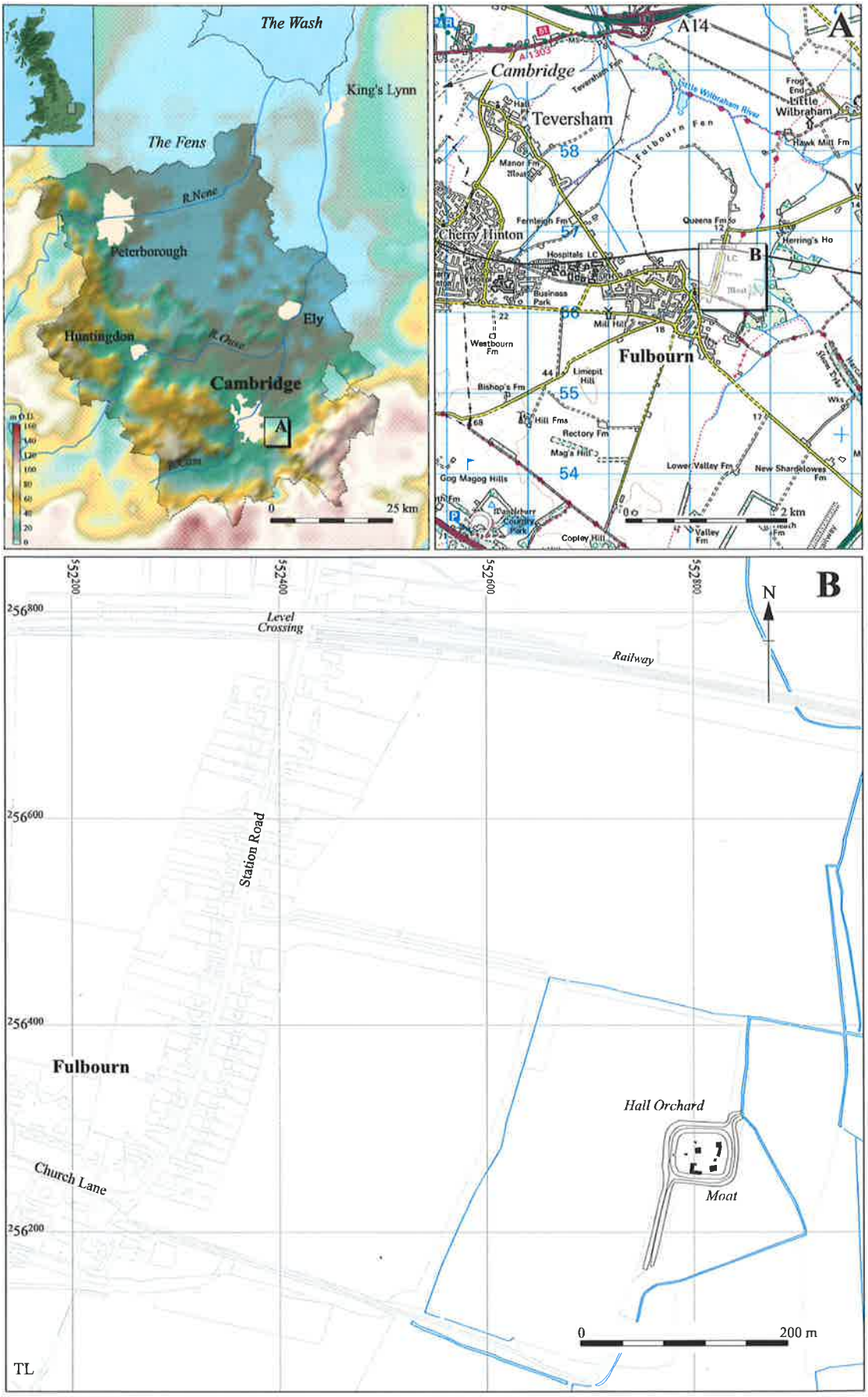

Figure 1 *Location of trenches (black) within the moat*

2.2 Hall Orchard Moat

The Medieval Settlement Research Group (1996) has emphasised the need to address research questions by using a broad suite of techniques. The excavation of Hall Orchard was supported by earthwork and geophysical survey techniques, but the site should not be seen in isolation. The excavation of the site is part of a much more wide ranging project.

The archaeological investigation of the site aims to contribute towards English Heritages Primary Aims (English Heritage 1998), and takes into consideration the research agenda and strategy for the Eastern Counties (Brown and Glazebrook 2000) and Policy on Research, Survey, Conservation and Excavation of Medieval Rural Settlements (Medieval Settlement Research Group 1996). National, Regional and Site based research issues will be addressed.

2.2.1 Promote public appreciation and enjoyment of archaeology

English Heritage and the Medieval Settlement Research Group both cite the promotion of public appreciation and education as important issues in relation to archaeological sites and finds. The Hall Orchard Moated site is a visible earthwork that can be appreciated by members of the public. An information board composed by the AFU has been erected at the site, and a footpath passes through the site. The training excavation aimed to raise the profile of the site and improve its educational potential.

2.2.2 Contribute to the understanding of the Transition from medieval to post-medieval traditions (c.1300-1700 AD).

English Heritage (1998) has cited periods of transition as an opportunity to focus on aspects of continuity and change. Eight periods of change are listed including the transition from medieval to post-medieval traditions (c.1300-1700 AD). The survey and excavation of the Hall Orchard moat has contributed to the understanding of change from medieval to post-medieval traditions.

Specific project objectives which relate to this aim are:

Establish a broad chronology for the start and end of the occupation.

Attempt to characterise the type of occupation and assess its potential to contribute towards knowledge about the processes of change.

2.2.3 Contribute to the preservation of archaeological sites and landscapes

Of 305 moated sites listed in the County Sites and Monuments Record, only 22 are scheduled. The Hall Orchard Moat (SMR 1201) is not scheduled, it is listed in the English Heritage Monuments Protection Programme (Peach 1201) with no further information. The Hall Orchard moat is associated with a number of earthworks in adjacent fields; some of these appear to be ridge and furrow, others may be the remains of settlement evidence, further work is required to clarify this, and to assess the state of preservation.

Specific project objectives which relate to this aim are:

Establish the state of preservation of any waterlogged remains within the moat.

Establish the presence, extent, character and preservation of archaeological features and deposits on the moat platform.

Establish a broad chronology for the occupation of the site.

Assess the range, variety and quality of any artefact assemblages.

2.2.4 Contribute towards the definition of the medieval settlement pattern across the region.

Classification: CC Taylor (1976) suggests that there are two ideal systems of classification which should be aimed for. One is to classify moated sites by date and the other by status of the owners or builders, both need excavation and documentary research to establish the relevant facts. The MSRG policy (1996) recognises that there is a case for research excavation in order to fill in the gaps in our knowledge and also to serve as a training ground for future settlement archaeologists.

Specific project objectives which relate to this aim are:

Conduct a training excavation on the site.

Attempt to establish the dates for foundation and abandonment of the site.

Attempt to establish the function of the site at foundation and abandonment.

3 Geology and Topography

Hall Orchard is located on Middle Chalk at a height of approximately 13 metres above Ordnance Datum. The surrounding fields to the north and west are approximately 1 metre lower

Drainage flows generally in a northerly direction towards Fulbourn, Teversham and Wilbraham fen. Hall Orchard sits within a series of drainage ditches that may have been deliberately dug to divert water into the moat. The parish church is located to the west of the site and is in close proximity to Mill lane. In the past the area was used for rearing game, the site is now within the Fulbourn Nature Reserve.

4 Archaeological and Historical Background

The earthwork is situated on the north edge of Fulbourn Nature Reserve and is surrounded by a water-filled moat when favourable conditions exist. It is managed by The Wildlife Trust as part of a Countryside Access arrangement for the nature reserve. At the time of the excaation the platform had a number of trees and shrubs on it, piles of cut logs, and rank vegetation, the platform has since been cleared. The moat is similarly covered, with some fallen trees in it, but overall the profile is well preserved. A footpath crosses the site with wooden bridges built in the moat just above normal water level. Two ditches join the moat, one at the south-west corner and one at the north-east corner, these ditches were probably inlet and outlet channels supplying the moat with continuous running water. The interior of the moat enclosure is approximately 50m east to west by 40m north to south.

A house is believed to have been located on the platform until the early 18th century, but nothing is now visible above ground, however, fragments of roof tile can still be seen on the surface of the platform when the vegetation has died back during the winter. There was no evidence to suggest a date for the construction of the moat, however.

Recommendations for the earthwork included clearing the shrubs, rank vegetation and some of the trees with the aim of making the earthwork more accessible and visible. A new interpretation board was recently erected at the site but archaeological investigation was needed in order to gather evidence about the origins, status and use of the site.

Fulbourn gets its name from the Anglo-Saxon *fugol* and *burna* which means "Stream frequented by birds". Wilbraham River is now the only major watercourse in the vicinity, but prior to Inclosure an important stream ran from a spring south of the Balsham Road northwards through Fulbourn nature reserve, supplying several moated sites and the water mill. It would seem likely that the place-name relates to this wet area. This is also close to the location for finds from Iron Age to Anglo-Saxon times adjacent to the junction of Fleam Dyke, Street Way and Shardelowes Well.

Five main manors are recorded in the parish of Fulbourn with four or five further manors or estates referred to at various times. It is possible to trace the ownership of the main manors which all eventually became absorbed and acquired by the Townley family, and became part of Fulbourn Manor Estate.

The four manors within the Fulbourn Manor Estate were; Zouches, Dunmows, Shardelowes and Colvilles. Zouches was the paramount manor in the parish forming the nucleus of the present estate, and a 16th century house in the grounds known as the Old Manor might be that of Zouches. Zouches got its name having passed from Edeva the Fair at Domesday to Count Alan of Brittany and then to Alan de la Zouche in 1217.

The whole area around Mill Lane and the nature reserve represents another nucleus of medieval Fulbourn ----- possibly *Fulbourn Parva* which is erratically encountered in documents and maps (see for example the map *Comitatus Cantabrigiensis* 1646 by Jansson). Added substance to this argument is given by the fact that an old track, Hind Loders, turns off from the ancient route of Street Way to head for the area of moats and earthworks. Hind Loders (which derives its name from use by itinerent traders) is mentioned by name in a rental document of 1494 but clearly is much older than that in origin.

4.2 Dunmows Manor

4.2.1 Apart from the king's estate which went to the sheriff of Cambridgeshire the other holding mentioned in Domesday is that of Geoffrey de Mandeville (previously held by Alfgar the Staller) which later became Dunmows manor. The site of the original hall house for Dunmows is recorded at Inclosure as once having stood in Hall Orchard, wooded by Inclosure, but that the house was dismantled soon after 1750 to Wrights close, south-east of Fulbourn Manor. It may have been rebuilt as Hall Farm in about 1803 (Wareham and Wright 2002, 143), or the materials from Dunmows may have been used to substantially refurbish Hall Farm. Hall Orchard is depicted on 19th century and Ordnance Survey maps as being circular, but in fact is located exactly where a rectangular moated site still survives as earthworks in the nature reserve. The 1806 Inclosure map shows the existing moated site in the nature reserve as a heavily wooded square with a tail to the south-east.

4.2.2 The Mandeville's continued to hold the Dunmows estate into the 14th century (Wareham and Wright 2002, 141), after which it was assigned to the earls of Stafford. By the late 12th century Dunmows Manor was held (with another in Great Dunmow Essex) by the Dunmow family. By the early 14th century the Manor has passed out of the Dunmows hands to the Olive family who held it until 1369 when it was sold to William Fulbourn, an official of the Black Prince. The manor remained with the Fulbourn family until the mid 1440's. In about 1420 (Wareham and Wright 2002, 143) William Fulbourn's manor house (possibly referring to the house in Hall Orchard) included a chapel chamber (*ibid*). The house passed into the hands of Henry Fillongley in the 1440's after which it passed through a variety of hands until 1532 when it was sold to Thomas Docwra, it remained in that family until 1693 when it was sold to Thomas Watson, Bishop of St David's, on his death it passed to his brother William and then to William's unmarried daughter Mary in 1737. Shortly after the lands Hall House passed to her nephew Thomas Watson Ward and in 1750 to his son, another Thomas. It is likely that the Hall house was dismantled soon after this date. By 1885 the site of Dunmows along with the other Fupbourn manors and their lands were acquired by C.E Townley making him the largest landowner in the parish.

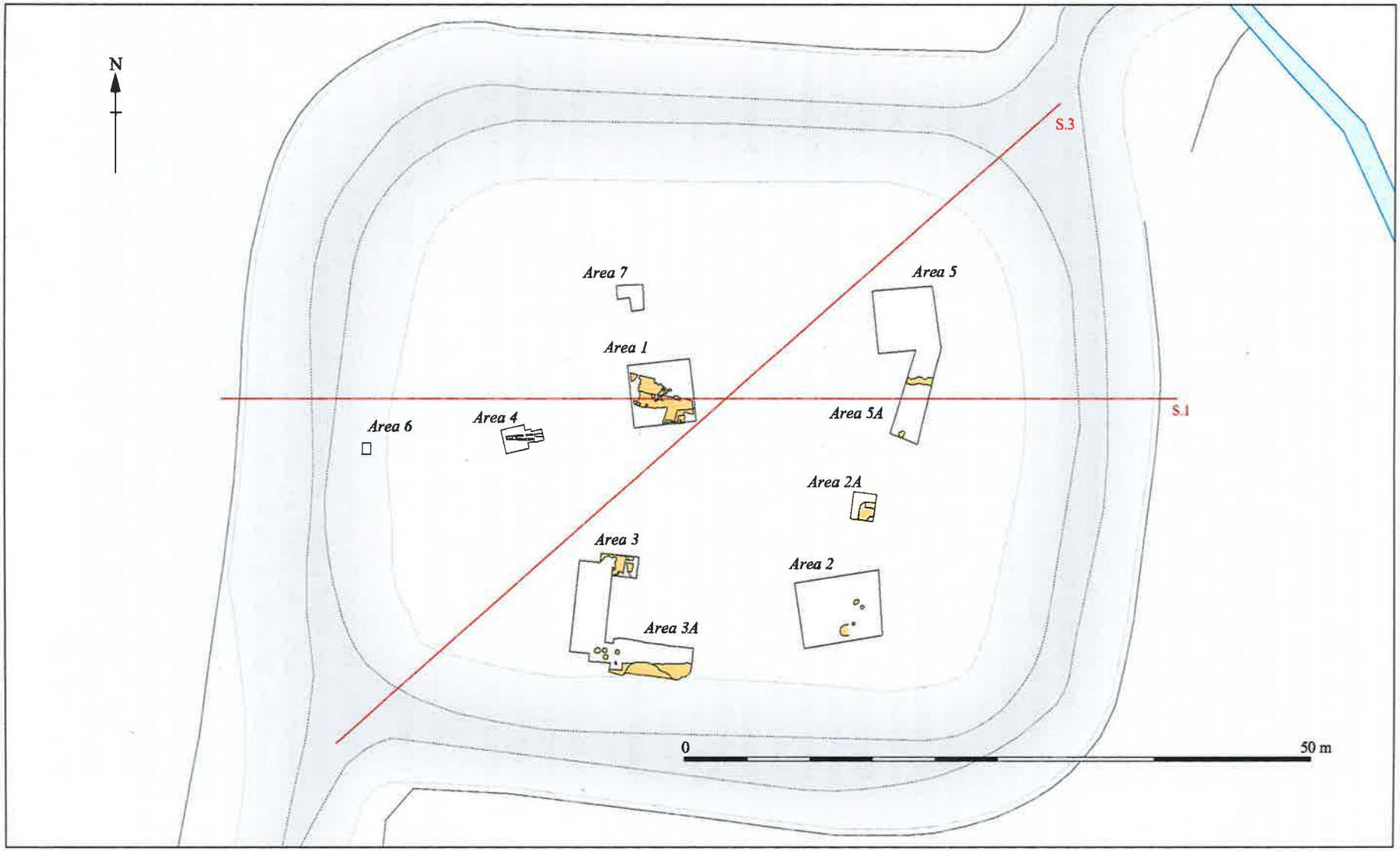

Figure 2 *Excavated areas within the moat*

5 Methodology

The Archaeological Field Unit of Cambridgeshire County Council in partnership with the Fulbourn Village History Society, the Council for British Archaeology Mid Anglia Region, South Cambridgeshire District Council, English Nature and the Wildlife Trust, undertook an archaeological excavation of Hall Orchard Moat in Fulbourn, Cambridgeshire. The excavation was run as a summer school taught by four professional archaeologists. Nearly one hundred students in all attended the summer school over two seasons (2001 and 2002), each of four weeks duration. The students were drawn from a wide range of ages and backgrounds, local volunteers also helped with clearing vegetation and finds processing.

5.1 Geophysical Survey

Geophysical survey of as much of the platform as was accessible was undertaken by Peter Cott prior to excavation beginning in 2001. A resistivity meter was used and a survey area of 20m x 20m chosen in the least restricted area of the moat platform. The geophysical survey was successful despite the presence of several large trees and indicated the presence of a building on the east side of the platform, other anomalies were less clear.

5.2 Earthwork Survey (Fig. 3)

A level survey of the moat platform and surrounding ditches was carried out prior to excavation. The survey was based on readings taken 0.5m intervals over the site. Unfortunately the presence of scrub and trees impeded the survey, however, it did provide three good cross-sections across the site.

5.3 Trenches

Following on from the geophysical survey in 2001, four 5m x 5m and three smaller areas were chosen to test the anomalies located by the geophysical survey results. In 2002 an additional 4 areas were excavated, to answer questions thrown up in the first season of excavation. All areas were excavated by hand through topsoil and subsoil to the top of archaeological horizons. The location of the trenches was also constrained by the presence of several mature trees and shrubs that now grow on the monument. Due to the sensitive nature of the monument and the fact that it is not under imminent threat, a decision was made to excavate as little as possible to gain an insight into the nature of the archaeology. With this in mind none of the trenches was excavated fully.

After removing the topsoil each area was cleaned by the students using trowels, finds from the cleaning areas were designated to a cleaning context. A multi-context pre-excavation plan was drawn at a scale of 1:20, thereafter single context planning was utilised where appropriate. Sections were drawn at a scale of 1:10. Context descriptions were recorded on AFU pro-forma recording sheets. The photographic record comprised monochrome, colour print and colour slide.

5.4 Dowsing

A member of the team was a keen dowser and offered to dowse for anomalies. During the 2001 season dowsing suggested the location of a drain outflow, Area 6 located to test the dowsing results proved the presence of a drain outflow on the western edge of the moat. During the 2002 season dowsing suggested the location of the north-west corner of a stone building located during 2001. Area 1A was located to test the dowsing results and uncovered stone foundations, although their exact character was not established.

5.5 Backfilling

The site was reinstated immediately after excavation in order to keep disturbance to a minimum. All the trenches were backfilled by hand. Archaeological deposits and subsoil were replaced first followed by topsoil. The vegetation has subsequently regrown over the areas and backfilling has largely been successful, although slight hollows can be detected in places.

6 Results

The results of the excavation are recorded below by area. Full context descriptions are recorded in appendix 1.

6.1 Area 1 (Figs 2, 4, 5, Plate 1)

Area 1 was located in the north-west area of the moat platform over a geophysical anomaly that suggested the presence of hard materials such as stone or tile. The area was 5m x 5m in area, archaeological deposits and features were sealed by 0.5m thick loose brown earth topsoil 100 that contained frequent fragments of ceramic tile, pottery, and the shells of a variety of edible molluscs, including oysters and mussels.

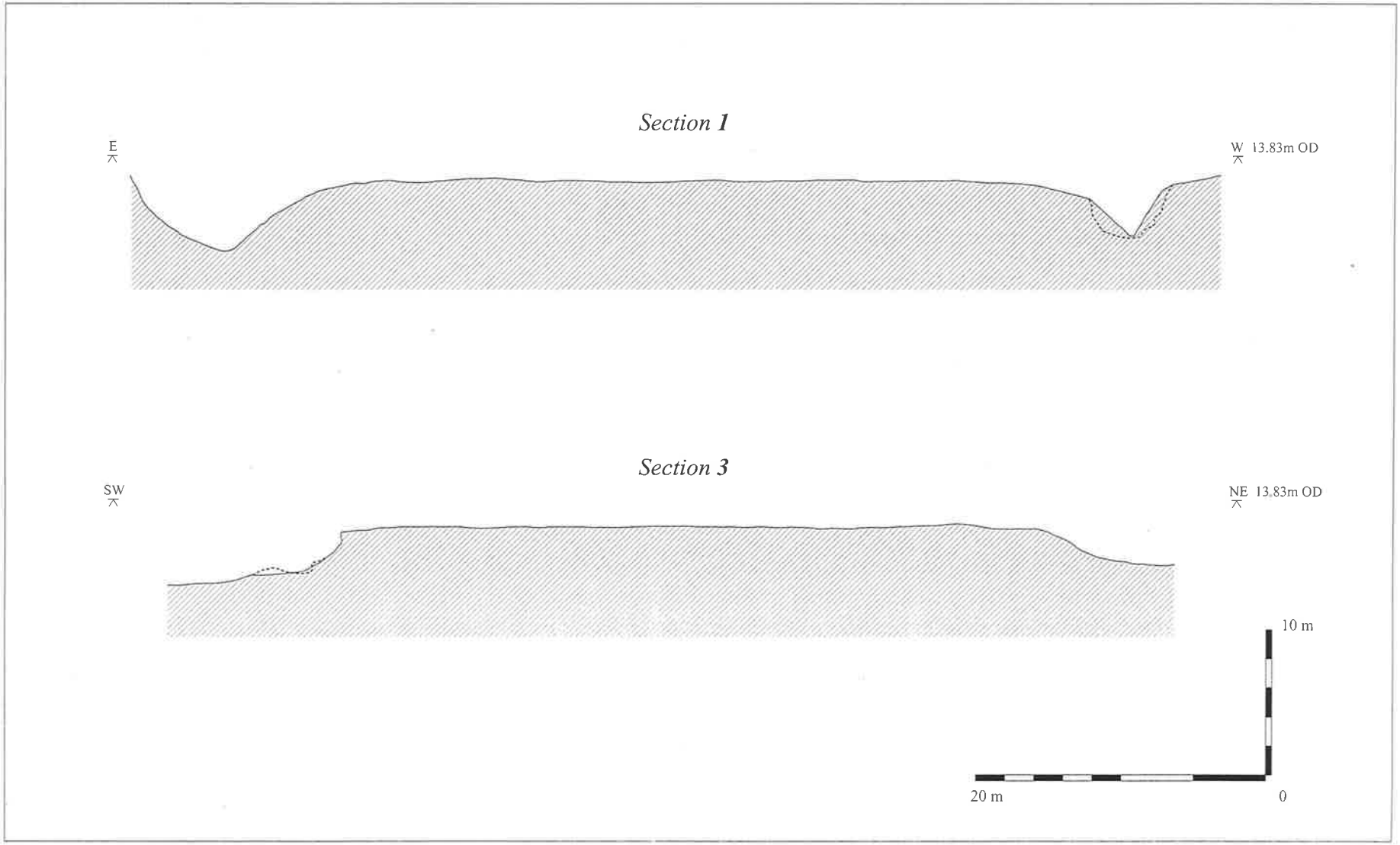

Figure 3 *Profiles of moat platform + ditches*

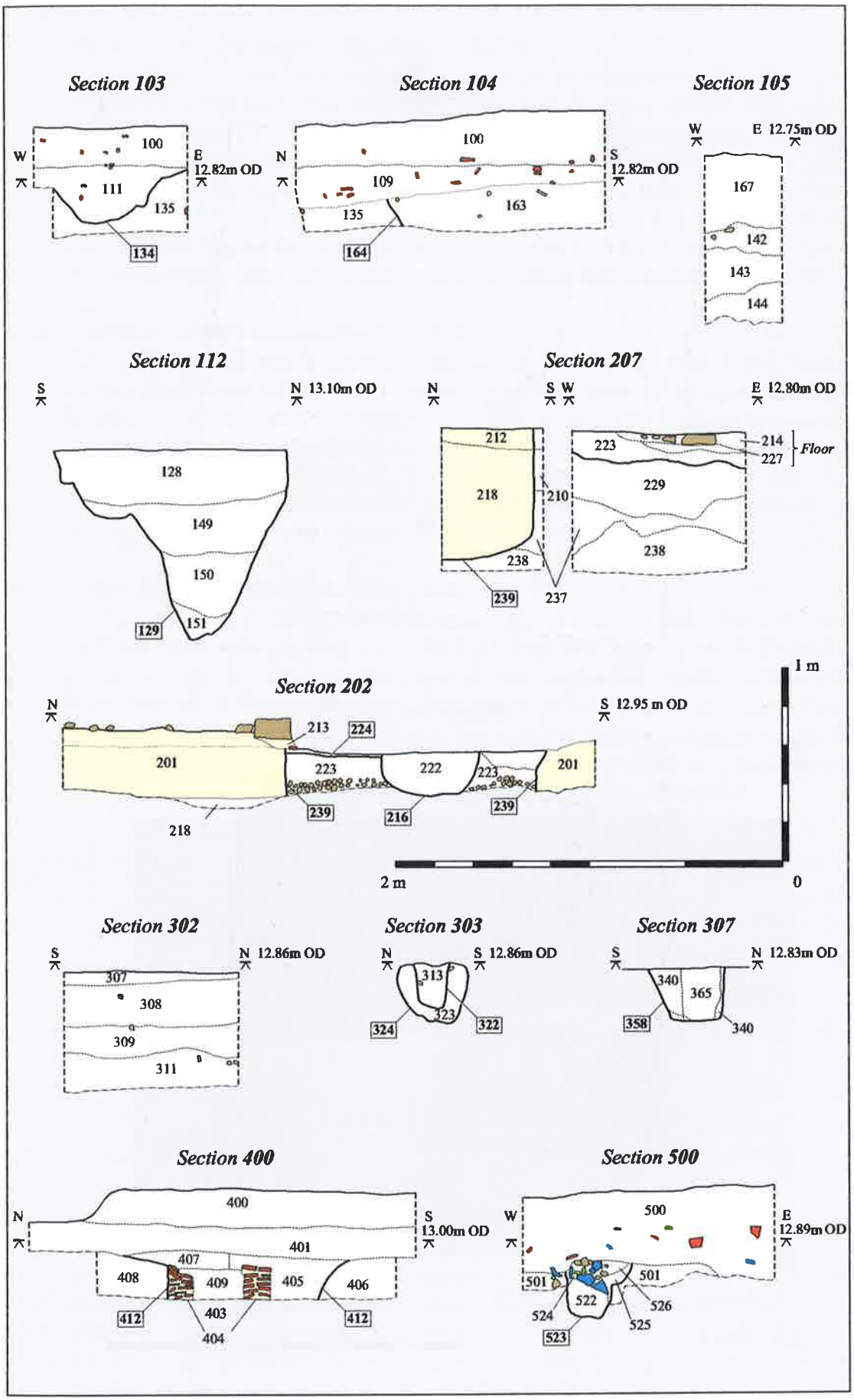

Figure 4 *Section drawings*

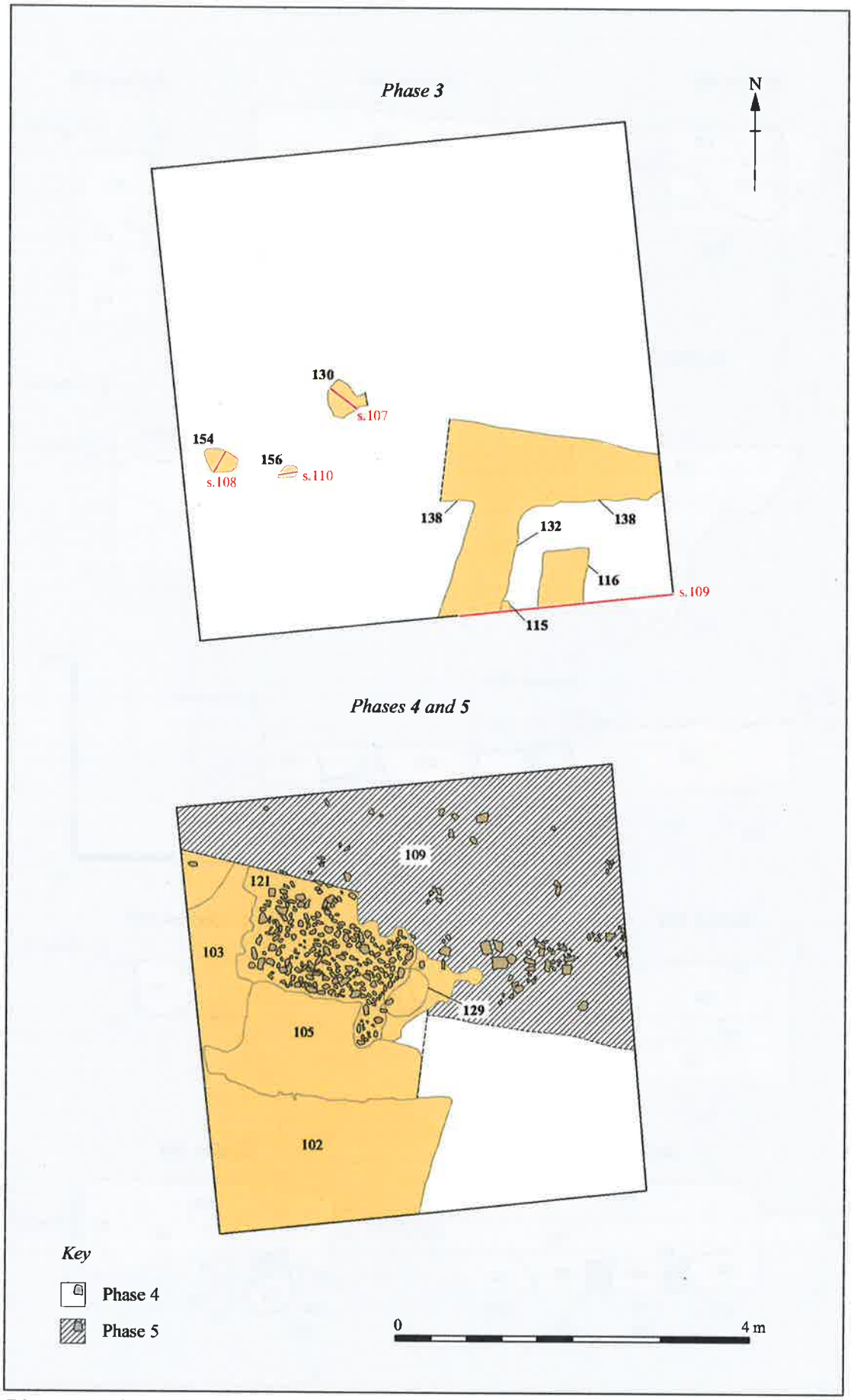

Figure 5 *Phase plans of area 1*

6.1.1 ***Phase 1 – Buried land Surface*** (Fig. 4; S.105)
The earliest deposits identified in this area were exposed where they had been cut by a later pit **129.** Degraded chalk (144) was observed at 12m AOD in the side of pit cut **129**. This deposit is likely to be naturally occurring, although there is a possibility that it is redeposited upcast derived from the moat construction. Lying above the chalk was context 143, a layer of almost black silt. Layer 143 was described as a black (charcoal – but this is questionable) deposit and may be the same as layer 238 in area 2. This layer may represent the 12th century land surface that was buried when the moat was constructed.

6.1.2 ***Phase 2 – Moat Construction*** (Fig. 4; S.105)
Lying above 143 was a layer of redeposited chalk (142) over which was a 0.35m thick layer of silt (167) capped by a final layer of redeposited chalk (165/6). No finds were recovered but as they were cut by features containing ceramic phase 5 pottery (1200-1350) it is likely that they date to this period or earlier. The character of the layers suggests that they were upcast from the surrounding moat ditch; probably deliberately thrown into the central area of the moat in order to raise the area above the surrounding landscape.

6.1.3 ***Phase 3 – First (timber) building phase*** (Fig. 5)
In the south-east corner of the area were a pair of shallow linear features (**115** and **116**) with near vertical sides and flat bases, the outer of which formed a corner. These are likely to have held timber beams into which posts would have been set to form a structure. They appear to have been part of the earliest structure in this area and are evidence that a timber building stood here. Three postholes (**130**, **154** and **156**) located to the north-west attest to further timber structures, although their purpose and character were not determined.

Plate 1 *Area 1 looking south. Beamslots (**115, 116**, phase 3) are top left, in the centre a pit (**129**, phase 4) can be seen cutting through possible wall 121.*

6.1.4 ***Phase 4 – Second (stone) building phase*** (Fig. 5, Plate 2)
Placed on top of the platform and partially sealing the timber structure was a roughly linear arrangement of flint cobbles loosely held together by a soft

yellowish crumbly mortar (121). This may represent the base of a wall, on an east to west alignment, possibly topped by timber, or it may represent the substrate for a floor. A pit **(129)** had been inserted through the structure and its fill contained ceramic phase 5 pottery. Adjacent to the pit and to the south of 121 was a T-shaped area of broken tiles (105). The tile in 105 comprises several types, unfortunately none are closely datable but a date earlier than the 14th century is unlikely (Antrobus, below). These were randomly placed but formed a regular shape and may have been deliberately re-used to form a solid base. Four sherds of pottery found within the tile structure indicate a date no earlier than AD1235 for its construction and use. It is possible that the tile structure, the pit and the flint wall were all contemporary and formed part of a single structure, possibly a fireplace and chimney stack. Large quantities of shells from oysters, mussels and other shell fish were found associated with this structure as well as evidence for charred seeds and animal bones suggesting that this building was used for food preparation. The presence of a fireplace and apparently very early stone building suggest that this was a kitchen in the 14th century. Kitchen's were often put in separate structures and built from less flammable materials in the medieval period because of the high risk of fire.

The ceramic assemblage is smaller than any of the other areas, but in ceramic phase 5 mainly comprises jars many of them sooted on their external surfaces– suggesting storage and or cooking and supporting the theory that the kitchen was located in area 1.

***Plate 2** Area 1 looking north showing possible wall 121.*

6.1.5 *Phase 5 – Demolition and abandonment* (Fig. 5)

Overlying the phase 4 deposits and features were numerous layers of brown silt with large quantities of roof tile. A narrow tinned copper-alloy plaque dating to the early 15th century (SF 117) was found in context 109. Several of the contexts contained fragments of ceramic phase 7 pottery dating to the 16th to 17th century including a sherd of Dutch Tin Glazed earthenware from

context 141. These layers are related to the destruction, disuse and abandonment of the building in this area, suggesting that it was no longer used by the 16th century. The finds incorporated in the layers are likely to be derived from other buildings on the site.

***Plate 3** Area 1 looking north, showing the square tile structure (105) and possible wall 121 as they first appeared during removal of demolition debris.*

6.2 **Area 2** (Figs 2, 6)

Area 2 was located in the south-west area of the moat platform over a geophysical anomaly that suggested the presence of hard materials such as stone or tile. The area was initially 5m x 5m in size but was later extended to approximately 7m x 5m. Archaeological deposits and features were sealed by 0.5m thick layer of loose brown earth topsoil 200 that contained frequent fragments of ceramic tile and pottery. A large assemblage of medieval painted window glass is of particular interest (Fletcher, below).

6.2.1 ***Phase 1. Buried land Surface*** (Fig. 4; S.207)

Layer 238 was the earliest deposit encountered in area 2, this was a nearly black organic rich silt, more than 0.2m thick. It was similar in character to layer 143 in area 1 and was encountered at roughly the same depth. The deposit may be the remains of the 12th century buried land surface. No finds were recovered from it.

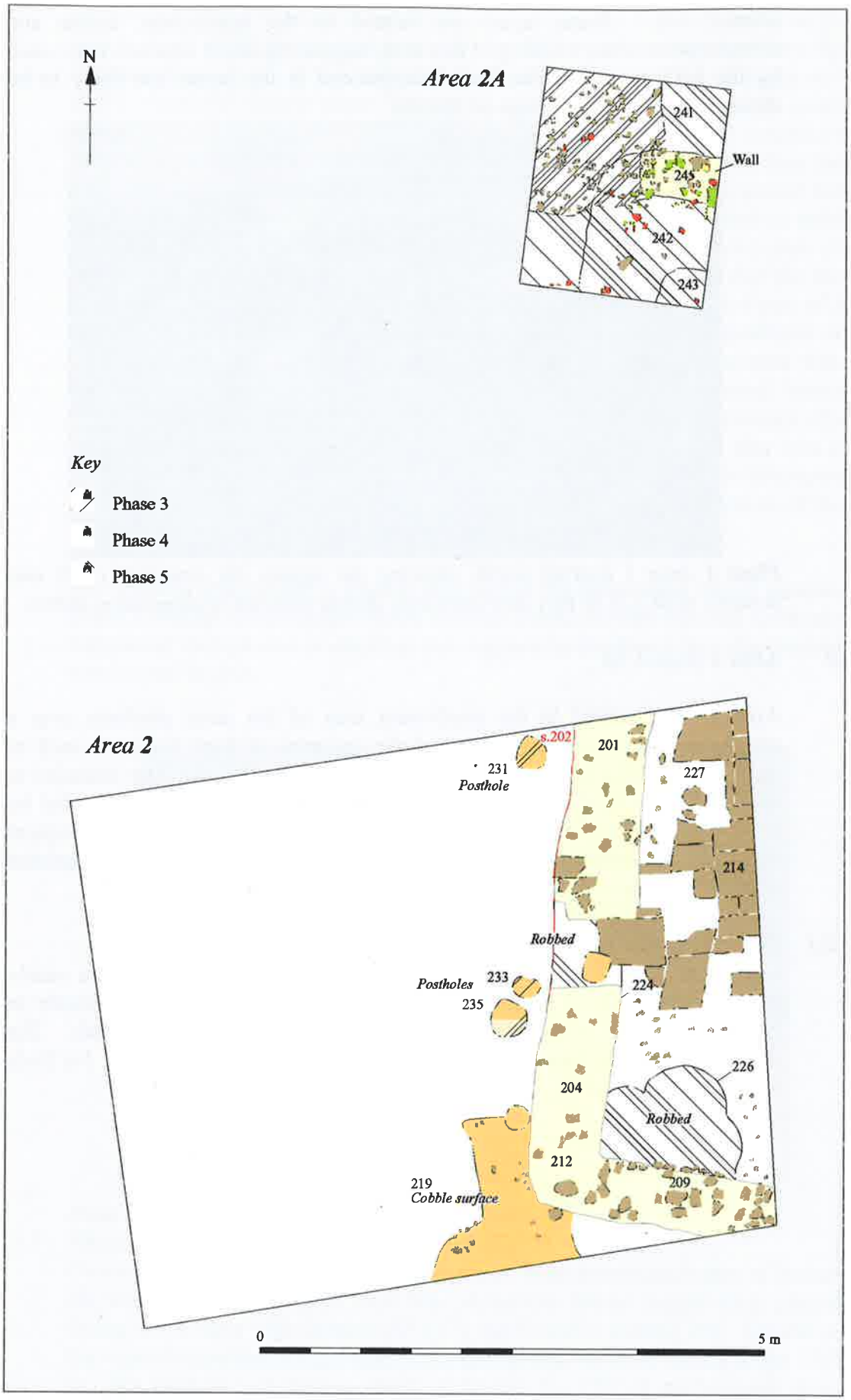

Figure 6 *Plan of areas 2 and 2A*

6.2.2 ***Phase 2. Moat Construction*** (Fig. 4; S.207)
Overlying the buried soil (238) was a layer of redeposited chalk (237) over which was a thick layer of brown silt (210/229), the latter contained fragments of ceramic phase 5 pottery. The character of the layers suggests that they were upcast from the surrounding moat ditch. Probably deliberately thrown into the central area of the moat in order to level it and raise it above the surrounding landscape.

6.2.3 ***Phase 3. First (timber) building phase*** (Fig. 6)
Three postholes (**231**, **233**, **235**) may be attributed to phase 3 in area 2. These postholes may represent evidence of a timber structure predating the phase 4 stone building. They were parallel with and to the west of the western wall (201/204) of the building. However, they could be related to the construction of the stone building and do not necessarlily indicate an earlier timber building on this spot.

6.2.4 ***Phase 4. Second (stone) building phase*** (Fig. 6, Plate 4)
This is the major phase of building activity in area 2, the corner of a building was encountered. The building comprised a solid chalk wall foundation (201, 204, 209), associated with a stone flagged floor (214), a threshold stone (robbed) indicating a door and a later robber pit (226) in the south-east corner that may indicate the location of a staircase. Externally, a cobbled surface (219) was laid.

Plate 4 *Area 2 looking north showing the flagged floor (214) and eastern wall (201/209) with break for door (centre right)*

The construction of the external walls comprised a 0.55m deep foundation trench (239) rammed with chalk (215/218/228) on top of which a wall

(201/209) of fist sized clunch and flint pieces had been laid in a soft lime mortar. A few faced clunch blocks (each approximately 0.20m x 0.13m x 0.10m) remained in situ but the majority had been removed. Approximately 2m north of the external south-west corner of the wall there was a 1.2m gap where two large worn and cracked flag stones were located. This is evidence for a doorway, a posthole on the southern edge of the doorway may be evidence for a doorpost and there was evidence on the western external face that a threshold stone may have been removed.

To the west of the wall and internal to the building was a flagstone floor (214) laid on a rough mortar screed (236). The flagstones were cracked and showed signs of wear by use. They ranged in size from 0.10m x 0.10m to 0.30m x 0.18m. The flagstones became increasingly decayed and fragmented towards the south-east corner of the building where they had been disturbed by a rbber pit (226). The presence and location of the pit is difficult to interpret, but it may represent robbing of a substantial structure, possibly a staircase.

Externally there was evidence that a cobbled surface (219) had been bedded onto a layer of mixed chalk and mortar (236). The cobbles may have been extensively robbed as they covered only a small, irregular area against the south-west corner of the building. Elsewhere the external surface comprised soil layers.

Dating for the building is difficult to determine precisely, layer 229 sealed beneath the building contained two sherds of pottery dating to ceramic phase 5, somewhere between AD1200 and 1375. One sherd of pottery of a similar date of AD1225 to 1375 was also found in the collapsed rubble overlying the wall. It is likely then that the building was constructed in the 13th or 14th century.

An assemblage of painted window glass found in pit **226** also suggests a 14th century date for construction or refurbishment of the building.

The function of the building can be guessed at by reference to some of the finds associated with it. The presence of painted window glass implies a high status and possible religious association, perhaps indicating that a private chapel was located here (Fletcher, below). Also found was a small stone scribe (SF 213) and a large facetted jet bead, possibly from a Rosary (SF 224). Both of these are described in detail below (Crummy). Several clunch stone mouldings were also found that are likely to have been internal decorations around the windows and doors.

6.2.5 *Phase 5 - Demolition and abandonment* (Fig. 6, Plate 5)

Phase 5 relates to the abandonment and eventual demolition of the building. Several features that are likely to relate to robbing of the stone from the walls, floors and even cobbled yard have been identified. Pit **226** for example may relate to robbing of a substantial feature such as a staircase. The broken window glass and associated lead from these pits attests to removal of other features as well, perhaps the painted glass window was destined for use

elsewhere when it was accidentally dropped and smashed in the hole left by the removal of the staircase. Much of the tile from the roof was also likely to have been removed at this time (Antrobus, below).

Amongst the rubble left by the removal of building materials were sherds of pottery dating to no later than 1700, indicating that the building was unlikely to have been occupied much later than the late 17th or early 18th century. This is supported by documentary evidence that suggests the building was dismantled during the middle of the 18th century (Wareham and Wright 2002, 143).

***Plate 5** Area 1 looking south showing excavation of pit (226) containing painted glass*

6.3 Area 2A (Figs 2, 6)

During the 2002 season a small trench was placed in the space between areas 2 and 5A. This was only 2m square and was hand excavated. The objective was to test the assumed location of the north-west corner of the building discovered in area 2. The location of the corner could be estimated by the fact that the building was very evidently not present in area 5A. In addition the student assigned to this trench was keen to try dowsing as a technique to identify the corner of the building, this was done and the student was then set the task of excavating the area to test whether the technique had worked.

Topsoil and subsoil (contexts 240-243) were removed by hand to a depth of approximately 0.5m to reveal archaeological deposits.

6.3.1 Phase 3 (Fig. 6)

The earliest deposit encountered in trench 2A was a layer of 60-80mm sub-rounded cobbles (257), they had certainly been deliberately laid although their function was not clear. They may have formed an external surface, perhaps a continuation of the phase 4 cobbled surface found in area 2 (219) or possibly formed the foundation for a structure. No finds were associated with this

surface and further excavation work would be needed in order to clarify its function. Its position within the stratigraphic sequence, however, implies an early date and the layer or structure may be associated with the phase 3 timber buildings identified in areas 3 and 5.

6.3.2 ***Phase 4*** (Fig. 6)
The cobbled layer was overlaid by a 95mm thick deposit of brown silt (251) that contained three sherds of ceramic phase 5 pottery (AD1250 to 1350). The foundations for the corner of a stone wall (245) were cut into this layer. The wall was severely robbed (242) leaving little intact, all of the external faced stones had been removed. The wall was aligned with 201 in area 2 to the south and is certainly a continuation of it.

6.3.3 ***Phase 5*** (Fig. 6)
Evidence for demolition and robbing of the building was also found, wall 245 had been severely robbed as noted above and a spread of mixed stone rubble (242, 242) covered the area. It contained pottery dating to ceramic phases 6 and 7 dating to the period AD1400 to AD1600.

6.4 Area 3 (Figs 2, 7 and Fig 4; S302)

This area was located at the south-west of the moat platform immediately to the west of the current access onto the platform. The area appeared remarkably blank on the geophysical survey and was positioned to test whether this was an accurate reflection of the below ground remains. It was extended to take in the edge of the moat platform to test for structures such as fences or banks associated with the construction of the moat. It was further extended in 2002 to establish whether a group of postholes discovered in 2001 could be evidence for a bridge structure.

Topsoil (0.18m thick) and subsoil (0.25m thick) were removed by hand to reveal archaeological deposits.

6.4.1 ***Phase 2***
The deposits in this trench appeared somewhat complex and excavation followed many dead ends and wrong turns. On several occasions deposits were excavated in the belief that they represented features cut into the moat platform, in fact most of these were the interleaving deposits thrown up from the surrounding moat ditch and used in the construction of the platform. The deposits were a mass of redeposited chalk and topsoil that had become mixed in the process of moving it and so formed no coherent pattern as none was ever intended. The earliest deposits observed in area 3 were discovered by

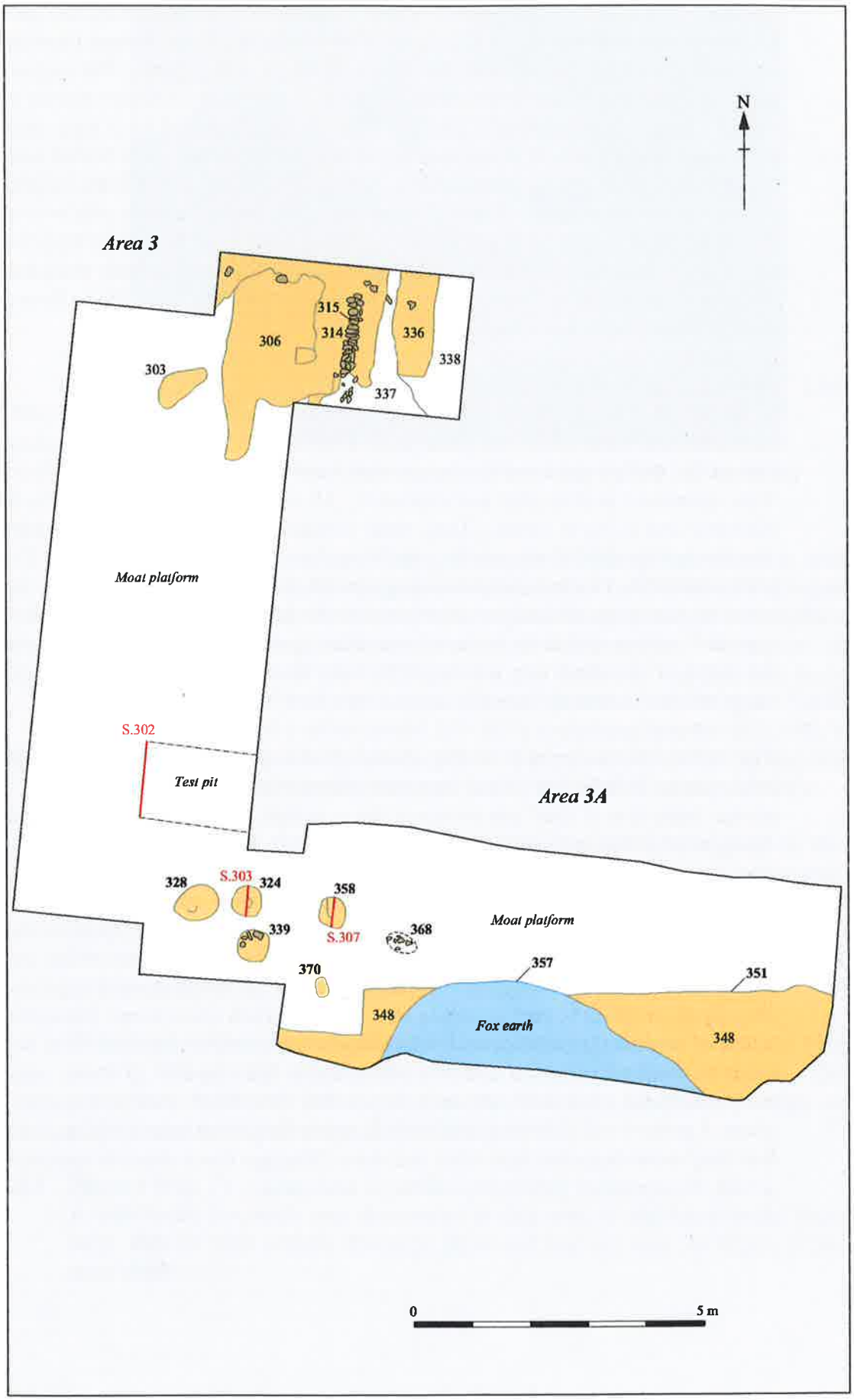

Figure 7 *Plan of areas 3 and 3A*

excavating a series of 1m square by 1m deep (below ground level) test pits including one towards the southern end of the areaa. The exposed deposits comprised interleaving layers of redeposited chalk and topsoil. The earliest deposit excavated was a redeposited chalk (311) that contained two sherds of ceramic phase 5 pottery, AD1200 to 1400. It was overlaid by a very dark brown silt (309) that was interpreted at the time of excavation as a buried soil, possibly the 12th century land surface. However, comparison with the heights above sea level in areas 1 and 5 where similar deposits were discovered suggests that this layer and 311 below it are more likely to be upcast from the moat ditch and therefore part of the construction for the building platform. 311 was then sealed by further layers of redeposited chalk (307, 308) to form a firm platform ready for occupation.

6.4.2 ***Phase 3*** (Fig. 7, Fig. 4; s303, s307*)*
A cluster of four postholes (**324**, **328**, **339**, **358**) and a further two possible postholes that were not investigated (368, 370) were uncovered at the southern end of the trench and located close to the moat ditch edge. These postholes were consistent in size, plan and character. All were roughly circular, 0.4m in diameter and 0.3m in depth. They each contained an organic rich post pipe surrounded by solid chalk packing showing the posts had rotted in situ. The postholes formed a cluster and it is suggested that their location so close to the moat edge implies that they were related to the moat ditch. There were clear signs of erosion of the ditch slope immediately adjacent to the postholes and the slope of the ditch was much gentler here than elsewhere. These factors suggest that this was the most likely location for a bridge across the moat.

The lack of finds or other dating evidence makes it difficult to assign the postholes to a particular phase, however, they have been assigned to phase 3 on the basis that if they are evidence for a bridge, then it would have been constructed at the earliest opportunity.

6.4.3 ***Phase 4*** (Fig. 7, Plate 6)
At the north end of the trench two linear spreads of chalk lumps, flints, mortar and fragments of tile (306/314 and 336) were located that had more form and may once have been a structure, severely robbed. On excavation it appeared only as an irregular scatter of stones on a north to south orientation. However, a hint of structure was indicated by the presence of a narrow band of flint and other sub-rounded stone cobbles (40-90mm) that appear to have been deliberately set on a north to south alignment. Two small sherds of ceramic phase 5 pottery AD1150 to 1350, were found amongst the stones and indicate that they were deposited here after that date. Whether these deposits represent a wall, floor, path or yard is impossible to determine.

***Plate 6** Area 3 looking west showing possible structure (306/314 and 336)*

6.4.4 ***Phase 5*** (Fig. 7)

No structures or features specifically relating to this phase were found in area 3, however, many finds dating to ceramic phases 6 to 7, AD1400 to 1700 were recovered. The pottery sherds may have become incorporated into the surface of the platform during daily use or even at abandonment. A number of complete or partially complete objects were also recovered and these are more likely to have been personal losses. Several personal objects were found including an Edward 1 silver penny (SF 307), a clothing fastener (SF 304), a finger ring (SF 308), a knife handle (SF 322) a knife blade (SF 325), and two silver fittings probably used to decorate leather (SF 306) (Crummy, below).

The infilling along the inner moat ditch edge was also investigated in this trench. The deposits filling the moat ditch here were somewhat deeper than had been the case elsewhere along it, and the ditch sides were much less steeply inclined, possibly having been deliberately dug in this way to assist in the construction of a bridge. It is possible that there had even been a causeway across the moat prior to construction of the bridge.

Demolition, robbing and abandonment must have taken place in the late 17th or early 18th century, although there is little evidence for it in this trench. The posts were evidently left in situ so the structure, whether a bridge or something else was left to rot, rather than removed.

6.4.5 ***Phase 6*** (Fig. 7)

A man-made fox earth was discovered in this area, it was constructed from large 19th or 20th century drainage pipes and had cut into the edges of the moat ditch.

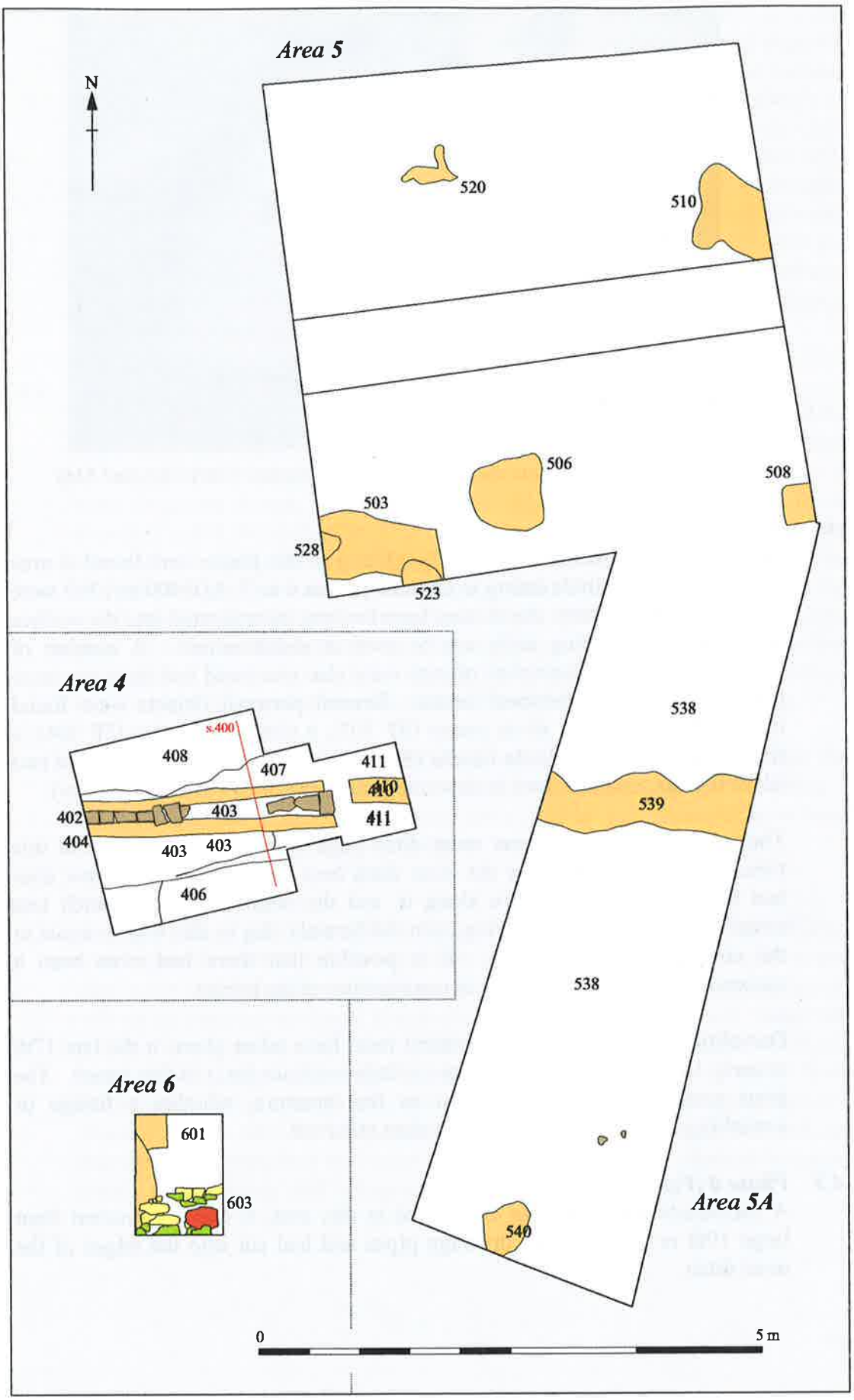

Figure 8 *Plan of trenches 4, 5A and 6*

6.5 Area 4 (Figs 2, 8)

Area 4 was located adjacent and to the south of Area 1. It was located in this position to test an anomaly showing high resistance in the geophysical survey. An area of 2m by 2m was initially excavated, however, it soon became apparent that the complexity of the archaeology was too great and the area was reduced to 1m by 2m. The area was excavated by one volunteer. No phase 1, 2, 3 or 4 deposits were positively identified, and the earliest pottery suggests a phase 4 date. Large tree roots from a nearby Ash caused considerable damage, the roots were largely left in tact and the excavator attempted to investigate the archaeological deposits without causing too much disturbance to the tree.

6.5.1 Phase 4 (Fig. 8, Plate 7)

The stratigraphically earliest deposits identified in this area (410, 411, 403) were mixed grey and yellow silts that contained pottery dating between AD 1450 and 1550. An iron fitting from a wooden platten, (context 410) was the only evidence for food vessels made from materials other than pottery, although it is well known that many of the vessels would have been made from wood or leather. This was probably the ground surface in the 15th to 16th century, its character suggesting that it was simply earth, perhaps covered with grass or garden plants.

This earth was overlaid by a hard packed, cemented material comprising a mixture of chalk, silt and pebbles. It is likely that this was the remains of a sub-base for a hard surface, probably external, pottery incorporated within the surface dated to the period AD 1400 to 1550 implying a date in the first half of the 16th century for its construction. Truncating this surface or more likely incorporated within it was the cut for a drain (412) lined with re-used roof tiles and chalk nodules loosely bonded in a soft lime mortar (404). The use of the materials was variable along its length and appeared to largely make use of materials to hand rather than incorporating anything that was purpose made for the job, however, a number of dressed and shaped chalk blocks remained in situ on the internal face that had obviously been purpose made. The floor of the drain had largely been removed, although two re-used collyweston stone tiles remained in situ and attest to its original construction. Similar stone tiles had been used in the construction of the drain capping. The presence of the re-used stone tiles shows that these had been previously used for roofing material on the site, perhaps before the extensive use of ceramic tiles. The drain had been constructed so as to fall towards the moat ditch where it would have emptied and area 6 (below) was excavated in order to test this theory. Overlying the drain and creating a level surface with the chalk floor (406 and 408), was a grey silt containing a lot of broken tile (405 and 407) and probably representing demolition.

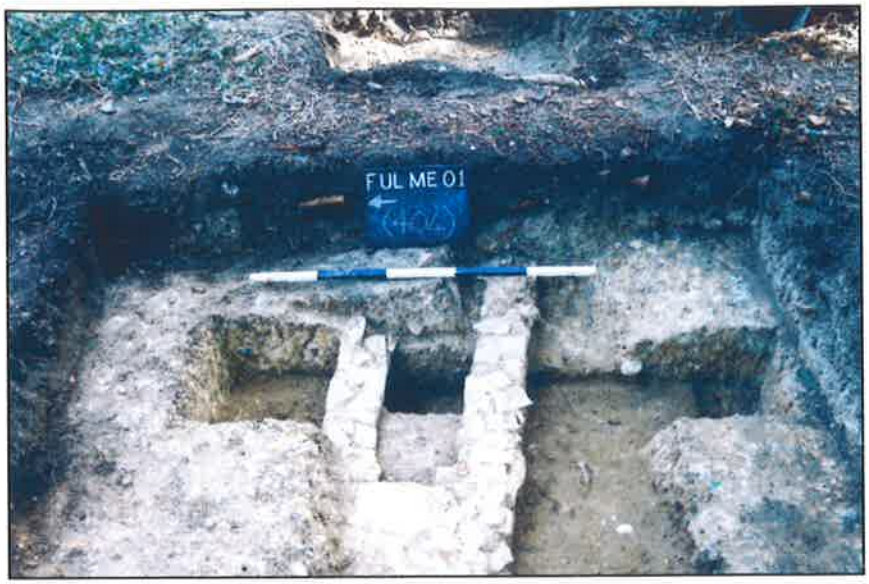

***Plate** 7 Area 4 looking east showing sub-base for yard and drain lining (404)*

6.5.2 Phase 5 (Fig. 8)

Filling the drain void was a dark brownish grey silt (409) with copious tile, animal bone, shell, pottery and part of a 14th or 15th century horse shoe. A sample was taken from this deposit as it was felt that it may contain evidence for seeds or small mammal bones, unfortunately, in common with other samples collected from the site, this was not the case. Context 409 is likely to be evidence of the last use of the drain, the material that collected but was never flushed through so the pottery date of AD 1500 to 1600 may signify a final use or abandonment in the late 16th or early 17th century. The layers overlying the drain probably represent this area of the site reverting to garden with none of the pottery dating to much later than the middle of the 16th century. A barbed iron arrowhead (SF 402) from these deposits testifies that hunting of animals was one of the activities that the occupants of the moat enjoyed (Crummy, below).

6.6 Areas 5 and 5A (Figs 2, 8)

Areas 5 and 5A were located in the north-east corner of the moat platform where no geophysical anomalies had been observed. Area 5 was 5m by 5m in area, area 5A lay to the south of Area 5 and was 8.4m north to south by 2.4m east to west. The two trenches produced a large assemblage of pottery, with three times as many sherds of pottery as any of the other areas. In addition, three of the five Jettons (tokens) found on the site came from this area. It was characterised by ephemeral evidence for a timber building, but was otherwise unremarkable. The post-abandonment and demolition build up of topsoil was almost 0.4m thick in these trenches and was rapidly removed by hand using mattocks and shovels. Pottery dating to the period 1200 to 1550 was recovered from these layers.

6.6.1 Phase 3

The earliest deposits (516, 517, 519, 521) excavated in this area included various patches of differently coloured and slightly varied silts that may represent the remnants of pits or postholes, however, they formed no coherent pattern and could equally have been formed by general use. A small number of features were more convincing (**506**, **508**, **510**, **520**). One possible pit (**506**), a shallow circular depression approximately 0.2m deep, contained the largest assemblage of pottery found in one feature with 92 sherds weighing 1.543kg, an average sherd weight of 16g. All of the pottery from this feature was in the date range 1250 to 1350 and represented a mixture of jars and jugs.

6.6.2 Phase 4 (Fig. 8)

A mixed layer of pale yellowish brown silty clays (501, 513, 514, 515, 518) sealed these features and contained pottery dating to the period 1200 to 1500. This may have spread across an area that had previously been used as a garden or general rubbish dumping area in order to level it and prepare it for building.

One posthole (**523**) that was certainly associated with a structure and two others possible features were observed cutting through the levelling layer (501 *etc.*). The posthole (**523**) was 0.3m deep by 0.2m in diameter and was packed with flint and chalk nodules, small fragments of burnt clay were also present. One sherd of pottery dated to the period AD 1400 to 1550 was found in the packing, but may date the destruction rather than construction of the structure.

The second feature belonging to this phase was interpreted as a possible ditch (**503**), however it was closely associated with posthole **523** and as such may be evidence for a beam slot, it was orientated east to west and was approximately 0.4m deep and 0.5m wide. It had a flat base but somewhat degraded sides, however, this may have been due to the very soft nature of the soil through which it had cut.

The third feature (539) that may have had a structural use was found in trench 5A and comprised a line of broken roof tile within a shallow linear cut, approximately the same width and alignment as **503**, and approximately 2.5m to the south.

Taken together these features may be evidence for a timber building located in this area of the site.

6.6.3 Phase 5

There was plenty of evidence of activity continuing, with pottery dating up to AD 1600 and several 15th century Jettons found in this area, copious quantities of roof tile were also observed. However there was little evidence to suggest that any building here lasted much later than the early 16th century and the AD 1400 to 1550 pottery found in the backfill of posthole **523** and associated with demolition rubble 539 may be indicative of a destruction date.

Phase 6
After demolition and abandonment soil accumulated and covered the area. Pottery found in 537 (subsoil) dating to the late 18th or ealy 19th century gives some idea of the date at which this was occurring.

6.7 Area 6 (Fig. 8)

A small test pit, Area 6 was positioned to test the theory that the east to west orientated drain encountered in Area 4 would logically terminate at an outflow into the moat ditch to its west. With this aim, a small 1.5m by 1m test pit was dug at the junction of the moat ditch and the projected line of the drain identified in Area 4.

6.7.1 ***Phase 4*** (Fig. 8)
Evidence for a drain outflow was found (603) in the form of mortared fragments of stone tile that had been laid flat with an Ely ware jug mouth that had apparently been deliberately placed to take outflowing water beyond the moat edge, presumably to prevent it from undermining the edge of the moat platform. Ely wares are generally dated to the period AD 1200 to 1400.

6.8 Area 7 (Fig. 2)

Area 7 was located to the north-west of Area 1 in an area of the moat platform that had not been subject to geophysical survey due to the presence of scrub and trees. It was 2m by 2m in area and approximately 0.3m of topsoil had built up over archaeological deposits. All of the pottery from this area was retrieved from the topsoil and was consistently dated to the latest ceramic phase. Beneath the topsoil was an extensive deposit of shells comprising oysters, mussels and whelks, unfortunately time constraints were such that no further investigation could take place on this deposit. Its proximity to the possible kitchen area identified in Area 1, however, indicates that it was likely to be associated with food preparation in the kitchen and also indicates that shellfish was brought into the site for consumption on the premises.

6.9 The Moat (Fig. 3; S1, S3)

A limited investigation of the moat took place in the form of an earthwork survey to study the rise and fall of the ditch base and an auger survey to establish the depth of deposits within it and whether any waterlogged deposits survive. All of the samples taken were subject to a visual check by an environmental archaeologist, Dr Alan Clapham. None of the samples contained any evidence that waterlogged materials are present in the moat ditch and furthermore it was established that the depth of deposits within the ditch are no more than 0.5m deep and of the same character and type of those that have built up over the moat platform itself since it was abandoned. From this it can be assumed that the moat ditch itself was kept very clean during the

occupation of the site. It is clear from the presence of at least one drain (603) into the moat ditch that the occupants were not averse to discharging water and potentially other waste into the moat, however, it must have been regularly scoured and cleaned out. The earthwork evidence shows that there was an inflow and outflow ditch adjoining the moat and these may have provided a continuous running water supply that helped to keep the moat clean.

7 **The Pottery** by Carole Fletcher BA

7.1 Introduction and Background

The excavations produced a pottery assemblage totalling 629 sherds, weighing in total 8.931 kilograms. Of approximately 180 recorded contexts, 70 contained pottery.

The Assemblage has been examined and discussed only in terms of ceramic phasing at the request of the excavator.

The major fabric types in the assemblage are Medieval Essex Micaceous Sandy ware (MEMS Fabric 20, Cotter 2000, 91). Sible Hedingham (HEDI), Colchester Type ware (Fabric 21, (*ibid* 108), and Post–medieval Redware (PMR). Other fabrics include Medieval Ely ware (MEL) or Fen Sandy ware (FSW) and Raeren stoneware (RAER). The ceramic assemblage is dominated by Essex fabrics, with a minor part played by Cambridgeshire or Fenland products, and continental imports. The latter have a narrow date range and are important in the dating of the assemblage.

All Essex fabrics are described and dated with reference to Cotter 2000.

The vessel types represented, vary with fabric as well as ceramic phase in this assemblage. Ceramic phase 5; is the earliest ceramic phase from which significant numbers of sherds were recovered and here jugs are the dominant form, though this may be somewhat biased by the presence of eleven sherds from a single FSW/MEL vessel weighing 0.736 kg. . Apart from the large FSW/MEL sherds, HEDI is the most common fabric present for this vessel type. Jars are also represented but in slightly smaller numbers and are mainly in MEMS fabrics.

Few bowl sherds were recognised in ceramic phase 5 however, more were recognised in later ceramic phases. Ceramic phase 6 and 6-7 sees the establishment of new forms within the group of vessels identified as jugs including a sherd from a Colchester Type ware bottle with a small spigot hole (Cotter 2000, 154-155, figure 103, 219). Also recovered were sherds from bunghole cisterns and a was single sherd from a curfew.

Ceramic phase 7 sees the introduction of drinking vessels in both RAER and Cistercian or Cistercian type wares (CSTN), along with an increased number of bowls in PMR fabrics. PMR is an important fabric group for dating in this ceramic phase, it should however be noted that PMR fabrics and forms have features in common with the late medieval Colchester fabrics. This suggests that these sherds are early Post–medieval, and are not later in date than the first half of the seventeenth century. Also recovered were five sherds from a Type II Martincamp (MART) flask (Jennings 1981, 75) this, considered alongside the RAER sherds, suggests a broadening of the ceramic types available to the site in this ceramic phase. Only two contexts produced pottery with a post sixteen hundred date. Context 141, produced a sherd of Dutch Tin Glazed earthenware (DUTG) and a single sherd of Post–medieval Black Glazed ware ((PMBL) AD 1600 to 1700). Context 537 produced a single sherd of a Dutch Redware (DUTR) vessel and produced the latest pottery recovered during the excavation, a single sherd from the handle of a Whieldon ware type vessel. (AD 1750 to 1850).

The distinct absence of eighteenth century ceramics, with the exception of the single sherd mentioned previously suggests that the site had been abandoned completely by the beginning of that century.

Other fabrics present in the assemblage as a whole include Brill–Boarstal ware (BRILL), Mill Green Fine ware (MGF), and Early Medieval Essex Micaceous Sandy ware (Fabric 13 (EMEMS)). Three sherds of Roman pottery were also recovered during excavation; however, no conclusions as to Roman activity can be drawn from such a small number of sherds.

The assemblage remains too small to warrant detailed analysis of any ceramic phase except 5 and 7. The remaining ceramic phases have produced less than 1 kg of pottery and unless combined would not be statistically significant. Any vessels within these ceramic phases that the author considers important will be discussed, as will the overall trends across the site.

7.2 Methodology

The basic guidance in MAP2 has been adhered to (English Heritage 1991) In addition the MPRG documents 'Guidance for the processing and publication of medieval pottery from excavations' (Blake and Davey, 1983) and 'A guide to the classification of medieval ceramic forms' (MPRG, 1998) act as a standard.

Full quantification of the assemblage on a context-by-context basis was carried out using the Archaeological Field Unit's in-house system based on that used at the Museum of London. Fabric classification has been carried out for all previously described types. New types have been given descriptive identifiers. All sherds have been counted classified, and weighed. Sherds warranting possible illustration have been flagged, as have possible cross-fits.

This information was entered directly onto a full quantification database (Access 2000). The pottery and archive are curated by the Archaeological Field Unit until formal deposition of the site archive.

7.3 The Ceramic Phase Assemblage

The pottery assemblage can be divided into groups of types that together can be seen to be representative of broad time brackets, or ceramic phasing (typically two centuries long). It is most appropriate, from the point of view of ceramic study, to group the context groups into these ceramic assemblages in the first instance; this should be done following spot dating. However, this assemblage was not spot dated and the author proceeded to a full report using only the ceramic phasing.

7.3.1 Ceramic Phase Dates

The dating of pottery from ceramic phases 4 to 7 covers a period of eight hundred years with a date range from 900 AD to 1700 AD. The breakdown of the dates by ceramic phase after the 2001 and 2002 excavation is as follows:

Ceramic Phase 4–5	900 to 1350 AD
Ceramic Phase 5	1150/1200 to 1350 AD (Medieval)
Ceramic Phase 5–6	
Ceramic Phase 6	1350 AD to 1450/1500 AD (Late Medieval)
Ceramic Phase 6–7	
Ceramic Phase 7	1450/1500 to 1650/1700 AD (Post–medieval)

	No Sherds	Weight (kg)	Av. sherd weight (kg)
Ceramic Phase 4/5	1	0.005	0.005
Ceramic Phase 5	239	3.733	0.016
Ceramic Phase 5/6	1	0.002	0.002
Ceramic Phase 6	6	0.075	0.012
Ceramic Phase 6/7	66	0.803	0.012
Ceramic Phase 7	316	4.313	0.013

Table 1 Main assemblage by ceramic phase

Table 1 shows that the size of the ceramic phase assemblages is varied, the slightly larger average sherd weight in ceramic phase 5 is due to the presence of sherds from a large FSW/MEL unglazed jug. As previously mentioned, only ceramic phases 5 and 7 have significantly large assemblages to warrant further analysis, and these can be seen to have similar average sherd weights suggesting that each ceramic phase underwent similar amounts of reworking after deposition. The average sherd weight for ceramic phase 7 also includes residual material.

	Total Weight of Sherds (kg)	% Intrusive	Weight (kg) Intrusive	% Residual	Weight (kg) Residual
Ceramic Phase 5	3.733	*2.91*	*0.109*	*0.66*	*0.025*
Ceramic Phase 7	4.313	*0.18*	*0.008*	*28.6*	*1.234*

Table 2. Residuality and intrusiveness by ceramic phase (by weight in grams)

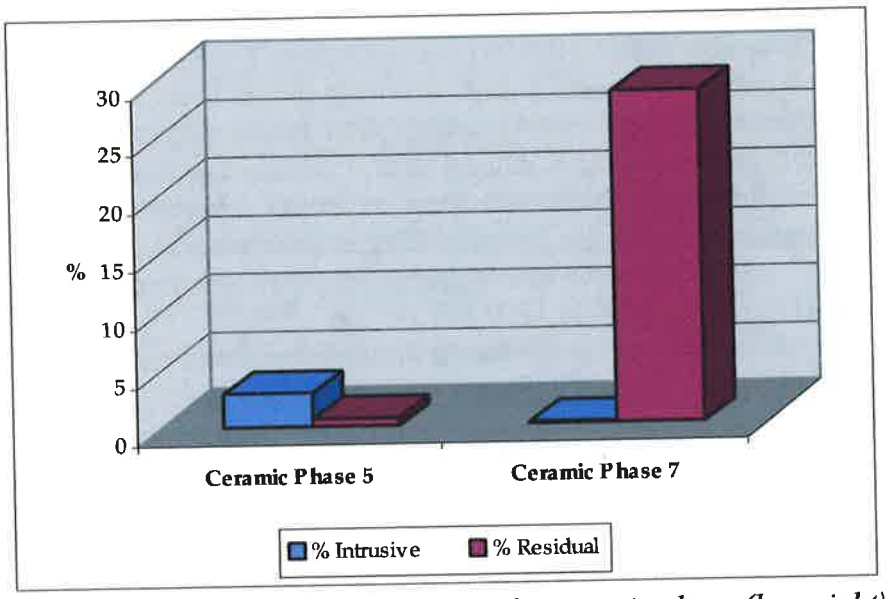

Figure 9 Intrusiveness and residuality by ceramic phase (by weight)

Table 2 and Figure 9 indicate the percentage of pottery residuality within the ceramic phases. The percentage of intrusive material present is also indicated. Residuality amongst the ceramic phases is more obvious than intrusiveness, and the percentage of residuality is greatest in the contexts in ceramic phase 7 where almost 30% of the assemblage is residual. Ceramic phase 7 is the largest ceramic phase and represents almost 50% of the sherds by weight in total from all of the ceramic phases. This is the only ceramic phase to exhibit any degree of residuality. There are significant amounts, of medieval sherds that make up the bulk of the residual assemblage.

This level of residuality may indicate reworking of earlier features, followed by re-deposition of this material. The relatively high levels of residuality suggest that the earlier phases of activity on the site were perhaps slightly more intensive than the stratified material indicates. Very little material was recovered that could be assigned only to ceramic phase 6 (late medieval) due to the presence of PMR with late Colchester sherds but there are significant amounts of MEMS and Colchester ware within the assemblage to indicate continued usage of the site from the early medieval period to early post–medieval.

The intrusive material in ceramic phase 5 is Late Colchester ware (Cotter 2000, 108) and that in ceramic phase 7 is a single sherd of Whieldon type ware (AD 1750–1850)

7.3.2 The Assemblage

A comparison of the provenance, proportion of the main fabric types, and vessel functional types across the group was carried out. All ceramic phases except ceramic phase 5 and 7 are too small to provide valid statistical results and have not been illustrated.

7.3.3 Provenance

The basic statistics relating to the source area for the assemblage are illustrated in Table 3 and Figure 10

Region	Ceramic Phase 5 (%)	Ceramic Phase 7 (%)
Buckinghamshire	0.56	0.79
Cambridgeshire/ Fenland	20.43	1.20
Essex	73.53	81.49
Bed.s/Hunts./Northants. (St Neots & Developed St Neots)	2.70	0.26
Import	0	10.22
Northamptonshire	0.08	0
Roman	0	1.94
Staffordshire	0	0.19
Unknown	2.67	0.20
Yorkshire	0	4.25

Table 3 General provenance: Percentage of assemblage by weight for specific ceramic phases

The provenance of the assemblage the can be seen to change slightly over time, however, throughout ceramic phases 5 and 7 the bulk of the pottery assemblage is sourced from Essex.

In ceramic phase 5, these Essex products are coarse grey ware vessels and some fine wares, including HEDI jugs. The next largest group comes from the Cambridgeshire/Fenland region, 20% of the assemblage therefore can be said to have a relatively local origin. The minor elements in the assemblage originate from Huntingdonshire/Buckinghamshire and an unidentified source. The unidentified sherds are mainly small abraded and sandy. The material from Huntingdonshire/Buckinghamshire is residual St Neots.

In ceramic phase, 7 the Essex products are residual medieval coarse wares, late medieval Colchester ware and more utilitarian early post–medieval wares. The important development in ceramic phase 7 is the introduction of ceramics from more distant sources including CSTN, which though identified as

originating in Yorkshire, are also produced in various other locations including Ely (Babylon ware) and the Midlands. Imported wares, specifically RAER stoneware are also important dating tools. The minor elements in the assemblage are mainly residual and include three Roman sherds.

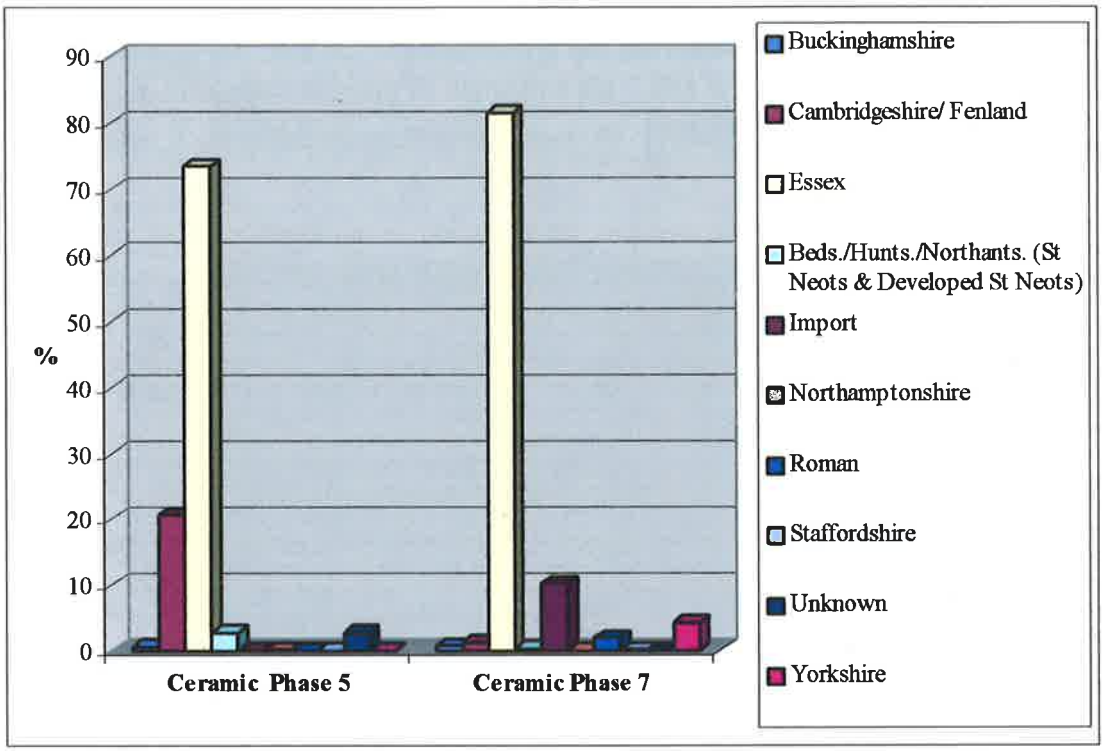

Figure 10 General provenance by region. (by weight)

The dominant supply of both coarse and fine ware vessels from Essex across all of the ceramic phases is interesting. There are more local ceramic industries that could have supplied some of the coarse ware needs of the site. For example, the medieval Ely ware industry or similar pottery being produced elsewhere in the Fens could have supplied the site with jars and glazed or unglazed jugs during ceramic phase 5 but only one Ely ware sherd and fifteen FSW sherds were identified.

It is not unusual, in this period for some of the fine or glazed wares present in local assemblages to have originated in Essex. Although, other glazed ware industries are also usually present this is not the case in the Fulbourn assemblage. Here the only non–Essex glazed ware is Brill from Buckinghamshire.

Why is the dominance of Essex fabrics quite so marked in the Fulbourn assemblage? The answer may lie in the close proximity of Fulbourn to an existing transport route. The Roman road 'Via Devana' leads from Cambridge to Sible Hedingham and would allow the Essex products to reach the Cambridge market and thus supply Fulbourn with its glazed jugs. This Roman route may also continue beyond Sible Hedingham and onto Colchester

(Margary 1967, 211), again allowing Colchester wares and other Essex products to reach Cambridge and its hinterland.

This probable route from Colchester to Cambridge does not however explain the scarcity of local coarse wares in the Fulbourn assemblage. The quality of the Essex coarse wares may have led to a preference for these over Ely or Fen Sandy wares in the medieval period, yet even this does not explain importance of Essex fabrics throughout the ceramic history of the site.

An alternative explanation for the heavily Essex orientated assemblage is a connection between the owners or occupiers of the manor and Colchester or its environs. If there were a connection between these areas, it would explain the preference for Essex fabrics by the occupiers of Dunmows Manor

7.3.4 Fabric Types

Table 4 shows the quantification data produced by comparing the ceramic assemblages with grouping by pottery types or groups of 'like types'. The statistics show the changes in the pottery fabrics over time within the ceramic phases. This same information is presented in figure 11.

Ceramic phase 5 is dominated by coarse wares which make up over 60% of the assemblage followed by the group which includes HEDI, MGF, Colchester ware etc, the latter are mainly glazed wares. Almost all of this material originates in Essex, the only non–Essex ceramics in this phase are a single sherd from a Brill jug, some of the residual sherds, and the small number of unknown sherds.

The Essex coarse wares are MEMS, Fabric 20, of which there are one hundred and nine sherds and a single sherd of Mill Green Coarse ware (MGC). The glazed and fine wares are predominantly sherds from HEDI ware jugs, sixty-seven sherds in total. Nineteen sherds of Colchester type ware, Fabric 21, were also identified, the sherds are oxidised and are believed to be medieval Colchester type ware. Three sherds of Mill Green fine ware were also identified. The residual Essex material is EMEMS or Fabric 13 of which there are only five sherds and two sherds of St Neots type ware.

Similarly ceramic phase 7 is also dominated by Essex material, though the exact make up fabrics is different. Now late Colchester type ware, Fabric 21, is the major component of the assemblage. The fabric is on the whole the same as for the medieval Colchester ware, although is more likely to have reduced surfaces where the fabric is unglazed. Stylistically the slip decoration on Colchester ware pottery may also be used to date the vessels. (Cotter 2000, 172-3)

Broad Fabric Groups	Ceramic Phase 5	Ceramic Phase 7
Roman	0	0.63
Early Medieval Fabrics: EMEMS	1.17	1.02
St Neots-(Shelly fabrics)	0.21	0.14
Shelly Wares (Medieval)	2.60	1.43
Medieval coarse wares: MEMS	60.51	12.38
HEDI, BRILL, MGF, Colchester, GRIM, LYST,etc	29.54	14.24
Late Medieval & Early Post Medieval Fabrics: Late Colchester, CSTN, PMR etc	3.30	59.73
Unknown or Imports	2.67	10.43

Table 4 Percentages of broad pottery types in ceramic phases (by weight)

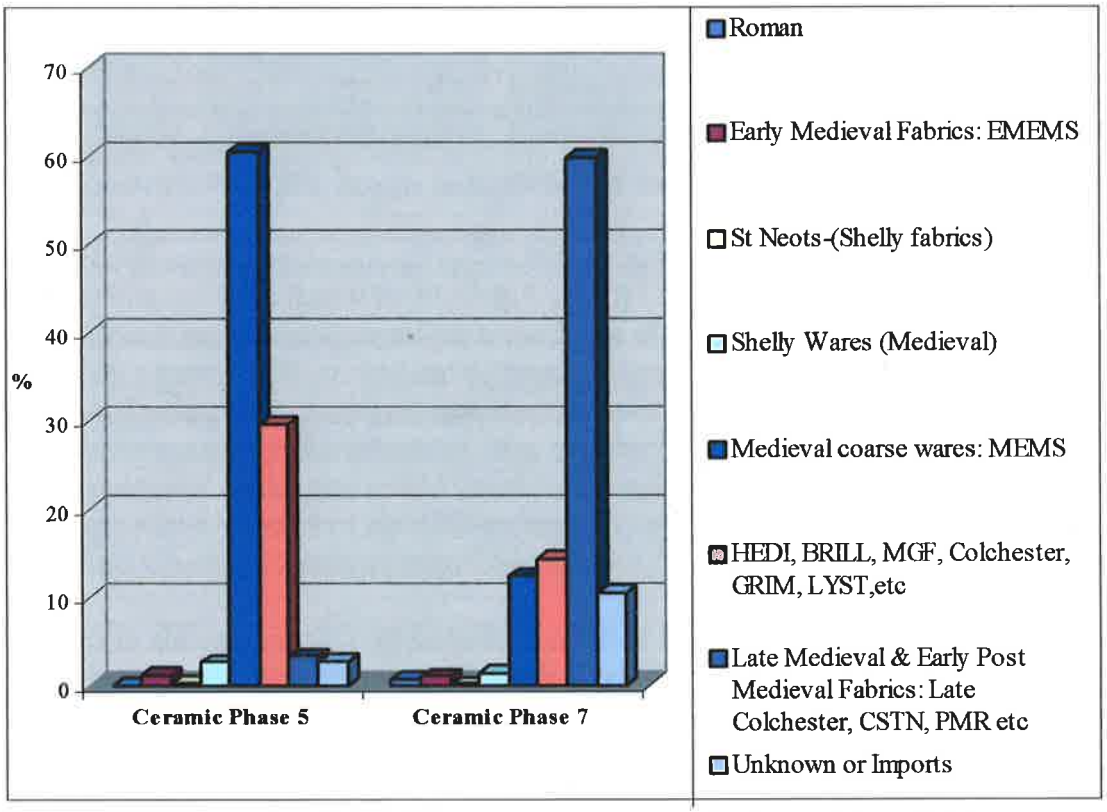

Figure 11 Percentages of broad pottery types in ceramic phases (by weight)

Amost 60% of the assemblage in ceramic phase 7 was identified as being late (post 1400 AD) Colchester type ware (Fabric 21) or early Post–Medieval ware. In most assemblages, a more distinct division can be made between the late medieval and post–medieval period, however here the post–medieval fabrics are apparently early and though the fabric appears to be PMR, the vessels can be seen to demonstrate distinctly medieval traits.

The overlap between the given dates for late Colchester ware (AD 1400 to 1550 (Cotter 2000, 108) and the normal date range for PMR (1500 to 1800 AD) used by the author, also made the distinction between late medieval and post–medieval more difficult. The final factor in the grouping of fabrics and the dating of this phase was the introduction of RAER stoneware drinking jugs/mugs. The RAER vessels are imported in the late fifteenth century (Jennings 1981, 112). This late introduction (AD 1480–1550) and the appearance of CSTN (AD 1500–1600) allowed the contexts within this ceramic phase to be relatively closely dated. The majority of the contexts in ceramic phase 7 have been dated to within a seventy to one hundred year range rather than the two hundred year span of the normal ceramic phase.
There is a relatively high degree of residuality within ceramic phase 7 due to the number of medieval sherds. Medieval glazed wares form the largest residual group with just over 14% followed by MEMS with 12.38%.

7.3.5 Vessel Types

To allow the excavator to have a more complete picture of the entire assemblage by form, it should be noted that 15.17% (by weight) of the whole assemblage was not assigned a vessel type. Of the remainder of the entire assemblage, regardless of ceramic phase, 12.98% are bowls, 33.68% are jugs and 31.98% are jars. Beyond the basic vessel types found on most sites, the Fulbourn assemblage also produced drinking vessels, 5.66% and a single large sherd from a curfew which was recorded as a vessel associated with heating and lighting and represents 0.53% of the complete assemblage.

Table 5 and Figure 12 show the percentages by weight of each ceramic phase assemblage that can be attributed to broad vessel functional types. This data excludes from the illustration those sherds for which no form or function identification can be made.

Form	Ceramic Phase 5	Ceramic Phase 7
Jug	55.09	26.58
Jar	43.78	29.5
Bowl	1.13	29.59
Jug	55.09	26.58
Drinking Vessel	0	14.33

Table 5. Percentage of vessel functional types in ceramic phase assemblages (by weight)

It is obvious from Table 5 and Figure 12 that there is a dominance of jugs in ceramic phase 5 making up over 55% of the assemblage, the remainder of the vessels in the assemblage are jars (including cooking vessels) with only a very small number of bowl sherds identified. This assemblage is medieval in date and represents a mixture of table and kitchen vessels. The near absence of bowls in the assemblage may be due to misidentification of unglazed bowl body sherds as jar sherds. Only one obvious bowl rim sherd was observed.

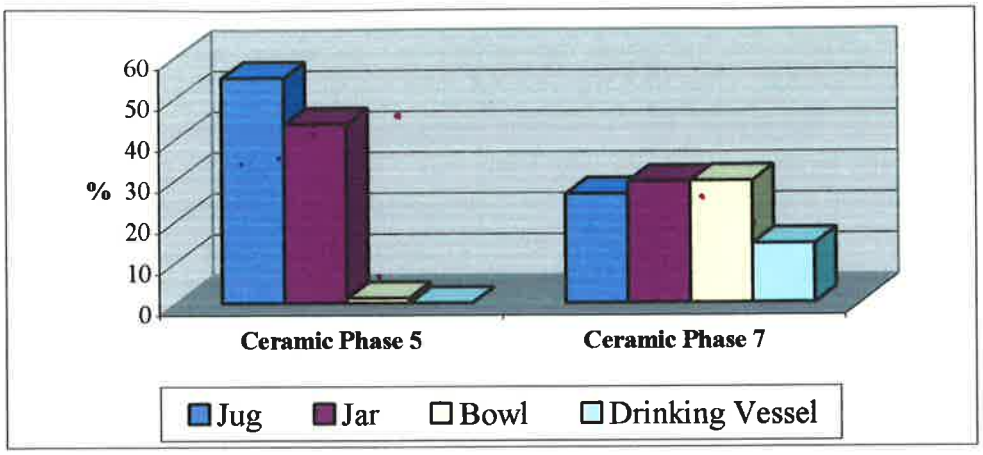

Figure 12. Percentage of vessel functional types in ceramic phase assemblages (by weight)

It is likely that jars are somewhat underrepresented in the Fulbourn domestic assemblage by comparison with the high numbers of jug sherds in ceramic phase 5, many of which are glazed fabrics. This predominance of jugs is misleading as almost 60% of the assemblage at this phase is made up of medieval coarse wares. These mainly Essex coarse wares are the everyday household vessel types, jars used as cooking pots, storage jars and serving vessels. Unfortunately, the surviving sherds recovered from the excavation cannot always be assigned to a vessel type. This can lead to a confusing picture as to the number and types of vessels occurring on a site. However the number of jug sherds present, alongside the remainder of the glazed 'fine wares' is more representative of the status of the manorial site, if one equates a greater number of glazed and or decorated 'fine wares' with a 'higher status' domestic assemblage.

In ceramic phase 7, the number of jars and bowls is almost identical with the number of jugs being only slightly smaller. A number of the jug sherds are medieval and therefore residual, however the assemblage also contains contemporary early post-medieval material including sherds from a Type II Maritncamp flask (Jennings 1981, 75) and the bases of several Raeren drinking vessels or medium jugs similar to those illustrated in Hurst (Hurst *et al* 1986, 197 fig 94. 300–303). It is suggested that "this type of jug was exported to Britain in such large quantities that it is found on every site of the first half of the sixteenth century – from royal palace to peasant house" (Hurst *et al* 1986, 196). If this is, the case then the Raeren vessels cannot be used as any indication of status or even of trading patterns, as it would appear to be widely available to all. The vessel itself may be widely available but its relatively short date range combined with the appearance of Cistercian ware drinking vessels 1500-1600 AD, has been an important tool for dating the site.

Vessel usage in ceramic phase 5 and 7 showing the presence of sooting (external and or internal) is demonstrated in Table 6 and Figure 13. It would appear that the jars in ceramic phase 5 were used for food preparation and storage. More than a quarter of the jugs sherds identified in this phase are also

sooted suggesting a number of jugs were used in the kitchen close to the fire as well as 'at table'. Having, consequently a dual role as cooking or warming and serving vessels. The medieval equivalent of oven to table ware.

	Ceramic Phase 5	Ceramic Phase 7
Jug	27.38	0.39
Jar	40.59	10.5
Drinking Vessel	0	0
Bowl	0	2.29

Table 6 Vessel usage –presence of sooting among all sherds assigned a vessel function type (percentage by weight)

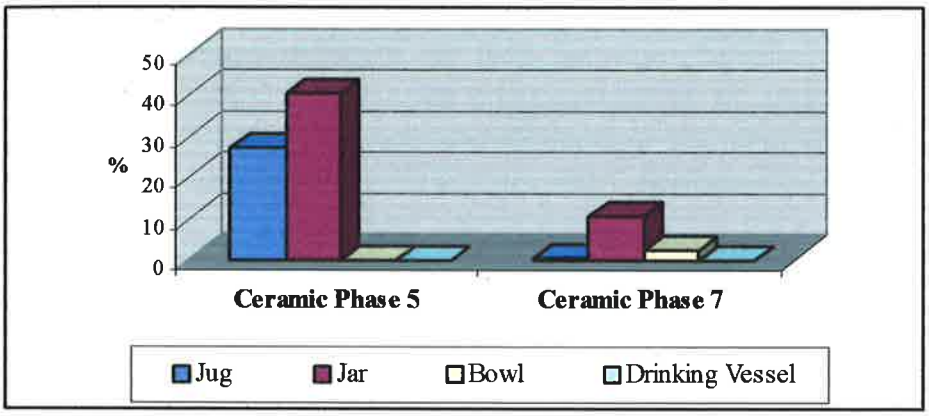

Figure 13 Vessel usage –presence of sooting among all sherds assigned a vessel function type (percentage by weight)

A smaller quantity of sooted vessels is present in ceramic phase 7 consisting mainly of jars and some sooted bowl sherds. Only a single sooted jug sherd was identified in this ceramic phase. This is more in keeping for a sixteenth or seventeenth century assemblage, one that would have employed more metal vessels in the kitchen and demonstrates a much broader range of vessels, many of which had more specific uses unlike the multipurpose jar of the medieval period.

7.4 Conclusions

In conclusion, with the exception of Phases 5 and 7, there is insufficient pottery for the statistical evidence to be significant. The small size of the assemblage makes generalization difficult.

For ceramic phase 5 the pottery groups indicate a broadly medieval date, with the main assemblage for this phase consisting of fine ware jugs and coarse ware jars from different production centres within Essex. The established overland route along the line of the Roman road 'Via Devana' and the quality of the Essex products in comparison to the local wares and may be the reason for their dominance of the assemblage at Dunmows Manor. Wares from outside Essex are poorly represented, with only small amounts of ceramics coming to the site from more local sources, including FSW and MEL from

Cambridgeshire and the Fenland area, and from a slightly more distant source Developed St Neots Type ware (DNEOT) from the Huntingdonshire/Bedfordshire area. Small amounts of other fine wares were also brought in from suppliers some considerable distance form the site, including Brill-Borstal (BRILL) jugs from Buckinghamshire. Five sherds of Brill were identified in the assemblage, two from ceramic phase 5/6 and three from the later ceramic phase 7.

A firmly medieval date can be established for ceramic phase 5, producing an assemblage that is dominated by jugs, many of which were used as serving vessels. This high proportion of glazed wares is atypical in rural medieval Cambridgeshire, however the type of site, a medieval moated manorial complex, seems the obvious factor in producing an assemblage that is 'higher status'. Other material recovered from the site including painted window glass, identified by the author on stylistic grounds as fourteenth century, and finely carved and decorated Clunch fragments, supports this. Suggesting that there was a building of some status on the site in the in the fourteenth century.

Ceramic phase 7 has a much broader range of fabrics and vessel types. The assemblage contains imported stoneware, a Martincamp flask, Dutch Red ware and a single sherd of Dutch Tin glazed earthenware. The majority of the assemblage dates to the later part of the medieval period and the beginning of the post medieval. The dividing line between medieval and post–medieval is flexible. The date of Colchester type ware is 1400/25–1550 (Cotter 2000, 108) and is considered a medieval to late medieval ware. The date normally used for the start of post–medieval fabrics in AFU pottery reports is c. 1500, as a result there is approximately 50 years overlap between the later medieval Colchester wares and post medieval fabrics, as a consequence the assemblage in ceramic phase 7 should be considered to be a transitional assemblage, with an end date of c1600 to 1650.

The single sherd of Whieldon type ware (1750+) should be considered intrusive. Perhaps after the site was abandoned and became a place for perambulation and perhaps to take a picnic. It is likely that the sherd appeared on the site in some such way.

The ceramic history of the site indicates activity and occupation from the thirteenth to the seventeenth century but the main activity identified in the trenches excavated by the AFU in 2001 and 2002 date to the later occupation of the site, to its eventual disuse and abandonment

This bias towards the latter part of the sites occupation may in some part be due to the areas targeted by the excavation and the restricted nature of the excavation trenches. There was a large amount of roofing tile spread through out the excavated area, which appears to have been the result of the demolition of the site buildings. This ceramic building material, appears to be mainly late-medieval or post-medieval, in date, which further supports a cessation of activity on the site in the early post medieval period.

Little other building material was recovered with the exception of a few bricks currently undated, and a few finely carved fragments of Clunch. These fragments are un–weathered suggesting they originated from decorative moulding inside a building. This lack of building material suggests that material that could have been recycled or reused was removed from the site and used in other buildings elsewhere. These finely worked Clunch fragments, when considered alongside the painted stained glass and the medieval pottery, suggest that during the fourteenth and fifteenth century the moated platform at Dunmows Manor may have been home to a finely appointed building and a well to do family.

Catalogue of Illustrated Pottery

Fig. 14.01. (301). An externally thickened upright rim from a baluster jug, with traces of a thin brushed on lead glaze on the neck, the fabric is a hard red sandy and slightly micaceous and has been identified as Colchester type ware, 15th century in date.

Fig. 14.02. (251). An everted and thickened rim with small patches of mottled green glaze and stamped ring and dot decoration. The fabric is light orange, slightly sandy and micaceous. Appears to be the rim from a Sible Hedingham fine ware stamped strip jug of 13th to early 14th century in date.

Fig. 14.03. (251). A neck sherd from a mottled green glaze jug elaborate decorated with a stamped ring and dot design. The fabric is light orange, slightly sandy and micaceous and appears to be from a Sible Hedingham fine ware stamped strip jug of 13th to early 14th century in date.

Fig. 14.04. (348). A pulled or pinched lip on a simple upright rim above a ribbed or rilled neck with traces of glaze from a Colchester type ware baluster jug (hard red sandy slightly micaceous fabric) 15th century in date.

Fig. 14.05. (334). A flat everted base sherd from a Colchester type ware bottle (hard red sandy slightly micaceous fabric) with traces of a small spigot hole paralleled in Cotter 2000 fig 103.219 late 14th century in date. Cotter describes a distinctive type of byconical or sub–byconical bottle and suggests that their liquid contents may have been valuable.

Fig. 14.06. (505). An everted, rounded and internally bevelled rim sherd with a single thumb impression from a large medieval Essex Micaceous Grey ware globular bodied jar (coarse hard sandy micaceous grey ware). Mid to late 13th century to late 14th century. The sherd is sooted on the side and rim indicating its possible use as a cooking vessel, a similar vessel is illustrated in Cotter 2000 fig 59.16.

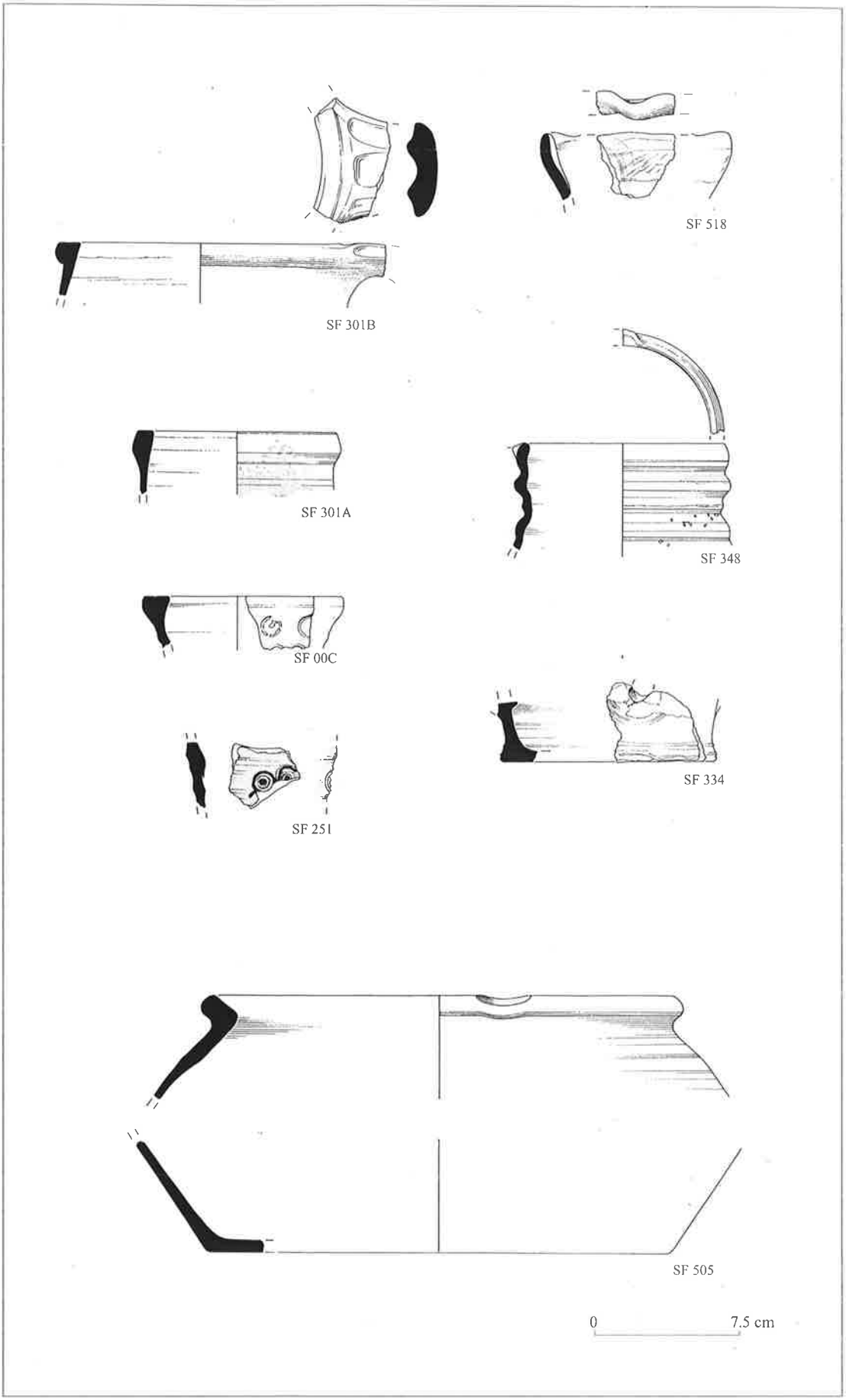

Figure 14 *Ceramic objects. Scale 1:3*

8 Ceramic Building Materials by Abby Antrobus

8.1 Introduction

The assemblage is dominated by roof tiles, mainly red peg tiles, but there are several apparent fabric types and a number of different forms including brick, rubbed brick, white tiles, and glazed, decorated ridge tiles with projecting finials. One of the fabric types appears very similar to late medieval Ely ware, and there is variation between neat, well mixed tiles, and poorly shaped, poorly mixed tiles which could represent phases from Medieval to Post-medieval (C17?).

Analysis was carried out with the intention of gaining insight into the structure and appearance of buildings on the site, possible sources of the material, possible phases and re-use of materials and evidence of manufacturing processes. These aims were largely met, although the distinctions in fabric that may merely result from variations in firing, degrees of oxidation and vitrification and the recipe, rather than actual place, method and date of production, are not known to the author.

The material is held in the finds archives of the CCC AFU.

8.2 Methodology

The tiles were collected from excavated pits and features, and from destruction layers in a series of small areas and test pits. The tiles were selectively sampled from a much larger assemblage to ensure that all types were represented: for this reason, qualitative rather than quantitative analysis is perhaps most useful, although the sherds were weighed and quantified by fabric to see what insights can be gained into the nature of the assemblage. The fragments ranged from very large, almost complete pieces from which dimensions could be ascertained to very small sherds.

The analysis followed the approach recommended in the Pottery Recording System devised by Davies and Hawkes (1985). The assemblage was visually sorted into apparent fabric type, with a representative selection of sherds from each type analysed in detail at 10x magnification under a binocular microscope to provide a framework for sorting the entire collection (context numbers are given with the fabric type). The criteria recommended by Orton, Tyres and Vince (1993: 231ff) were followed to record colour, hardness and texture, and inclusion type, amount, size, roundness and sorting.

In addition, surface treatment (for example smoothness and sand coating), manufacturing details, glaze and decoration were considered. The groupings

are therefore technically fabric and stylistic groupings, which may separate different batches or types of tile from the same manufacture.

The assemblage was then quantified by fabric type, form (peg tile, roof tile, ridge tile, brick) and in the case of peg tiles, the number of holes, size and shape of the holes and the distance between the holes. The presence of glaze was noted, as was the presence of mortar. The brick and tile catalogue and a full description of the fabric types identified is located in appendix 3.

The precise location of the holes was not recorded, and some features which were seen in most types, and are therefore general observations, have only been mentioned qualitatively (for example, the neatness or not of holes, many of which are oblique and lumpy). The data is held on a *Microsoft Access* Database.

8.3 Brick

A high proporton of this relatively small assemblage of bricks consisted of decorated examples. Most are probably 15th to early 17th century in date, closer dating is not possib for this period without reference to extensive typologies (Harley 1974, 74). Brick dimension is often a good indicator of date, however no whole bricks are present The lack of whole bricks, date based on dimension is also tentative, and it is possible that the bricks are earlier (14th century). The fragments are basically of a similar red clay fabric (iron rich, fired in oxidising conditions) in varying shades from orange to rose pink. This variation could be found in one batch due to differences in conditions in different parts of a kiln or clamp (Ashurst 1988, 47), although the three types are defined on the basis of visible differences. They are clearly moulded bricks, as shown by the surface patterns, and were laid on straw: the half brick from 350 has a burnt out void left by an entire ear of corn/barley/wheat. A fragment from context 347 bears a fingerprint impression. Also interesting to note is that a large proportion of the collected sample have rounded, rubbed corners, which may come from features such as windows, fireplaces or decorative arches (Harley 1974, 78). There are relatively few bricks, which implies they were used more as 'accessories', perhaps infilling timber panels, in chimneys or firebacks (Crossley 1994, 284). This is suggested by the relatively high proportion of decorated bricks, although it is possible that brick was removed from the site for re-use.

8.4 Tile

Overall, there are three main types of tile: red, white and glazed ridge tiles. The tiles are handmade, so there is inevitable variation in shape, colour, thickness, flatness, firing and hole precision, spacing and neatness. Many of the fragments are quite broken, and evidence from the site suggests destruction of the house: maybe complete ones were taken away for re-use. The tile assemblage suggests a peg tile roof in multiple hues of red, topped with glazed

ridge tiles, rather than a pantile, hooked tile, nibbed tile or anything-else-tile roof, although the (later?) white tiles and the Ely-ware type tiles must fit in somewhere, in addition to a couple of stone tiles in context 301. Presumably, a tile roof is not atypical in the region at the time, and the south-east was the main region for tile as a roofing material from the fourteenth century (Cherry 2001, 194). Peg tiles were increasingly more common in the eighteenth century (Crossley 1994, 288), but the full range of types: peg tile, ridge tile etc was available from the thirteenth century, which doesn't really help dating, especially as the dimensions have not changed overly much in that period (Cherry 2001, 194-5). Mortar was present on a number of samples. It is the opinion of Morris that the use of mortar tends to be later rather than earlier (2000, 106).

There are different types of peg tiles, and lots of double-holed examples: some with corner holes and some with two holes more centrally placed. Holes have been cut out before firing with varying degrees of care, and they are often oblique. In some cases, they are not completely through the tile (TI 105) – but then the artefacts are mass-produced tiles and not works of art (and some of the glazed tiles show evidence of sticking together on stacking). There are also tiles of different size, with different size holes. As tiles are graduated in a roof, smallest at the top, this is not a surprise (Morris 2000, 106). It may be possible to discern patterns by closer examination of the data, however, it is clear that this is an incomplete assemblage.

Some of the tiles (possible ridge or end tiles) are rounded at the end, perhaps through filing: examples are from contexts (514) and (105) (fabric A), from contexts (100) and (514) (E), and from 200 (I). This also incidentally suggests that these fabrics might be related, as observed in the fabric descriptions. There are also ridge tiles in unglazed fabrics A (601), I (347) and in glazed fabric D, as well as unglazed fabric D (206), (347). This variety of combinations may suggest different manufacturers.

Some of the tiles have deeper etched lines on the back (*e.g.* an example in fabric A from context 200), presumably from manufacturing, although this is sometimes interpreted as a signature (as is a fingerprint)? The unstratified fragment of C3 has a ridge in it which eludes explanation.

The decorative ridge tiles are of two different fabric types, Ely-type ware (B) and coarser red fabric D. Within the fragments, there are elements of each part of the ridge tile. The tiles are inverse U shapes, and some of them have 'shelved' ends (348, D1), which implies that they overlapped along the roof, adorning it with stars, spikes, triangles and points in a rich, glazed chestnut brown (described in the *Access* table). These knife cut steps, stars or moulded triangles date to the thirteenth century at the earliest (Cherry 2001, 195). A square hole making device, 6mm square, has been used for piercing these tiles of fabric type D, maybe to reduce the mass for firing below the decoration or to help attach it. It is also used at the 'hip' of the ridge tiles. The glaze type may help date the tiles: for example, tin glazed tiles increased in popularity in the sixteenth century (Crossley 1994, 289). The glazes in this assemblage are

mainly green/brown, with one black example. This suggests the use of lead glazes with copper, and or iron (Cherry 2001, 191). Analysis of the clay and inclusions might help to understand if the tiles are made from local clay, as was common, or imported, perhaps from specialist potteries rather than local tileries although both are possible (Cherry 2001, 190).

A few little pieces of history emerged from studying the tiles. A specimen of type A in context 333 contains what appears to be a strip of copper 51mm long: possibly a lost pin? Dog paw prints stand testimony to historical canine activity around drying tiles [TI 349, TA 200], and a large fragment of a fabric A red roof tile from context 601 bears the knuckle and finger impressions of the fist that pushed the clay into the corner of the mould.

9 **The Small Finds and Bulk Metalwork** by Nina Crummy

The assemblage is small but includes a wide range of items pertinent to the status of the site and the activities which took place there. There is also a notable absence of some common medieval and early post-medieval object types.

There is one coin, a penny of Edward 1 dated to 1302-1310, and five jetons, a high number compared to the other objects. One is an English sterling jeton of the late 13th to 14th century, two are late 15th-century Nuremberg copies of the official French jetons struck for Dauphinè, and two are 16th-century Nuremberg issues, a 'ship-penny', and a rose/orb type. One of the Dauphinè-style jetons (SF 225) is of particular interest as the order in which the quartered arms of France-Dauphinè appear is reversed: 1 and 4 Dauphinè, 2 and 3 France, instead of *vice versa*. This jeton has also been pierced, perhaps to show that it was an unofficial issue, or as a warning not to accept it as currency. Jetons were used for reckoning accounts, but occasionally were fraudulently passed off as coins (Mitchiner 1988, 17, 20-1).

There are remarkably few dress accessories for a site of this date. The only examples recovered are a belt-mount of the early 15th century (SF 117), an early post-medieval hooked tag (SF 304), and a black mineral bead of much the same date (SF 224). The mass-production of buckles, strap-ends and mounts in the medieval period means that they are usually common as site finds, and it is odd that only one mount has been found here, while the absence of small pins and lace-ends, the most frequently found dress accessories of the period, is even more intriguing. Both were essential items of daily life, with the former being the principal means of fastening clothing and the latter used to reinforce the ends of laces, such as those used on bodices (Egan & Pritchard 1991, 281-6, 297). The reason for the low number of dress accessories is unknown. Important factors may be as wide-ranging as the domestic management of the manor house, or the specific areas investigated during the excavation.

The hooked tag may be an indication of the status enjoyed by the inhabitants of Dunmows Manor in the early post-medieval period. They are rare as site finds, but have been found at Pleshey Castle in Essex and Sandal Castle in Yorkshire (Williams 1977, fig. 41, 2; A R Goodall 1983, fig. 1, 30), suggesting that they were used only by the wealthy, an idea supported by the very elaborate decoration of some examples (Margeson 1993, 17). The black mineral (?jet) bead is also unusual as a site find, both for its material and its form, a large faceted barrel-shape.

Two small silver fittings are also an indication of wealth (SF 306). Their precise function is unknown, but the grip provided by the burred edges of the punched holes suggests they were used to decorate an object made of leather. They are unlikely to be knife shoulder-plates, which were usually attached by only one rivet. A plain finger-ring from an unstratified context may also be of silver, albeit debased (SF 308).

The leisure pursuits enjoyed at Dunmows are shown by a fragment of a horseshoe, which was found with an iron harness buckle (SF 403i-ii), and a wide-bladed barbed arrowhead of a size suitable for hunting (SF 402). Arrowheads for use in warfare were narrow, designed for deep penetration, while those used for hunting were wide as they aimed to weaken and ultimately kill the animal through loss of blood, while the barbs prevented it being dislodged from the wound. This example is unusual in that the barbs were crudely welded onto the point. Neither the shoe nor the arrowhead can be closely dated.

The only evidence for literacy is a fragment of a post-medieval slate pencil (SF 213), possibly used by a child during lessons, but by this period some of the upper servants would probably also have been literate. A lead weight is the only object likely to have been used for household activities. It weighs less than 17 g, and would have been used for measuring out small quantities, possibly spices, herbs, or medicines.

The four knives recovered are of types generally dating from the 14th century to the early post-medieval period, matching the coins and other objects in their broad date-ranges. None are identifiable as craft tools, and they are all likely to be small personal knives used for eating, personal grooming, and other daily activities.

Catalogue

Coins and jetons

SF 307. (301). Edward I silver penny, Canterbury mint, Class Xf, 1302-1310 (as North 1960, no 1043). Obverse: EDWARD ANGL DNS HYB; two groups of three pellets on breast. Reverse: CIVITAS CANTOR. Diameter 19 mm; weight 1.37 g.

SF 500. (502). English sterling bust jeton, *c* 1280-1345 (Mitchiner 1988, 98, as nos 102-3, but pellets only in border). Obverse: Bust, Class 10, within a border of pellets. Reverse a cross moline with a pellet in each corner, within a border of pellets. Diameter 21 mm; 1.16 g.

SF 225. (220). Nuremberg jeton, copy of the 15th-century French jetons struck for Dauphinè; *c* 1480s-1490s (Mitchiner 1988, 345-7). Obverse: the quartered arms of France-Dauphinè reversed, fictitious legend. Reverse: a field of lis, fictitious legend. A hole has been punched through from the reverse leaving the edges burred on the obverse. Diameter 33 mm; weight 4.25 g.

SF 510. Trench 5A backfill. Nuremberg jeton, copy of the 15th-century French jetons struck for Dauphinè; *c* 1480s-1490s (as Mitchiner 1988, no 1035). Obverse: the quartered arms of France-Dauphinè, fictitious legend, issue mark a cross. Reverse: a field of lis, fictitious legend. Diameter 31 mm; weight 2.88 g.

SF 512. Trench 5A backfill. Nuremberg jeton, small size 'ship-penny' issue; *c* 1490-1550 (Mitchiner 1988, 370-1). Obverse: ship in profile, fictitious legend. Reverse: a lozenge containing four lis, fictitious legend. Diameter 27 mm; weight 1.47 g.

SF 223. (220). Nuremberg jeton, rose/orb issue, *c* 1500-1550/85 (Mitchiner 1988, 381-3). Obverse: three crowns alternately with three fleurs de lis around a rose, fictitious legend. Reverse: normal-sized imperial orb surmounted by a cross within a tressure, fictitious legend. Diameter 25 mm, weight 1,57 g.

Copper-alloy

Fig 15. SF 117. (109). A narrow tinned copper-alloy plaque, in two fragments. There are incised marginal grooves. A central lozenge is also defined by grooves and has a large central hole and a small stud or rivet hole at the tip of each long end. The field between the lozenge and the margins is filled with zigzag rocker-arm ornament to create a chiaroscuro effect. Length 32 mm, width 13 mm.

Close parallels to the Fulbourn plaque come from London, where one was found set across a leather strap inside the frame of an ornate double buckle. This was found with pottery dated to the early 15th century, a date confirmed by other examples of such mounts from London (Egan & Pritchard 1991, fig 51, 343; 197, nos 1052-5).

Fig. 15. SF 304. (307). Cast copper-alloy hooked tag, with the tip of the hook missing. The upper loop tapers to a hollow-backed disc decorated with floral motifs interspersed with small bosses. Length 35 mm.

Hooked tags of this form date to the early post-medieval period and were used as fasteners. They represent a revival of an earlier wrought form generally of Late Saxon and early medieval date. The early type appear to have been used as all-purpose fasteners. Pairs found with 10th-century coin hoards in Rome and Tetney, Lincolnshire, were used to close purses or satchels (Blunt 1974, 141; Wilson 1964, pl 32, 86-7), while examples found in graves have been interpreted as shroud fasteners or garter hooks (Lethbridge 1931, 48; Hinton 1990, 548).

The post-medieval tags may therefore also have been used in a variety of ways. Some were certainly used to fasten capes and cloaks, attached by the loop either onto the end of a strap, or sewn directly onto the garment and then hooked through either an eyelet or a chain sewn onto the opposite side (Margeson 1993, 17). They are not

common as site finds, suggesting that their use was limited to a small social group, probably the wealthy. Examples come from Pleshey Castle, Sandal Castle, Chelmsford, Winchester and Norwich (Williams 1977, fig 41, 2; A R Goodall 1983, fig 1, 30; 1985, fig 27, 25; Hinton 1990, fig 149, 1428; Margeson 1993, 17).

Fig. 15. SF 229. (207). A thin copper-alloy disc with two tiny holes set on opposite edges. There is a very slightly raised border on one side. Probably part of a composite object, perhaps a button or brooch. Diameter 18 mm.

Fig. 15. SF 308. Unstratified; metal-detected. Copper-alloy or debased silver finger-ring, of narrow D-shaped section. Plain rings of this form cannot be closely dated. Internal diameter 20 mm, height 5 mm, width 1.5 mm.

Fig. 15. SF 210. (207). A pair of copper-alloy wire pendants and a short length of plain wire, possibly from a third pendant. Each pendant consists of a U-shaped staple, the top of the arms bent at right angles, from which hangs a length of wire with the lower end formed into a long loop by passing the wire around itself five times. The arms of the U-shaped staples must have been fixed into a larger object, with the angle designed to allow the pendants to hang freely. The arms of the staples are only very short and the ends are not pointed; they were therefore not driven into wood, but they may have been sewn onto fabric or inserted into a larger metal object. Total length 68 mm; length of wire fragment 10 mm.

These pendants may have been used as dress accessories, though they are larger and made from thicker wire than items such as the 15th-century and later lace-ends from bodice ribbons that have been found at Chelmsford, Portsmouth, Colchester and York (Bayley *et al* 1985, 47, fig 30, 74-5; Fox & Barton 1986, fig 150, 9; Crummy 1988, 13, Type 3; Ottaway & Rogers 2002, fig 1491, 13394). They may have come from some form of head-dress (*cf* Egan & Pritchard 1991, 294; Ottaway & Rogers 2002, fig 1491, 14471), though again they seem quite coarse to have been used in this way. They are rather reminiscent of lamp and other chains (Egan 1998, 130-3; Ottaway & Rogers 2002, fig 1429, 12867), and so may perhaps be more suitable as pendants on some form of household furnishing.

Fig. 15. SF 330. (347). A crumpled strip, slightly curved and narrower at one end. Both ends are broken. Length 119 mm, width varies from 24 to 23 mm. The function of this strip is uncertain. As both edges are finished it is not part of a vessel cut up for recycling. It may perhaps be decorative binding from a large chest, though the absence of rivet holes on such a long strip is unusual (*cf* Ottaway & Rogers 2002, fig 1427).

Silver

Fig. 15. SF 306. (335). A small more or less rectangular fitting made from sheet silver and a fragment of another. The larger piece is damaged at one corner. It has a central perforation flanked on one side by a single smaller hole and on the other by two. The slight 'rims' around these holes show that the larger one was punched through from the opposite side of the fitting to the smaller holes. Length 16 mm, width 9 mm. The smaller fragment is from a corner with a small hole punched through it. Maximum dimensions 7 by 7 mm. These tiny fittings are most likely to have been used to ornament a leather item, perhaps a strap or a book cover.

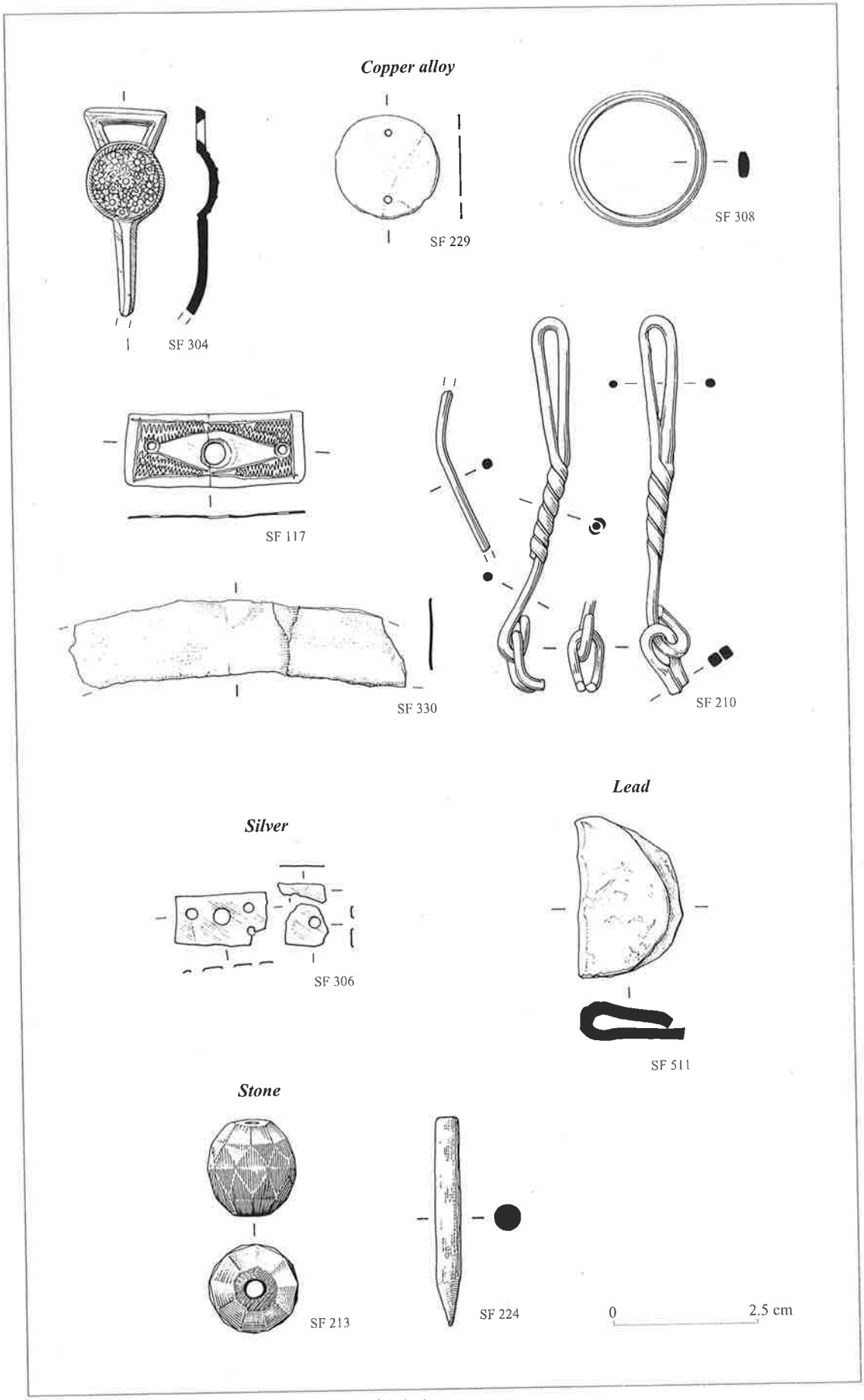

Figure 15 *Non ferrous objects. Scale 1:1*

Lead

Fig. 15. SF 511. Trench 3a backfill. A disc weight folded in half. The outer surface is plain, but some weights have incised designs on one face, which may be the case with the inner one here. The edge has been cut by hand, perhaps to adjust the weight. Diameter 29 mm, 2 mm thick; weight 17.18 g (some soil is held within the fold).

Similar lead or lead-alloy disc weights used on equipoise balances have been found at, for example, York and London, ranging in size from very small to large (Biddle 1990, 908-21; Egan 1998, 301-17; Ottaway & Rogers 2002, 2953-4). Official weight standards varied not only over time but also from place to place, making it difficult to identify the system to which the discs, especially the smaller ones, belonged.

Stone and mineral

Fig 15. SF 224. (220). Large faceted barrel-shaped bead made from jet or a similar black mineral (Allason-Jones 1986, 5-7). Length 15 mm, maximum diameter 12 mm. A glass bead of similar size but cut to a slightly different pattern was found in a 16th-17th century context at Winchester (Biddle & Creasey 1990, fig 181, 2138). Small jet beads were used for rosaries in the medieval period, and there is some evidence for their manufacture at York (Ottaway & Rogers 2002, 2948). However, most of the jet beads from Winchester and London belong to the very late medieval and post-medieval periods, suggesting some limitations to its distribution in southern Britain before that time.

Fig. 15. SF 213. (207). Pencil made from a hard grey slate. Trimming marks are visible on the point. The other end is blunt and smooth, and about 9 mm in from it is a band of slight grooves. These are probably set at the point where fine thread was wrapped around the pencil, perhaps to provide a grip if it was inserted into a holder. Length 37 mm, diameter 3.5 mm. Similar pencils have been found in post-medieval contexts in London, Chelmsford and Norwich (Rhodes 1984, 120; Drury 1985, fig 38, 20; Margeson 1993, 71, fig 38, 442-4). Most date to the 17th, 18th, and 19th centuries, but some may be earlier.

Iron

Fig. 16. SF 202. (200). Knife with whittle tang; the tip is missing. The edge and back of the blade are straight and parallel. There are traces of what appears to be bone or ivory on the shoulder, perhaps from shoulder-plates, but no rivet for attachment. Length 130 mm. Probably of late medieval or early post-medieval date (I H Goodall 1985, 51; Cowgill *et al* 1987, figs 64, 67).

Fig. 16. SF 508. (500). Knife with whittle tang; the tip is missing. The back of the blade is at first straight, then dips and narrows about half way along. The edge runs upwards towards the tip, and has the S-shaped profile near the shoulder that shows it has been frequently sharpened. Length 126 mm. Blades of similar profile but varying in size were found at Winchester in contexts dated to the mid to late 13th century (I H

Goodall 1990, fig 253, especially 2666 and 2684) and in London in the late 14th century (Cowgill *et al* 1987, fig 63, 115; fig 64, 124-5).

Fig. 16. SF 322. (361). Knife with scale tang; the end of the tang is missing, as is about half the blade. The remains of a wooden handle is held in position by a copper-alloy rivet, and the shoulders are fitted with riveted copper-alloy plates. The back and edge of the blade are straight and parallel. Length 88 mm. Probably of 14th to early 16th century date (*cf* I H Goodall 1985, 51; Cowgill *et al* 1987, fig 64, 122-3, 131).

Fig. 16. SF 325. (364). Knife with whittle tang. The back is very slightly convex, the edge is damaged but was probably straight and angled up to the tip. Length 100 mm.

Fig. 16. SF 402. (402). Barbed arrowhead crudely made from two flat strips welded onto the tip of a tapering point with hollow socket. The ends of the barbs have broken off, no doubt in use. Length 84 mm. Wide arrowheads were suitable for hunting, designed to cause maximum blood loss and so weaken the animal, slow it down, and hasten its death (Credland 1983, 266, no 46; Ottaway 1992, 710).

Fig. 16. SF 403. (409). i) Fragment of a horseshoe with three neat rectangular nail holes. Length 105 mm. Probably of Clark's Type 4, which belongs to the 14th and 15th century (Clark 1995, 96-7) or possibly early post-medieval (*cf* I H Goodall 1983, 251; 1984, 337). ii) Round buckle, probably from horse harness, with central bar around which is wrapped a triangular buckle-plate or an oddly-shaped tongue, perhaps a repair. Diameter 35 mm, length of plate 33 mm. iii) Fragment of a strip, slightly convex across its width. Maximum dimensions 67 mm long, 35 mm wide.

Fig. 16. SF 516. (537). Large tongue-shaped plate of low convex section; probably a hinge-strap (Ottaway 1992, 624-5, fig 260, 333). There is a fragment of a nail shank remaining in a hole near the broad end, which is broken, but no other means of attachment. Length 144 mm, maximum width 43 mm.

Fig. 16. SF 519. (537). Thin rectangular plate, slightly tapered towards one end, on which there is a small central projection. There are two rivet holes for attachment. Probably a strap-plate. Length 50 mm, width 27 mm, tapering to 25 mm.

Fig. 16. SF 406. (400). A crushed tubular fitting, now partly split. One end is probably original, the other is broken. There are no attachment nails or rivets. Length 63 mm, maximum width 36 mm. Probably a ferrule or sheathing for a wooden pole (Ottaway 1992, 654-6).

Fig. 16. SF 404. (410). Roughly triangular plate, irregularly convex across its width, with a rounded head pierced by a short stud. Length 46 mm, maximum width 19 mm. Possibly a structural fitting or from a wooden patten (*cf* Grew & de Neergaard 1988, fig 126; Ottaway & Rogers 2002, 2827-50)

Not illustrated. SF 328. (346). Strip with a small rivet hole, too thick to be a scale tang from a knife. Length 75 mm, width 9 mm.

Not illustrated. SF 329. (347). Short length of two pieces of fine wire loosely twisted together. Length 262 mm.

Not illustrated. SF 231. (207). Nail with small round head. Length 74 mm.

Not illustrated. SF 227. (220). Nail with the tip curled round and back to touch the shank. Length 42 mm (bent).

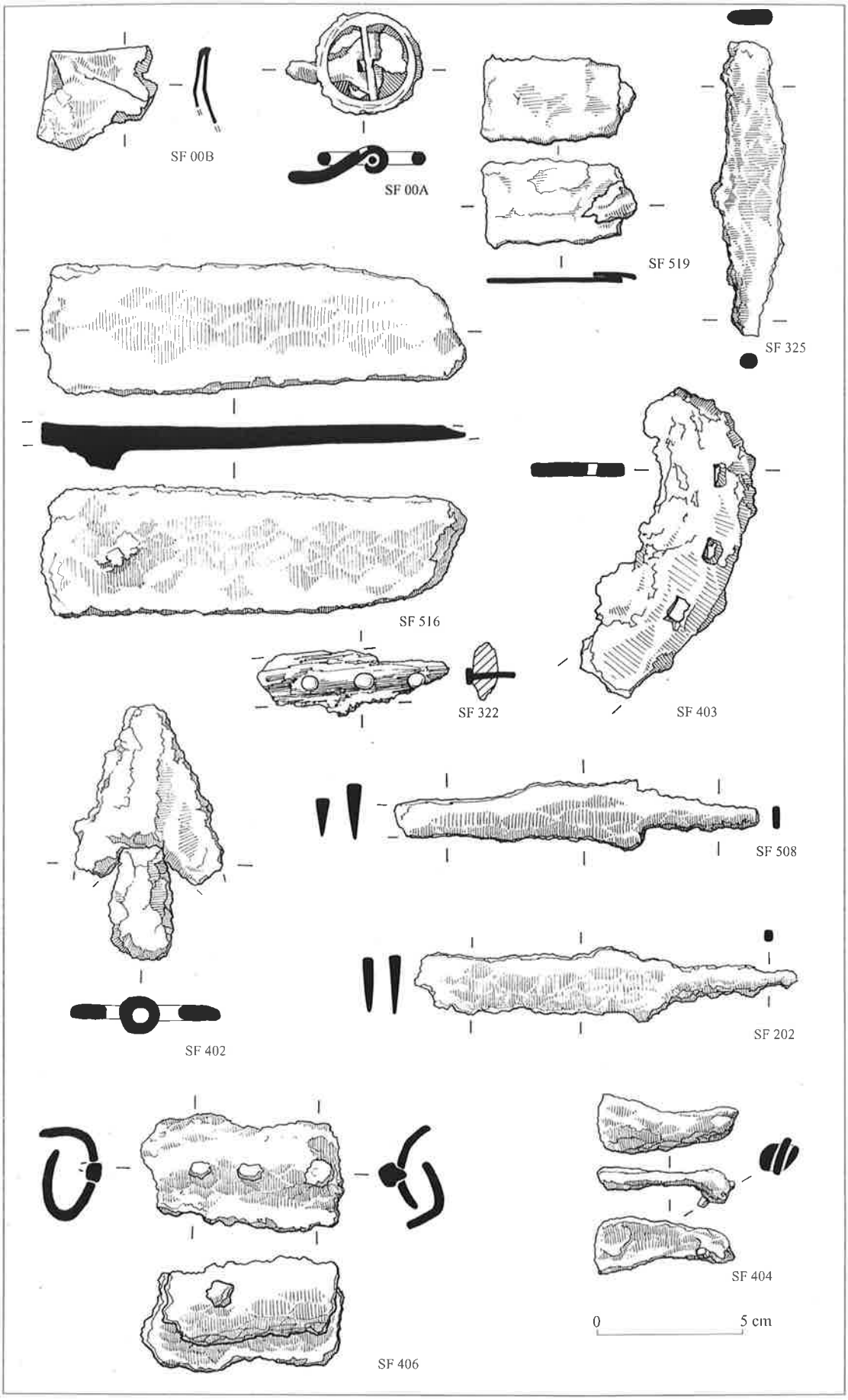

Figure 16 *Iron objects. Scale 1:2*

Not illustrated. SF 309. (347). Nail, tip missing. Length 47 mm.

Not illustrated. SF 310. (347). Nail shank. Length 57 mm.

Not illustrated. SF 320. (360). Nail shank with clenched tip. Length 40 mm (bent).

Not illustrated. SF 538. (539). Lump of clay in which is embedded either an iron or mineral-replaced wooden fragment (there is no magnetic response). The object is 26 mm thick, flat base, and has a shallow convex channel running along the centre of its length (13 mm).

Not illustrated. SF 312. (348). Low convex irregular disc of iron with a central projection. The mixed nature of the metal suggests it is iron-working debris. Diameter 28 mm.

10 Window Glass and Lead Cames by Carole Fletcher

10.1 Introduction

The excavations in 2001 and 2002 produced 310 fragments of window glass from 9 contexts; many of the small fragments of glass are in poor condition due to the burial environment, the glass having become opaque and granular. However a significant number of larger fragments have retained some degree of transparency, and from this it has been observed that the majority of the assemblage is white glass. Some pot metal glass has also been identified, a single fragment of green glass, one of blue and most notably fragments of flashed ruby.

10.2 The Decorated Glass

The assemblage contains a large number of painted glass fragments, which can be classed as *grisaille* a term applied to white glass painted with, in this case red/brown paint. Many of the fragments demonstrate only a strap–work design (parallel lines along one or two sides), which produces a trellis like pattern across the glass. Others show naturalistic foliage designs, which stylistically would appear to be fourteenth century in date.

In addition there are fragments of lozenge or diamond–shaped quarries, which show both strap–work and foliage. On the reverse of some of these fragments are traces of silver stain, a process of colouring glass not introduced until sometime after AD 1300 and one that allowed two colours to be used on a single piece of glass. This is something that could previously only be achieved with the use of lead to join the two different coloured pieces of glass together.

The painted glass fragments are mainly from foliate quarries, with strap–work which together form a trellis pattern across the window over which the foliage flows. These windows can be geometric in design or use more regular shaped quarries. The material appears to be a mixture of oak leaves and possibly hawthorn from one or two different windows (possibly both are oak leaves but painted by different hands). Silver stain is not apparent on all fragments and this is probably due to a combination of it only being used on certain parts of the quarry, and the evidence of its presence having been lost due to the opacity of the glass and its degradation in the burial environment.

No cross hatching has been identified amongst the painted fragments, this reinforces the fourteenth century date, as thirteenth century *grisaille* has cross hatched background, some early fourteenth century *grisaille* retains traces of cross hatching within the foliage design especially on paintings of acorns within oak leaf *grisaille.*

The majority of the large fragments of glass were recovered from a pit within the stone building that also produced architectural fragments of finely carved clunch. One could speculate that these were from the window itself and that window and glass were removed for re–use elsewhere. The small amount of lead cames recovered from the excavation supports the removal for re–use rather than wholesale destruction of the glass and associated architectural stonework. Virtually everything in a window can be recycled, the glass can be re–used in other windows, the lead can be melted down and recast as new cames and the stonework could be re–carved or used as building stone or hardcore in another building.

The small and abraded nature of some of the glass fragments suggests some pieces were completely shattered and discarded. The larger fragments however suggest that pieces were dropped as the window was dismantled and left where they lay only later perhaps falling into or being thrown into the pit in the corner of the building. The recovery of an almost complete quarry (SF 220.03) supports the idea that the glass did not move far from its point of origin. This quarry, though now fragmented exhibits old breaks, which show the same burial patina as the quarry surface, suggesting that it was broken and left, if not where it fell then very close by. There are unbroken pieces of glass in the assemblage and it might be expected that these would normally also have been removed. Many of these pieces are small rectangular panes of clear glass that may have formed the border to the window or glaziers strip. This border of clear glass can be broken to allow the window to be removed from its setting without destroying the coloured and or stained glass panel or panels. The glaziers strip could therefore be sacrificed to save the window as a whole.

10.2.1 Grisaille

The *grisaille* pieces depict mainly fragments of oak leaf painted as outlines or a trace line on a plain ground, the exception is the near complete quarry which may be a hawthorn leaf (SF 220.03). Strap–work is evident on many of the fragments and is of straight-line type, which forms a regular trellis pattern across the quarries that make up the window (SF 220.01, SF 220.02, SF 220.11, SF 220.31, SF 220.72, SF 220.73). The strap work appears normally only on two sides of the quarry usually the upper edges, this allows the orientation of the quarry to be established.

The oak leaves are similar and are painted with some skill, with smooth fine outlines and a double veined pattern, though there are some variations (SF 203.01, SF 220.06, SF 220.23, SF 220.81) only a single fragment was recovered that has tentively been identified as an acorn (SF 220.07). Other fragments bear traces of only the foliage stems, occasionally stems with buds (SF 203.03, SF 220.01, SF 220.80) on opposing sides alternately along their length. Silver stain can be seen on the reverse of SF 200.01 and SF2 20.80) and would have stained the stems of the foliage yellow. On other quarries the strap–work is stained along one or both edges (*eg* SF 220.72). The evidence for the use of silver stain is the discolouration on the reverse of the glass, which aligns with the painted pattern on the front of the glass.

A single large fragment of glass with grozed edges is painted with a leaf design in reserve (SF 220.06), several other small fragments also show traces of foliage painted in reserve. These are unlike any other foliage decoration within the assemblage. A similar leaf from the original fourteenth century glazing of the Lady Chapel of Ely Cathedral is shown as a parallel for the design. The main difference is in scale as the Ely leaf was part of a design for a large window, the Ely glass is also still clear and transmits light, the Fulbourn leaf glass by comparison is completely opaque. Marks suggests that 'the various brass–engravers, illuminators and glass and wall–painters working in Eastern England in the 1340's made use of a common repertoire of designs' (Marks 1993, 160), and it is possible that not only were the designs repeated elsewhere but that they were being carried out by the same artists.

Fragments of foliage such as this have more in common with a border pane or panes from a canopy border around a figure. However, no drapery or figural fragments were recognised by the author and no fragments of Diaper were identified among the assemblage; this type of repeated pattern decoration is normally present as a background to figural designs. Further to this no fragments of architectural detail were recognised. Although the absence of evidence suggests that the windows are unlikely to have contained figural representations, any windows that were removed may have included a figural element.

10.2.2Stick-work patterns, geometric borders and miscellaneous painted fragments

There is little stick work identified in the assemblage, only four fragments were clearly identified as being stick work and all on small fragments of glass in poor condition. These may have formed part of a decorative border to a

panel inset into the *grisaille* window. Two designs have been recognised. One shows a row of open circles painted in reserve within a broad band, interspersed with pairs of smaller circles with internal dots (*eg* SF 220.13, SF 220.33). This design appears to originally have been on clear glass, which is now opaque. The second also shows a broad band painted in reserve with small open circles and a wavy line (SF 220.24).

SF 220.18 is similar in design to the stick work fragments but the design appears to have been painted in this style rather the paint later being removed to create the design. This sherd could have formed part of a geometric border.

Several painted fragments were recovered where the painted design did not easily fall into any one group. SF 220.09 is an example of this, it has two surviving grozed edges, the shape of the grozed edge, which curves inwards, shows the skill of the craftsman who cut the glass. The design is complex but the small size of the sherd makes it more difficult to interpret.

10.2.3 Heraldry

There are several fragments of glass with paint sweeps that may represent fragments of a large *fleur–de–lys*, but this is speculative. The other piece of glass that may be part of a heraldic design is a complete curved pane (SF 220.04) depicting a tripartite crown painted in reserve in thick red/brown paint. This may be a border piece from the head of a window or an inset panel or may be part of a heraldic design inset into the *grisaille*, and left behind by mistake when the window was dismantled.

10.2.4 Colour

Although the majority of the glass is white, there are some coloured glass fragments amongst the white and silver stain *grisaille* in the windows.

10.2.5 Red Glass

Flashed ruby is the most common colour; many fragments appear to have come from small square quarries, although other shapes are also present including narrow square ended and pointed border pieces. Only a single piece of flashed ruby glass demonstrates any painting (SF 219.32). Before the fourteenth century ruby glass was made using a multi-layered technique, flashed glass (the application of a layer of coloured glass to white glass), was not developed until the fourteenth century. The flashed ruby glass is mainly opaque, appearing laminated in section. In almost all cases it is the white glass that has become opaque, the ruby when visible either in section or where some surface damage has occurred, is a bright and vibrant red. Only three small fragments are still transparent, (SF 219.22) these originate from a thin square pane and are a bright ruby by comparison to the thicker opaque fragments.

10.2.6 Blue Glass

There was a single fragment of pot–metal blue glass (SF 219.78). Damage to the surface corrosion revealed a pale to mid–blue coloured glass with one curved grozed edge suggesting that the fragment came from the background of an inserted panel rather than a border pane.

10.2.7 Green Glass

A single fragment of pot-metal green mid–green glass in very poor condition (SF 220.82) was recovered. The glass retains traces of painting although it is badly laminated, decaying along the paint lines on the upper surface at a faster rate than the unpainted glass.

10.2.8 Yellow Glass

The reserve painted heraldic? Crown (SF 220.04) appears to be painted on amber glass, though corrosion of the glass makes it difficult to be sure if the glass is coloured or if it is the result of paint shading.

10.2.9 Yellow Glass (stained)

Some of the painted glass has traces of silver stain on the reverse, used for highlighting foliate designs and strap–work. The silver stain is difficult to identify on much of the glass but can be distinguished clearly on several partial foliate quarries, (SF 220.01, SF 220.80). There is enough evidence to suggest that the majority of the strap-work on the white glass and at least some of the foliate designs were tinted yellow with silver stain. This alongside the naturalistic nature of the painted foliage reinforces a fourteenth century date for the design of the window glass recovered from the excavation.

10.3 Shaped Panes of Plain Glass

10.3.1 Quarries

A number of triangular fragments of un–painted or stained quarries were identified. It is possible that some were plain quarries, however it is more likely that these fragments are from decorated quarries, as the strap–work design on many quarries is only painted on two edges; those that form the top part of the quarry. In addition the foliage design may not cover the entire quarry.

Alongside the triangular fragments of broken quarries, a near complete triangular pane (isosceles triangle) was recovered (SF 220.73), this pane has strap-work lines along the hypoteneuse and would have fitted into the side of a quarry window to provide a straight edge.

10.3.2 Rectangles

As previously mentioned, fragments of rectangular panes in clear glass are common and a near complete example was recovered (SF 219.48). These are likely to be part of a glaziers strip around the window. Also recovered were rectangular panes with one end grozed to form a triangle (*eg* SF 219.16). It is

not clear exactly what their function was, although they may have formed a geometric design with the square panes.

10.3.3 Squares

Square panes are found mainly in ruby or flashed ruby glass (*eg* SF 219.32), these may have formed a plain border. Often flashed ruby in a border is painted with heraldic devices but here they remained plain.

10.3.4 Curved Panes

Graves in her work on the Sempringham glass describes these pieces as curved shoulders (Graves 2000, 422) and seven complete examples have been found in the Dumows assemblage. This includes five painted panes, a heraldic Crown (SF 220.04). The remaining curved panes are of similar size and shape three are composed of white glass and could be part of the glaziers strip that followed the curve of the stonework at the head of a window. However the remaining curved pane is a flashed ruby so they may have formed a border around an inset panel of heraldry or figurative work

10.3.5 Circular Panes

A single sherd of glass (context 207, SF 207.04, not illustrated) may have come from a small circular pane.

10.3.6 Miscellaneous Glass

A piece of heavily corroded glass in poor condition recovered from the 2002 excavation has been tentatively identified as part of a bulls eye (SF 514, not illustrated), this is the central part of crown glass where the pontil joins the sheet of glass. 'In the middle ages glass was too valuable a commodity to be thrown away and the thick bulls eyes that were difficult to lead into church windows could no doubt be used in domestic settings' (Brown & O'Connor 1991, 47). This fragment suggests that other windows on the site may also have been glazed, and that crown and cylinder glass were used in windows at the site.

10.4 The Lead

The glass from the excavation should not be discussed in isolation from the lead cames which held it in place. Forty-five fragments of lead came were recovered during the excavation, fewer than might be expected if the window or windows had been destroyed at the site. Although the lead could have been removed from the glass for recycling, it is perhaps more likely that the windows were removed relatively intact.

Many of the lead fragments that were recovered were one side of an H shaped came as if the lead had been torn from the glass, the surviving short lengths of relatively undamaged lead show that the windows were held together by fine, narrow, smooth cast lead cames with soldered joints (*e.g.* SF 221.01,). No milling marks were observed along the heart of the lead in this assemblage, suggesting an early date since later lead was cast and then milled. The

soldered joints are generally smooth and neat though at least one shows evidence of the glazier having melted the lead came while soldering the joints (*e.g.* SF 221.02,). One or two pieces of soldered lead came give an indication of the shape of the glazing as they appear to be part of quarry glazing. Most of the remaining fragments form right–angled corners, probably from the remains of the glass around the glaziers strip, which is the part of the window most likely to be damaged.

10.5 Conclusion

The painted window glass and lead cames recovered from the excavation indicate that the site was one of high status in the fourteenth century since 'entire windows remained beyond the purses of the less well–to–do through out the Middle Ages' (Marks 1993, 6) Marks is talking here about the donation of windows to a church but the same statement can easily be applied to stained glass in a domestic setting.

The quality of some of the glass, especially the pot metals or ruby flashed glass is good, while much (though not all) of the white glass is full of bubbles and faults. This may indicate that at least some of the white glass is English, 'English white glass being considered inferior to that produced on the Continent' (Marks 1993, 30). All of the coloured panes are likely to be imported continental glass as pot–metal colours were not manufactured in England during the fourteenth century.

The quality of the painted work on the surviving fragments show 'with what skill and delicacy a glass painter could paint and pattern' (Woodforde 1954, 9) and it is not beyond a stretch of the imagination to suggest that the glass from this site could have been painted by a painter who worked on the glass of Ely Lady Chapel as the style of some pieces is very similar. Together this indicates a fine stained glass window or windows incorporated into the house, most likely within a private chapel or the solar.

Whatever the origin of the design or the glass, the survival of domestic glass of the fourteenth century is important and demonstrates the wealth of the manors inhabitants and the skill of the medieval glass maker, painter and glazier.

Catalogue of illustrated glass

The full catalogue is archived under the site code FUL ME 01/02. The catalogue below refers to the illustrated fragments only

Fig. 17. SF 203.01. (205). Incomplete *Grisaille* depicting fragments of oak leaf painted as outlines or a trace line on a plain ground, 2.7mm thick.

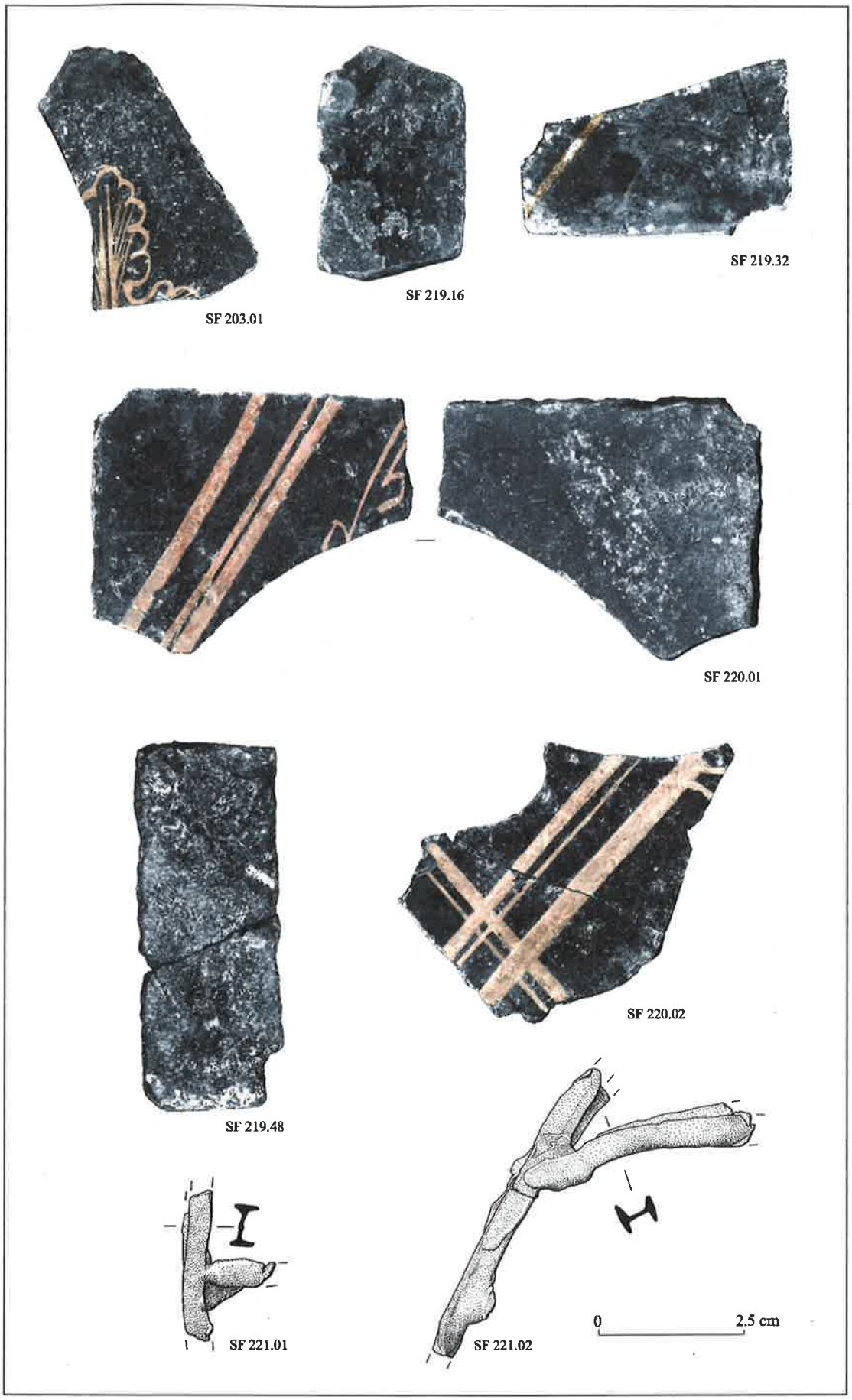

Figure 17 *Medieval painted glass and lead cames. Scale 1:1*

Fig. 17. SF 219.16. (225). Near complete, clear fragment in good condition, broken in antiquity, thick at edges, nearly all good. Ripples on surface may suggest crown glass, 2.5mm thick.

Fig. 17. SF 219.32. (225). Rectangular or square flashed red glass quarry. Painted with iron rich red line or clear line to show red. Possibly part of a border. One grozed edge, two clean breaks and one old break, similar pieces at Denny Abbey, Cambridgeshire.

Fig. 17. SF 219.48. (225). Complete rectangular border quarry in two parts, poor condition grozed edges have become granular. Glass is opaque with no evidence of painting - probably originally clear white glass –

Fig. 17. SF 220.01. (225). Incomplete and fragile painted square or rectangular pane mainly opaque. Three strap-work lines painted across the glass and painted stem with side buds painted in trace line. The reverse shows signs of silver stain having been applied along the line of the strap-work. Two grozed edges survive and the paint lines extend over one of these grozed edges indicating that these are the original cut lines for the pane, 3mm thick.

Fig. 17. SF 220.02. (225). Two consolidated incomplete and fragile irregular fragments of a painted quarry with strap-work design. Five painted lines, two in pairs, one thick, one thin and an additional thick line off which are the beginnings of a design painted in trace-line. A single straight grozed edge and a concave grozed edge survive, the remaining edges are old breaks. The glass remains partially transparent with greenish tinges to the clear glass, 2.5mm thick.

Fig. 18. SF 220.03. (225). Almost complete and in good condition finely painted quarry with strap-work design and a stem and leaf in trace-line. The leaf appears to be hawthorn. Four fragments of glass have been brought together to reconstruct this quarry, only a small fragment is missing, there is some damage to one point of the quarry. Two straight grozed edges survive and a third curved grozed edge has been identified. The remaining edges are clean breaks demonstrating the same level of patination as the grozed edges suggesting they are original breaks. The paint lines extend over one of the grozed edges indicating that these are the original cut lines for the pane. The curved grozed edge may indicate it formed part of the surround to a panel inset into the quarry window. The glass varies in thickness from 4mm to 3mm and curved parallel lines can be seen in the glass surface that may indicate the glass was cut from crown glass rather than cylinder glass.

Fig. 18. SF 220.04. (225). Complete and in good condition curved pane of amber? coloured glass now partially opaque with a trifoliate? crown painted in reserve. All edges are grozed and the design is well executed. It is unclear if this pane came from a decorative or heraldic border or from an inset heraldic panel. 2.5mm thick.

Figure 18 *Medieval painted glass. Scale 1:1*

Fig. 18. SF 220.06. (225). Incomplete and in good condition. Likely to have surrounded a figure or canopy. On reverse silver stain can be seen in several areas of the glass, mainly opaque The top edge is the thickest point at 4mm narrowing to 3mm on the inside edge. Parallels with the glass from the Lady Chapel at Ely Cathedral.
Figure 00

Fig. 18. SF 220.07. (225). Complete, slightly unstable, curved quarry perhaps for surrounding border and central shield/figs etc. No paint on edges so may indicate re-grozed/cut for new window or just very carefully painted. Mainly opaque some clear patches, design unclear. Narrows from 3.5mm to 3mm thick.

Fig. 18. SF 220.09. (225). Incomplete, broken in two places, cleaned and consolidated/repaired. Edges are grozed on two sides and one edge would be difficult to cut as a modern artist, remaining edges are clean breaks. Uncertain design. Heavily corroded on the back, one small clear patch, the remainder is opaque, 2.5mm thick.

Fig. 18. SF 220.11. (225). Incomplete quarry, mainly opaque but some small clear patches, silver stain along border, 3mm thick.

Fig. 18. SF 220.13. (225). Small fragment of glass in very poor condition. Decorated with a wide band of red paint and possibly two circles of stick work, one clean break, remainder granular edges, 2.5mm thick.

Fig. 18. SF 220.18. (225). Incomplete decorated border piece. Decorated with clear curved line and dot, shows traces of probable silver staining 3mm thick. Similar pieces from Ely Cathedral Lady Chapel.

Fig. 19. SF 220.22. (225). Incomplete, irregularly shaped piece of glass in poor condition, large areas of paint but no distinct shape, opaque, 3mm thick.

Fig. 19. SF 220.24. (225). Incomplete, small fragment in fairly poor condition showing stick work, one clean break remainder granular, opaque glass, 3.5mm thick.

Fig. 19. SF 220.31. (225). Large numbers of small fragments of decorated glass in reasonable condition. Fine painting and SOME in REVERSE thick part. Pointed quarry mainly still clear in places, when held against the light - reverse shows possible silver stain along 1 edge behind the parallel lines on the front. Paint on grozed edges., 14th century, high medieval, 0, Incomplete, ,

Fig. 19. SF 220.33. (225). Incomplete decorated border with granular edges and one clean old break. Clear in patches decorated with stick work, 2.5mm thick.

Fig. 19. SF 220.72. (225). Incomplete quarry showing evidence of strap work, probably part of a trellis pattern and evidence of silver stain, 3mm thick.

Fig. 19. SF 220.73. (225). Incomplete but in good condition except for granular tip. Decorated with closely spaced red painted lines. Originally clear but now mainly opaque. Narrows from 4mm to 3.5mm thick.

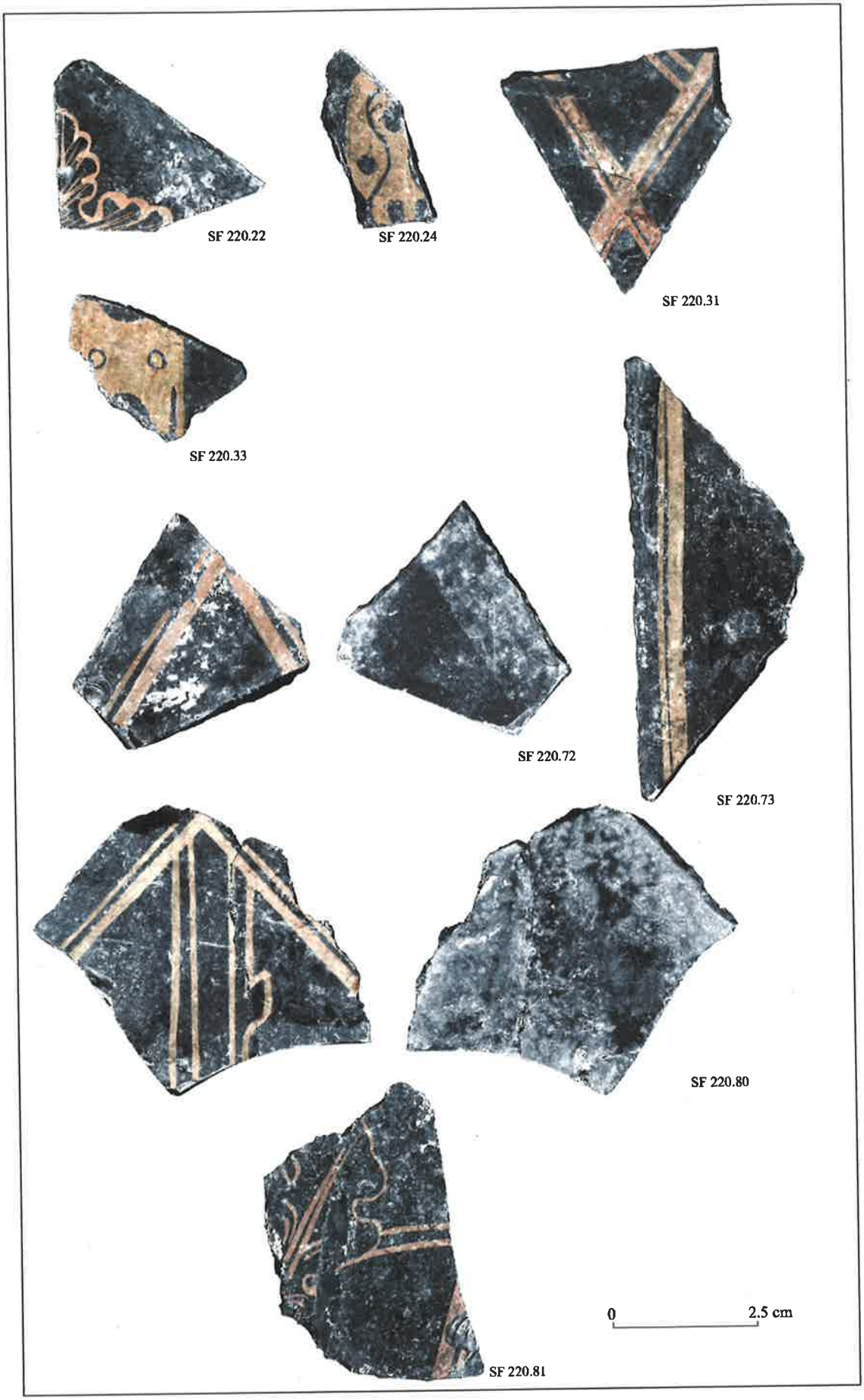

Figure 19 *Medieval painted glass. Scale 1:1*

Fig. 19. SF 220.80. (225). Three fragments glued together and consolidated forming part of a diamond shaped quarry decorated with trellis on two sides and straight stems with "buds"- possibly hawthorn or oak. Reverse shows evidence of silver stain applied to the areas of the trellis and plant stems. . The glass is now opaque. One grozed edge the rest broken. 3mm thick.

Fig. 19. SF 220.81. (225). Single, incomplete, fragment in relatively poor condition. Decorated with foliage, possibly oak or hawthorn. Some loss of surface across the leaf shows that glass was originally clear. Reverse is very corroded in places, possibly indicative of silver stain as it appears to mirror the leaf pattern. One grozed edge is painted, one clean old break and one granular break, 3.5mm thick.

11 The Mammal, Bird, Amphibian and Fish Bones

by Ian L. Baxter BA MIFA

11.1 Introduction

A total of 207 "countable" (see below) animal bone fragments were hand-collected from the Hall Orchard site (Appendix 4). The remains primarily date from the medieval to post-medieval transition and were obtained from features adjacent to the moat platform revealed by trenching. The description of the faunal remains is given below by Area. The animal bones were generally well preserved.

11.2 Methods

All of the animal bones from Hall Orchard were hand-collected. A collection bias against the bones of the smaller species is, therefore, to be expected.

The mammal bones were recorded following a modified version of the method described in Davis (1992) and used by Albarella and Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the cranial and postcranial skeleton was recorded and used in counts. These are: horncores with a complete transverse section, skull (zygomaticus), atlas, axis, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, radial carpal, carpal 2+3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustenaculum), astragalus (lateral side), centrotarsale, distal metatarsal, proximal parts of the 1st, 2nd and 3rd phalanges. At least 50% of a given part had to be present for it to be counted.

The presence of large (cattle/horse size) and medium (sheep/pig size) vertebrae and ribs was recorded for each context, although these were not

counted. "Non-countable" elements of particular interest were recorded but not included in the counts.

For birds the following were always recorded: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus, and distal tarsometatarsus.

The ilium and main long bones were recorded and used in counts for anuran amphibians, with generic identification based on the morphology of the ilium following Gasc (1966). No attempt has been made to identify the anurans to species.

The separation of sheep and goat was attempted on the following elements: horncores, dP_3, dP_4, distal humerus, distal metapodials (both fused and unfused), distal tibia, astragalus, and calcaneum using the criteria described in Boessneck (1969), Kratochvil (1969), Payne (1969 and 1985) and Schmid (1972). The shape of the enamel folds (Davis 1980; Eisenmann 1981) was used for identifying equid teeth to species. Equid postcrania were checked against criteria summarized in Baxter (1998).

The closely related galliforms – domestic fowl (*Gallus gallus*), guinea fowl (*Numida meleagris*) and pheasant (*Phasianus colchicus*) – are difficult to distinguish. Identifications are based on the criteria published by Erbersdobler (1968) and MacDonald (1992).
Wear stages were recorded for all P_4s and dP_4s as well as for the lower molars of cattle, sheep/goat and pig, both isolated and in mandibles. These are retained on the Access database. Tooth wear stages follow Grant (1982).

Measurements are retained on the Access database. These in general follow von den Driesch (1976). All pig measurements follow Payne and Bull (1988). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne and Bull (1988) for pigs.

11.3 Results by Area

11.3.1 Area 1

Area 1 was located in the north-west area of the moat platform. Fifty-three countable fragments of animal bones from Area 1 could be identified to species or broader taxonomic category (Appendix 4). Cattle and sheep/goat fragments occur at similar frequency but pig fragments are twice as common. Only sheep could be identified among the caprine remains. A sheep proximal radius found in (109) has exostoses caused by traumatic injury to the elbow when run through pens or races, a condition called "penning elbow" (Baker and Brothwell 1980). A sheep astragalus found in (106) and a sheep radius found in (109) came from animals approximately 63cm and 58cm high at the shoulder respectively based on the multiplication factors of Teichert (1975). Isolated bones of fallow deer (*Dama dama*), wild duck (mallard or gadwall) and halibut (*Hippoglossus hippoglossus*) were recovered from features in this

area along with uncounted fragments belonging to domestic fowl, domestic duck or mallard, domestic pigeon or rock dove (*Columba livia*) and a wader, probably woodcock (*Scolopax rusticola*).

11.3.2 Area 2

Area 2 was located in the south-west area of the moat platform. Twenty-five countable fragments were recovered from features in Area 2. Pig fragments are more frequent than those of cattle and sheep/goat combined. A pig ulna (249) has exostoses medial to the incisura semilunaris. Horse, goose, and small mouse or vole are represented by isolated fragments. The partial skeleton of an immature duck (205) may be a domestic or a wild species. Several frog or toad bones belonging to at least two individuals were found (225).

11.3.3 Area 3

Area 3 was located in the south-west of the moat platform and west of the current access onto the platform. Sixty-three countable animal bone fragments were recovered from Area 3. Sheep remains are more common than those of cattle and pig is present at relatively high frequency. A sheep astragalus (361) came from an animal approximately 70cm high at the shoulder (Teichert 1975). Two horse fragments were found. A horse upper P3 (347) came from an animal approximately 15 years old based on the comparative wear curves of Levine (1982). Rabbit (*Oryctolagus cuniculus*) fragments are quite frequent and the partial skeleton of a hen pheasant (*Phasianus colchicus*) was found (347).

11.3.4 Area 4

Area 4 was adjacent and to the south of Area 1. Fifteen countable fragments were recovered from Area 4. Only the main domestic mammals and chicken are present in this tiny assemblage.

11.3.5 Area 5

Area 5 was located in the north-eastern corner of the moat platform. Thirty-six animal bone fragments were recovered from this area. Cattle fragments slightly outnumber those of sheep/goat and pig is again relatively frequent. Other species present at low frequency are horse, water vole or rat (*Arvicola terrestris/Rattus* sp.), woodcock and jackdaw (*Corvus monedula*).

11.3.6 Area 6

Area 6 was a small test pit located at the junction of an east-west drain found in Area 4 and the moat ditch. Cattle, pig, rabbit and water vole/rat fragments were recovered. A cattle metacarpal (600) came from an animal approximately 116cm high at the shoulder based on the multiplication factors of Matolcsi (1970). A cattle metatarsal (601) has a broadened distal epiphysis typical of draught cattle (Bartosiewicz *et al.* 1997).

11.3.7 Area 7

Area 7 was located northwest of Area 1. A few sheep/goat, pig and horse fragments were recovered from this area.

11.4 Discussion

Although this is a small assemblage, the high frequency of pig and the combined presence of halibut, fallow deer, rabbit, pheasant, waders, young pigeon and young duck are typical of remains from a high status household. Unlike cod and herring, which were commonly available as preserved fish, the halibut would have been an uncommon item and supplied fresh. The pheasant is non-native, originally from Asia and like fallow deer and rabbit mainly a Norman introduction. Although pigeons are very common, production of the young squabs in specially constructed dovecotes was a widespread practice.

12 General Discussion

12.1 Date of Construction, Occupation and Abandonment

The results from the excavations showed that the moat had been occupied from at least the early 13th century until the late 17th century. The earliest datable finds from the site are a few abraded sherds of Roman pottery, however, these were residual in topsoil contexts. Saxo-Norman pottery has also been found in small quantities but again residual in later contexts. The earliest reliable pottery is 13th to 14th century in date, a few sherds have been found associated with phase 2 (moat construction layers) implying an earliest construction date somewhere in the 13th century.

The fine assemblage of painted glass is stylistically 14th century in date, and although it is possible that the glass was already old by the time it was incorporated in the Hall Orchard house, there is no evidence that it had been re-used, to the contrary there is evidence that the glass was later taken from the hall Orchard house for use elsewhere. The glass assemblage perhaps implies that the household was enjoying, perhaps, the peak of its high status and wealth during this period, although the presence of more than one type of roofing material including glazed tiles and decorative finials suggests that the house was likely to have been refurbished on at least one occasion. Unfortunately the tiles are not closely dateable so it is not possible to determine when this took place.

Approximately half of the total pottery assemblage is firmly medieval in date, with much of the remainder dating to the transition between late medieval (about 1450) and early post-Medieval with very little later than about 1600. The variety and quantity of pottery types within this broad date range indicates occupation of the household spanning perhaps three or four centuries. The few

examples of brick appear to be of 15th to early 17th century in date (Antrobus, 44).

Final abandonment of the site is indicated by a sharp reduction in ceramic forms later than the 17th century suggesting that the site had been completely abandoned by the beginning of the 18th century. Wright notes that the house was dismanteld and re-erected as Hall House in the present village in 1750 (2002, 143)

12.2 Construction of the Moat Platform and Ditch

The moat ditch and platform are likely to have been constructed in the late 12th or early 13th century. A survey of the earthwork had shown that the platform was considerably higher than the surrounding land and excavation confirmed that the soil and chalk dug out when constructing the ditch had been piled into the centre to create a raised platform. A thin layer of dark grey silt was sealed beneath the ditch upcast and probably represents the ground surface just prior to the construction of the moat.

Two large drainage ditches meet the moat ditch, one at the south-west corner and one at the north-east corner, these ditches were probably inlet and outlet channels supplying the moat with continuous running water.

The ditch originally had very steep sides, these had collapsed to form a much gentler profile. The base of the ditch was sampled to investigate the potential for survival of organic remains, only about half a metre of deposits infill the ditch and these would appear to be largely composed of humus derived from the vegetation occupying the earthwork. The ditch would appear to have been regularly cleaned out whilst the enclosure was occupied. A stone lined drain lead into the west arm of the ditch. Stone roof tiles had been re-used in its construction. Where the drain entered the ditch a 13th century Ely Ware Jug had been re-used to form a spout.

12.3 The First Buildings

Little evidence for the earliest building phases were found, nonetheless postholes and beam slots associated with late 13th and 14th century pottery demonstrated that the earliest structures were timber framed. Of particular relevance to this early phase were the features in areas 1 and 5. The timber buildings in area 1 may represent a kitchen, whilst those in area 5 are more enigmatic.

12.4 The Later Buildings

The latest building phases can be reconstructed more easily from the results of the excavation and geophysical survey. A square stone (clunch) building

approximately 10 metres east to west by 10 metres north to south was sited in the south-east corner of the moat platform. Out buildings were located to the north and west of the main stone built house. Timber was still used in the later phases of the buildings which appear to have been occupied at least until the end of the 17th century. Stone, especially flint and clunch was also widely used. Much of the building material from the latest phase is likely to have been robbed for use elsewhere in Fulbourn during the 18th century, however sufficient remained to attempt a reconstruction. Part or all of the buildings may have been covered in stone roofing tiles, later replaced by clay peg tiles with glazed and decorated finials and ridge tiles, although the decorative roof finials could be as early as 13th century in date (Antrobus, 45) and may be contemporary with the original building.

A large assemblage of window glass was recovered from close to the south-west corner of the main building, especially from around a doorway. The assemblage included painted glass and occasional complete 'quarries'. Lead 'cames' which would have held the window glass in place were also found nearby. The building must, therefore, have had decorative windows on at least one side. A number of delicate stone mouldings have also been found, these may be internal mouldings. In addition many of the bricks show signs of having come from features such as windows, fireplaces or decorative arches (Antrobus, 44).

There is some speculation that the 14th century painted window glass might be from a chapel. A stone scribe, bronze balance and a possible rosary bead made of jet could lend support to this suggestion although the evidence is not conclusive. However, there is also documetnary evidence to support the case for a chapel, since in 1420, William Fulbourns manor house (possibly the house in Hall Orchard) is known to have included a chapel chamber (Wright 2002, 143). Later documentary evidence refers to the house in Hall Orchard as having many rooms . In any case the finds demonstrate a wealthy household who would have had a moderately high status.

12.5 The Moat Entrance

Excavation and survey of the earthwork suggest that the entrance across the moat ditch was on the south side of the site. Pits cut to hold timber posts and rammed with chalk have been found on this side of the moat platform in a configuration which suggests a possible bridge structure. The moat ditch itself is also different in profile at the same point, it becomes shallower and the sides are very gentle, perhaps caused by the accumulation of silt and rubbish around the supports of a bridge. An area to the north of this possible bridge showed no evidence for structures but did contain remnants of a possible cobbled surface indicating that this may have been the entrance into the moat platform.

Little evidence for the earliest building phases were found, nonetheless postholes and beam slots associated with late 12th or early 13th century pottery demonstrated that the earliest structures were timber framed.

12.6 Status

Finds and structural evidence combine to demonstrate that the site was occupied by a high status household. The site still exists to-day as an earthwork platform surrounded by a well preserved moat, which in itself implies relatively high status at the time of construction. Building materials associated with the site include glazed roof tiles, carved and decorated stone and a large assemblage of 14th century painted glass (Fletcher, 54-9) indicating high social status. The animal bones (Baxter, 66-9) support this since species such as halibut, pheasant and pigeon squabs were typical fare of high status households. The black mineral (?jet) bead is also unusual as a site find, both for its material and its form, a large faceted barrel-shape. Other indicators of wealth include small silver fittings and a silver finger ring (Crummy, 47). The high percentage of ceramic glazed wares along with less usual items such as a bottle with a small spigot hole, bunghole cisterns and a curfew (Fletcher, 72) are also more typical of a high status site. The high status and wealth enjoyed by the occupants in the medieval period apparently continued into the later medieval and post-medieval periods as objects such as a 17th ventury hooked tag and imported pottery vessels such as a Martincamp flask show.

The inhabitants and visitors to the house also enjoyed leisure pursuits such as riding as shown by a fragment of a horseshoe, which was found with an iron harness buckle and hunting as shown by a wide-bladed barbed hunting arrowhead (Crummy, 47). Neither the shoe nor the arrowhead can be closely dated.

13 Conclusion

The work undertaken on the Dunmows moated site was very successful in meeting many of its objectives, particularly in terms of public involvement, but also in terms of coming to a long term management agreement with the landowner and the wildlife trust. Previously the site had been left largely to its own devices and was beginning to get very overgrown with old tree trunks falling into the moat being left as they are useful wildlife habitat. However, the site is now annually maintained, the grass kept cut and new trees and scrub are not allowed to grow. This will enable the archaeological potential of the site to be seen by visitors, as the shape and character of the earthwork can now be made out.

In terms of research aims, the work has clearly shown that this earthwork site does indeed belong to the class of medieval moated house sites that were fashionable in the 13th century. Its occupancy until the 17th century and

subsequently the utilisation of the area as a hunting ground appears to have saved it from the fate of so many sites of this type that have been flattened and their moats backfilled. The work has therefore added to that known at the time of the English Heritage Monuments Protection Programme which stated that there was insufficient information about this site to make any future decisions on it.

The work has also been very useful in showing that this site was one of the five major residences in the parishes of Fulbourn Magna and Fulbourn Parva in the medieval and early post-medieval period.

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Access to the site for the purpose of these investigations was agreed with the Landowner, Richard Townley and the tenant farmer, David Wright. English Heritage, DEFRA, English Nature and the Wildlife Trust also gave their consent to the project which is within a Nature Reserve and is part of a Site of Special Scientific Interest. The students were taught by Dr Rebecca Casa hatton, Andrew Hatton, Diane Walls, Spencer Cooper, this report was illustrated by and Carole Fletcher, Abby Antrobus, Nina Crummy, Ian Baxter contributed valuable specialist expertise.
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Appendix 1: Context Descriptions

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
100		5	1	layer	Topsoil				
101		5	1	layer	Topsoil	loose	light greyish brown	chalky silt	freq peg tile, common bone, occ / rare pot
102		4	1	layer	Moat Platform		yellowish	decayed chalk	
103		4	1	layer	moat platform		white		chalk
104		5	1	layer	moat Platform		grey	silt	
105	120	4	1	fill	pit			silt	chalk
106		5	1	layer	moat Platform		greyish brown	silt	
107	119	5	1	fill	Pit		light brown	silt	stone, flint, chalk
108		5	1	layer	Layer		greyish brown	silt	chalk
109		5	1	layer	Layer		greyish brown	silt	stone, tile, chalk
110		0	1	layer	moat Platform		yellowish		chalk
111	134	0	1	fill	tree throw		darkish brown	silt	occ chalk
112		0	1	layer	moat Platform	hard	greyish brown	silt	occ stones
113	132	4	1	fill	Beam slot?	moderate	brownish grey	silt	
114		4	1	layer	moat platform	soft	brown	fine silt	
115	115	3	1	cut	Beam slot	linear	steep		
116	116	3	1	cut	Beam slot	linear	steep		
117	116	3	1	fill	Beam slot	soft	brownish grey	silt	
118	119	4	1	fill	pit	loose	greyish brown	silt	
119	119	4	1	cut	pit	square	vertical		
120	120	0	1	cut	pit	curved	steep		
121	121	4	1	structure	stone foundation				
122	123	4	1	fill	pit	very soft	brown	silt	
123	123	4	1	cut	pit	sub circular			
124	123	4	1	fill	pit	v soft	brown	silt	
125	123	4	1	fill	pit	v soft	brown		
126	123	4	1	fill	pit		light brown	silt	
127	129	4	1	fill	pit	soft	light brown	silt	rare chalk
128	129	4	1	fill	pit	medium	mid greyish brown	silt	freq flint
129	129	4	1	cut	pit	sub circular	nr vertical	V	
130	130	3	1	cut	posthole				
132	132	4	1	cut	Beam slot?	linear	concave		
133	138	4	1	fill	hearth/oven?				
134	134	0	1	cut	tree throw	sub circular	concave, irregular		
135		0	1	layer	moat platform	firm	light yellowish brown	silt	freq small chalk
136	152	0	1	fill	unknown	soft	light brown	silt	some chalk

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
138	138	4	1	cut	hearth/oven?	linear	concave		
139	138	0	1	layer	beam slot?				
141		5	1	layer	cleaning layer				
142		2	1	layer					
143		1	1	layer	buried soil				
144		1	1	layer					
145		5	1	demolition					
146		5	1	layer		firm	mid greyish brown	chalky silt	occ small pebbles
147		5	1	layer		hard / firm	white / yellow	degraded chalk	
148		5	1	layer					
149	129	4	1	fill	pit				
150	129	4	1	fill	pit		mid brown	silt	rare large stones
151	129	4	1	fill	pit	crumbly	yellowy chalk	rare silt	occ stones
152	152	0	1	cut	unknown				
153	130	3	1	fill	posthole	v soft	light brown	silt	freq stones, tiny frags of tile, charcoal
154	154	3	1	cut	posthole	square	sharp		
155	154	3	1	fill	posthole				
156	156	3	1	cut	posthole	sub circular	sharp		
157	156	3	1	fill	posthole	v soft	light brown	sandy silt	some small stones, chalk frags
158		0	1	layer		hard	brownish grey	silt	pebbles / chalk
159	160	4	1	fill	pit	firm	dark brownish grey	silt	
160	160	4	1	cut	pit	sub circular			
161	161	3	1	cut	beamslot				
162	161	3	1	fill	beamslot				
163	164	3	1	fill	unknown	soft	brownish yellow	silt	
164	164	3	1	cut	unknown	concave	irregular		
165		2	1	layer					
166		2	1	layer					
167		2	1	layer					
200		6	2	layer	topsoil				
201		4	2	structure	wall				
202		5	2	layer	demolition rubble	soft	olive brown	sandy silt	
203		5	2	layer	demolition rubble	soft	olive brown	sandy silt	
204		4	2	structure	wall				
205	208	5	2	fill	pit	soft	dark greyish brown	silt	
206		5	2	layer	demolition rubble	soft	dark greyish brown	sandy silt	
207		4	2	layer	external surface	firm	olive brown	sandy silt	
208	208	5	2	cut	pit	suboval	steep	asymmetrical	
209		4	2	structure	wall				

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
210		2	2	layer	buried soil?	loose	dark grey brown	silt	
211		5	2	layer	demolition rubble				
212		4	2	structure	wall				
213		4	2	structure	internal floor				
214		4	2	structure	internal floor				
215		4	2	layer	moat platform				
216	216	5	2	cut	robber pit				
217		5	2	layer	demolition rubble	firm	dark olive brown	silt	
218		4	2	layer	moat platform				
219		4	2	layer	surface (external)				
220	224	5	2	fill	robber trench	soft	dark grey	silt	rare fine gravel
221	221	5	2	cut	demolition rubble	circular	gradual - uneven	u-shape	
222	216	5	2	fill	robber pit	soft	dark olive brown	silt	
223		4	2	layer	internal floor	firm	dark greyish brown	silty sand	occ small gravel
224	224	5	2	cut	robber trench				
225	226	5	2	fill	pit	loose	dark greyish brown	silt	occ small gravel
226	226	5	2	cut	pit	subrectangular	steep	flat based u-shape	
227		4	2	layer	internal floor	hard	white	fine sandy mortar	
228		4	2	layer	moat platform	compact	yellow	chalk	
229		2	2	layer	buried soil?	soft	brown	fine sand, some chalk	v occ small gravel
230	231	3	2	fill	posthole	soft	light yellowish brown	silty sand	v occ small gravel
231	231	3	2	cut	posthole	circular	moderately steep, irregular	wide v-shape	
232	233	3	2	fill	posthole	very soft	light yellowish brown	silty sand	occ small gravel
233	233	3	2	cut	posthole	circuar	shallow, irregular	wide flat u-shape	
234	235	3	2	fill	posthole	soft	light yellowish brown	silty sand	v occ small gravel
235	235	3	2	cut	posthole	circular	moderately steep, irregular	wide flat u-shape	
236		4	2	layer	makeup for yard surface?	compact	light yellowish brown	fine sand	small gravel
237		2	2	layer	moat platform	hard	pale yellow	fine chalk	
238		1	2	layer	buried soil	very soft	greyish brown	silt	lime deposits
240		6	2A	layer	topsoil	moderate	mid-dark brown	fine silty clay	flint nodules, chalk/clunch nodules
241		6	2A	layer	subsoil	moderate	yellowish brown	silty clay	pebbles, chalk/clunch nodules
242		5	2A	layer	demolition rubble	moderate	yellowish brown	silty clay	chalk/clunch, pebbles, mortar
243		5	2A	layer	demolition rubble	moderate	yellowish brown	silty clay	pebbles, chalk nodules
244	255	5	2A	fill	robber pit	compact	brown	silty chalk	flint, chalk nodules, small pebbles
245		4	2A	structure	wall				
246		5	2A	layer	demolition layer	compact	brown	silty clay	fine pebbles

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
247		5	2A	layer	demolition layer	compact	light brownish grey	silty chalk	flint, chalk nodules, small pebbles
248		5	2A	layer	demolition layer	compact	brown	silty clay	fine pebbles, flint
249		5	2A	layer	demolition layer	compact	brown	silty clay	
250		5	2A	layer	demolition layer	compact	yellow brown	silty clay	small pebbles
252		5	2A	layer	demolition layer	friable	light olive brown	silty clay	flint, pebbles, mortar
253		5	2A	layer	demolition layer	moderate	pale brown	silty chalk	small pebbles
254		5	2A	layer	demolition layer				
255	255	5	2A	cut	robber pit	rectangular	vertical	flat base vertical sides	
256		2	2A	layer	moat platform				
257		4	2A	layer	yard surface?	very compact	light brownish grey	silty chalk	flint nodules, chalk
300		6	3	layer	topsoil	loose	mid - dark brown	silt	
301		6	3	layer	subsoil	firm	light greyish brown	sandy silt	flints, chalk lumps
302		2	3	layer	moat platform				
303		4	3	structure	yard surface?				
304		2	3	layer	moat platform	compact	mixed yellow	sandy chalk	
305		2	3	layer	moat platform	firm	mid brown	sandy silt	occ flint
306		4	3	structure	wall foundation?				
307		2	3	layer	moat platform		yellowish brown	sandy silt	occ flints
308		2	3	layer	moat platform	compact	brownish yellow	silty chalk and clay	freq chalk lumps, occ small stones
309		1	3	layer	buried soil	firm	dark brown	silt	occ sub-angular flint, occ chalk flecks
310		2	3	layer	moat platform	firm	mid brown	sandy silt	freq chalk lumps, flints
311		2	3	layer	moat platform	very compact	brownish yellow	chalk and clay	occ chalk flecks
312		4	3	structure	wall foundation?				
313	322	3	3	fill	post pipe	soft	greyish brown	chalky silt	occ chalk lumps
314		4	3	structure?	yard surface?	heavy	pale yellow	sandy chalk	chalk lumps, occ flint
315		4	3	structure?	yard surface?				
316		2	3	layer	moat platform	firm	greyish brown	sandy silt	occ small flints, pebbles
317	318	2	3	fill	ditch?	firm	greyish brown	sandyu silt	
318	318	2	3	cut	ditch?	linear	concave		
319		2	3	layer	moat platform	compact	yellowish brown	chalky clay silt	occ flint, chalk flecks
320	321	0	3	fill	natural	loose	mid - dark brown	sandy silt	occ flint
321	321	0	3	cut	natural	circular	irregular		
322	322	3	3	cut	post pipe	sub rectangular	steep	u-shape	
323	324	3	3	fill	posthole	compact	pale grey	silty chalk	occ chalk lumps
324	324	3	3	cut	posthole	sub circular	steep	u-shape	
325	326	3	3	fill	post pipe	loose	greyish brown	sandy silt	occ flint
326	326	3	3	cut	post pipe	circular	vertical		
327	328	3	3	fill	posthole	compact	dark orange brown	sandy silt	chalk lumps

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
328	328	3	3	cut	posthole	circular	vertical		
329		2	3	layer	moat platform	moderately loose	mid - dark brown	sandy silt	freq sub angular flints
330		2	3	layer	moat platform				
331		6	3	layer	topsoil				
333		6	3	layer	topsoil				
334		6	3	layer	subsoil				
335		6	3	layer	subsoil				
336		4	3	structure?	wall foundation?	firm	pale yellow	sandy chalk	flint, chalk lumps
337		5	3	layer	demolition layer?	moderate	yellowish brown	sandy silt	occ flint, chalk lumps
338		5	3	layer	demolition layer?				
339		3	3	fill	posthole	firm	mid greyish brown	chalky silt	chalk frags, rare gravel
340	358	3	3	fill	posthole	compact	pale brownish yellow	chalky silt	freq chalk frags, occ flints
341		2	3	layer	moat platform	firm	mid greyish brown	chalky silt	chalk frags, occ flints
342	344	5	3	fill?	moat ditch	firm	mid greyish brown	chalky silt	occ chalk frags, rare flints
343	344	5	3	fill	Moat ditch?	firm	brownish grey	chalky silt	ferq chalk frags, occ flints
344	344	5	3	cut	Moat ditch?	linear	moderate, slightly irregular		
345	344	5	3A	fill	Moat ditch?		mid greyish brown		
346		6	3A	layer	topsoil	friable	dark brown	silty clay	rare gravel
347	359	6	3A	fill	fox earth				
348		2	3A	layer	moat platform	v firm	olive brown	sandy chalky clay	occ stones
349	351	6	3A	fill	fox earth	firm	olive brown	silty chalky clay	occ gravel
350	357	6	3A	fill	fox earth	hard	light olive brown	sandy chalky clay	occ small gravel
351	351	6	3A	cut	fox earth	linear	steep	wide, gentle u-shape	
356		2	3A	layer	moat platform				
357	357	6	3A	cut	fox earth	curvilinear	steep	flat based u-shape	
358	358	3	3A	cut	posthole	oval	almost vertical	square	
359	359	6	3A	cut	fox earth				
360	357	6	3A	fill	fox earth	loose	light yellowish brown	sandy clay	few small stones, few charcoal flecks
361		2	3A	layer	moat platform	moderate	brown	clay chalk silt	freq flint
362		2	3A	layer	moat platform	compact			occ flints
363	357	6	3A	fill	fox earth	compact	brown	silty clay	occ flint and chalk
364	366	6	3A	fill	fox earth	compact	yellowish brown	clayey silt	
365	358	3	3A	fill	posthole	loose	yellowish brown	silty clay	occ chalk lumps
366	366	6	3A	cut	fox earth	complex	steep	flat based u-shape	
400		6	4	layer	topsoil	loose	brownish grey	clay silt	occ angular pebbles
401		5	4	layer	demolition layer	friable	brownish grey	clay silt	occ small pebbles, occ chalk frags
402		5	4	layer	demolition layer	friable	brownish grey	clay silt	occ angular pebbles, occ chalk frags
403		4	4	layer	demolition layer	firm	yellowish brown	clay silt	occ angular pebbles, occ chalk

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
404		4	4	structure	Drain				
405		4	4	structure	foundation trench	friable	brownish grey	clay silt	occ angular pebbles, occ chalk frags
406		4	4	layer	Moat platform	hard	yellowish grey	clay silt	freq chalk
407		4	4	layer	demolition layer				
408		4	4	structure	Floor?	hard	brownish yellow	clay silt	freq chalk, occ angular pebbles
409		5	4	layer	Drain fill	firm	dark brownsih grey	clay silt	angular pebbles, chalk
410		4	4	layer	demolition layer		grey	silt	
411		4	4	layer	demolition layer		yellow	chalky silt	
412		4	4	cut	Drain				
500		6	4	layer	topsoil				
501		4	5	layer	Moat platform	firm	greyish brown	clay silt	flint, charcoal flecks
502	503	0	5	fill	Ditch		light brown	silty clay	
503	503	0	5	cut	Ditch	linear	gradual on w, steep on e	stepped	
504		0	5	layer	topsoil	loose	dark grey	silty clay	
505	506	3	5	fill	pit	moderate	yellowish brown	sandy silt	occ chalk lumps
506	506	3	5	cut	pit	circular	steep	wide flat based u-shape	
507	508	0	5	fill	posthole	loose	greysih brown	clay silt	flint and chalk
508	508	0	5	cut	posthole	oval			
509	510	0	5	fill	natural	loose	greyish brown	clay silt	occ small flint
510	510	0	5	cut	natural				
511	512	0	5	fill	unknown linear	moderate	yellowish brown	silt	chalk
512	512	0	5	cut	unknown linear	linear			
513		4	5	layer	moat platform				
514		4	5	layer	moat platform				
515		4	5	layer	moat platform	well compacted	olive brown	fine sandy silt	occ chalk
516		0	5	layer	moat platform	well compacted	brown	silty clay	flint, chalk
517		0	5	layer	moat platform	very compact	dark yellowish brown	sandy silt	chalk
518		4	5	fill	undefined pits?		dark yellowish brown	silt	
519		0	5	layer	moat platform		brown	silt	chalk
520	520	0	5	cut	natural		vertical	wide u-shape	
521		0	5	layer	moat platform	well compacted	pale yellow	chalk	
522	523	0	5	fill	posthole	compact	dark yellowish brown	silt	chalk nodules
523	523	0	5	cut	posthole	sub circular	vertical	flat based u-shape	
524	523	0	5	fill	posthole	well compacted	dark yellowish brown	silt	irregular stones
525	523	0	5	fill	posthole	well compacted	yellowish brown	silt	
526	523	0	5	fill	posthole	well compacted	yellowish brown	silt	chalk nodules
527	528	0	5	fill	posthole	well compacted	dark yellowish brown	silt	few small stones, chalk
528	528	0	5	cut	posthole		vertical		

Context	Cut No.	Phase	Area	Category	Feature Type	Compaction/shape in plan	Colour/Sides	Fine component/Profile	Coarse component
533	512	0	5	fill	unknown linear	fairly compacted	yellowish brown	silt	chalk
534		0	5	layer	demolition rubble	fairly compacted	yellowish brown	silt	chalk
535		6	5	layer	topsoil	moderate		clay silt	moderate flint nodules
536		6	5	layer	topsoil				
537		6	5A	layer	subsoil	moderate	dark yellowish brown	silty sandy clay	moderate flint nodules
538		6	5A	layer	subsoil				
539		5	5A	layer	demolition rubble?				
540		0	5A	structure?	wall foundation?	firm	white	chalk	
601		4	6	Fill	drain	compacted	yellowish brown	silt	chalk nodules, mortar, small stones
602		4	6	Fill	drain	very compact	light olive brown	chalky clay	fine stones, flint
603		4	6	Fill	drain	loose	yellowish brown	silt	chalk (worked chalk)

Appendix 2: Summary of Finds

		Pottery		Ceramic Building Material		Glass	Animal bone	Flint	Human skeletal remains	Mortar or plaster	Shell	Stone	Small Finds
Context	Phase	No of Sherds	Weight (kg)	No of sherds	Weight (kg)	No. of sherds	Weight (kg)						
100	5	13	0.390	1	0.035								
101	5	20	0.186	244	7.450								
105	4	4	0.021	38	2.792								
106	5	6	0.076	63	0.604								
109	5	18	0.149	7	0.348								sf117
113	4	5	0.041	24	0.505								
118				3	0.077								
124	4	2	0.018	24	0.637								
125				35	1.491								
126	4	1	0.006	20	0.441								
127	4	1	0.005	5	0.098								
136				38	0.115								
141	5	3	0.017										
149				15	0.084								
150	4	2	0.008	7	0.051								
151				5	0.053								
155	3	1	0.005	3	0.010								
158	0	6	0.020										
163	3	1	0.008	13	0.053								
200	6	14	0.417	410	28.632								sf202
202													
204						1							sf205
205				1	0.045	3							sf203
206	5	2	0.020	2	0.113								
207	4	15	0.160			55							sf207, sf210, sf213, sf229, sf231
217	5	1	0.009										
220				1	0.039	18							sf223, sf224, sf225, sf226
225				13	2.025	221							sf219, sf220
229	2	2	0.011	1	0.007								
240	6	6	0.076	1	0.021		2.955						
241	6	2	0.025	33	2.032		0.072					0.009	
243	5	1	0.004	128	5.385		0.028						
248	5	1	0.008	3	0.075								
251		3	0.030										
254	5	1	0.001	8	0.118								
257				1	0.003								
300	6	13	0.142	13	1.432								
301	6	28	0.414	2	0.010								
302	2	6	0.057	15	0.100								
306	4	2	0.003	12	0.264								
307													sf304
310		0											
311	2	2	0.021	1	0.073								
319	2	1	0.015	2	0.005								
324		0	0										
330	2	1	0.005	8	0.067								
331	6	1	0.007	1	0.023								
332		2	0.010										
333	6	5	0.084	5	0.286								
334	6	5	0.071	58	1.254								
335													sf306

		Pottery		Ceramic Building Material		Glass	Animal bone	Flint	Human skeletal remains	Mortar or plaster	Shell	Stone	Small Finds
Context	Phase	No of Sherds	Weight (kg)	No of sherds	Weight (kg)	No. of sherds	Weight (kg)						
340	3	2	0.011	14	0.341								
346	6	14	0.155	3	0.015		0.067	0.017	0.006	0.187		0.306	sf328
347	6	21	0.409	5	0.044		0.436			0.155	0.225	0.008	sf309, sf310, sf329, sf330
348	2	3	0.044	4	0.524		0.285					0.095	sf312
349	6	1	0.067	23	1.863		0.159			0.736		0.029	
350				30	2.383								
356	2	1	0.021	12	0.634								
360	6	1	0.021	7	0.540								sf320
361				1	0.054								sf322
364													sf325
400	6	9	0.067	57	1.117								sf406
401	5	7	0.042	2	0.005								
402	5	1	0.026	1	0.191								sf402
403	4	3	0.015	13	0.697								
407	4	11	0.104	12	0.265	4							sf400
409	5	4	0.173	3	0.412								sf403
410													sf404
500	6	9	0.132	8	0.383								sf508
501	4	35	0.434	19	1.244	1							sf501
502													sf500
505	3	92	1.543	4	0.082								
509	0	1	0.012	22	0.297								
511	0	3	0.020	6	0.188								
514	4	38	0.433	2	0.002	7							sf503, sf505, sf507
515	4	5	0.056	38	4.062					0.006			
517	0	1	0.002	11	0.103								
518	4	15	0.015	6	0.088								
524	0	2	0.004	18	0.363								
535	6	10	0.116	5	0.414		0.045					0.087	
536	6	12	0.191	2	0.062							0.178	
537	6	32	0.355	28	1.843		0.650					0.460	sf516, sf519
538	6	53	0.454	11	0.752		0.353					0.024	
539	5	10	0.092	44	0.313		0.062			1.077		0.402	sf538
543		4	0.034										
600		2	0.073										
601		13	0.774	21	2.095								
603				72	3.811								
604				4	0.084								
700		12	0.273	4	0.247								

Appendix 3: Brick and Tile Fabric Descriptions

Brick A (350)
This fabric is a relatively poorly mixed moulded red brick, made from fairly chalky clay. The colours range from orange red (5YR6/8) to rose pink (10R6/3) and salmon pink (2.5YR6.6), variations probably due to kiln conditions. There is some paler grog or clay present, in large lumps (colour 10R4/6). The material is hard, with a rough fracture and hackley texture. Inclusions include grog (>30%, very coarse, sometimes <20mm, rounded and well sorted), mica (20%, fine, rounded and well sorted), calcareous grits (20%, fine, rounded and well sorted), quartz (mainly milky, 10%, fine – medium, sub-angular and fairly well sorted), Fe minerals, (<5%, fine – medium size, and poorly sorted) and voids from folding the clay. Typical examples have a very hackley upper surface, where the bricks were laid on straw or grass to dry (Woodforde1976:55) and the largest speciment, a whole 'half brick' [350] has the impression of an entire ear of corn/wheat in it. The dimensions of the half brick are 152 x 121 x 51 (6 x 4 6/8 x 2 in). This thickness suggests that the bricks are of C15 – early C17 date (based on the typological descriptions outlined by Harley (1974:74), and the hand mixing and moulding, and the use of the straw, suggest that they are no later (Lloyd 1934:9).

Brick B (539)
This pink (2.5YR5/3) brick is similar to brick A, except for the presence of large blue-grey grog inclusions (5/10BG), as well as visible yellow (10YR7/6), purple (7.5YR3/1) and red (2.5YR4/3) grog inclusions in a poorly mixed matrix. It is probably of the same date, although the percentage of iron minerals also marks it out. This brick also has straw impressions on one of its faces, and it is 1 7/8 in/34mm deep. The fabric is hard, the fracture feels harsh and the texture is irregular. The matrix contains quartz (mainly milky, c.20%, fine, sub-angular and well sorted), mica (5%, very fine, rounded and well sorted), grog (10%, coarse, 2-4mm in size, rounded and poorly sorted), iron minerals (15%, v coarse, up to 10mm in size, rounded and poorly sorted), and voids (10%, fine) from the folding of the clay.

Brick C (347)
This brick is slightly different to the others, as it contains a considerable amount of flint temper, and the top and bottom surfaces are smooth instead of showing evidence of grain imprints. There was probably a sand coating in the mould, and the clay was well tamped in. Despite this, the dimensions are similar, 1 7/8 in/34mm deep, and it is probably of a similar date. The brick is red brown (10R5/4) on the surfaces, and has an orange-red core (5YR5/4). The more reduced example of this fabric is browner: 10R5/6 – 2.5YR6/6. The fabric is very hard, feels rough and has an irregular texture. Inclusions are flint (5%, very coarse, up to 7mm, angular and poorly sorted), iron minerals (5%, fine-medium, rounded and well sorted), quartz (30%, medium-coarse, sub-angular and poorly sorted), grog (5%, coarse - very coarse, rounded and poorly sorted), mica (5%, fine, rounded and well sorted) and voids (20%, medium-very coarse, 30mm) from the folding of the fabric. Fingerprints in sample [347] are testimony to the hand moulding of this brick.

Tile A1 (124)
This roof tile is of a hard, rough fabric with an irregular texture, and most examples are pink-red (10R5/6) on the exterior and red-brown on the internal face (2.5YR5/4), although the more reduced form is slightly darker brown (2.5YR5/3) with a redder core (2.5YR6/4), although this is blue grey in context 301 (5/5B). There are also a number of more orange tiles, (2.5YR4/1 – 2.5YR3/1), and a more intermediate reduced form with a pink core (2.5YR5/6) and orange extremities (2.5YR6/8), for example in contexts (105) and (501). The matrix includes flint (some red and very large but mainly 5%, coarse – very coarse, sub-angular to angular and poorly sorted), iron minerals (10%, medium – coarse, round-subangular, poorly sorted), quartz (mainly opaque, 20%, mainly medium but some coarse, sub-angular, fairly well sorted), mica (5%, fine, angular and well sorted), and voids left by folding the clay

(5%, fine – coarse). The tiles include fragments of peg tiles with one and two holes. Context (601) contained a whole tile, which measured 6 ½ x 10 x ½ in. The tiles are hand moulded and mixed. The undersides are smoother, with striations from a scraping or cutting tool as the excess clay was scraped from the tile former, and the top is hackly, folded and bubbly with a coarser sand and calcareous grit coating from the sanded board or table upon which the tiles were created (Cherry 2001:190). The edges are sanded. These features define the fabric from fabric I, which is generally finer and has fewer iron mineral inclusions. One example from context (601) has a void left by an ear of grass. Type A is differentiated from type I by the roughness of its surfaces, and by its coarser quartz inclusions. It is quite similar to Fabric E and J, and fabric D (a glazed fabric), so these tiles might represent different 'batches', although they were suitably different to be listed separately.

Tile A2 (348)
This is a variant of fabric A1, and is similar enough to be classified as such. The surface treatment is the same as for fabric A1, and flat and peg tiles are present. The width is between 6/16 and 7/16 of an inch. It is highly likely that this is just a more baked form. The external surface is purple (2.5YR4/2), the core is red-purple (2.5YR4/4) and the internal surface is blue-purple (2.5YR4/2). The fabric is hard, rough and irregular. Inclusions present are flint (some red, <5%, coarse - very coarse, angular - sub-angular, poorly sorted), quartz (opaque with some transparent, 20%, medium - coarse, rounded – sub-angular, fairly-poorly sorted), mica (5%, fine, rounded and well sorted), iron minerals (5%, medium - coarse, rounded, poorly sorted), and voids from folding into the mould (5%, medium - coarse).

Tile A3 (200)
This is apparently a variant of fabric A, and is only represented by one sherd. It is an inhomogeneous mix of white and red clay, and shows the same surface treatment as fabric A. The fabric is red-brown (5YR 5/6), marbled with cream (10YR8/3). The fabric is of medium hardness (due to the chalk content of the white clay?), rough to the touch and irregular. Inclusions are flint/calcareous grits (5%, coarse, angular, poorly sorted), iron minerals (5%, medium with some coarse, angular and poorly sorted), quartz (red, transparent and opaque, 20%, medium - coarse, rounded - angular, poorly - fairly sorted), mica (<5%, frequent, rounded, well sorted) and voids (5%, medium to coarse).

Tile B1 (349)
There were some examples of white, chalky fabrics: flat tiles B and G. Fabric B1, evidently hand mixed and moulded, has creamy white (10YR8/3 and paler) surfaces, with a core of marbled creamy white clay (10YR8/3) and reddish-yellow (5YR6/6). The fabric is very hard, smooth in places but mainly rough, and has an irregular texture. The tiles are 7/16" thick. The internal surface of the tile is very smooth, with striations from a slicing tool (?) and the white surfaces appear to be a type of coating. The internal surface has roundish 'bubbles' in it, due to burnt out organic material or the pressing of the clay into the mould. Inclusions are grog or poorly broken up clay lumps (2%, coarse, rounded and poorly sorted), quartz (opaque and transparent, 10%, very fine - medium, rounded - angular, poorly sorted), iron minerals (5%, very fine - medium, rounded, poorly sorted), small stones, flints and calcareous grits (5%, coarse, rounded and angular, poorly sorted), mica (10%, fine, rounded - sub-angular, well sorted) and voids from folding the clay into the mould (10%, very coarse).

Tile B2 (348)
This is a more poorly mixed variant of B1, which could represent a different batch. The surfaces are pale cream to yellow (2.5Y8/2 – 2.5Y8/4) and the core is the same marbled with red (2.5YR 6/4). There are large visible inclusions of grog or clay lumps which are blue/grey (3/5 BG), red (2.5YR 5/4) and yellow (5Y 8/3). The fabric is hard with a harsh feel and an irregular, biscuity texture. The tiles are 3/8" thick, and greater than 3 ½" square. Inclusions are grog or clay (<30%, very coarse, rounded and poorly sorted), quartz (mainly opaque, some transparent, 10%, very fine-medium, rounded-sub-angular, poorly sorted), iron minerals (5%, fine-very coarse (1%),

rounded and poorly sorted), small flint and chalk stones (5%, coarse-very coarse, rounded-sub-angular, poorly sorted), mica (10%, fine, rounded, well sorted) and voids from the folding of the clay into the mould and possibly from burnt out organic material (10%, coarse).

Tile C1 (347)
Fabric C consists of red/black 'sandwich' type fabric reminiscent of mediaeval Ely ware pottery, which was also found on the site, for example in context (349) (Carole Fletcher 2003, *pers. Comm.)*. It is not abnormal to find potteries making ridge tiles, as observed in Newbury and Gloucester (Vince 1984) The surfaces are red-brown (5YR5/4), and the core is purple black (2.5Y2.5/1). There are some sherds with a paler brown internal surface (10YR7/4). The fabric is hard, with a harsh feel and irregular, hackly texture. Inclusions are mica (5%, fine, rounded and well sorted), calcareous grits (5%, coarse to very coarse, sub-angular – rounded, poorly – fairly sorted), grog (grey, yellow and pale red, 2% - 5%, coarse to very coarse, rounded and fairly well sorted), quartz (mainly opaque, 5-10%, medium, rounded – sub-nagulr, fairly well sorted), iron minerals (5%, medium – coarse, rounded, poorly sorted), voids (<5%, coarse) from folding the clay into the mould. The tiles are 3/8 - ½" thick. The fabric is obviously hand mixed, and there are variants with more iron minerals (349) or more poorly mixed with larger grog fragments <15mm (537). Context (200) yielded a fragment with a large vitreous slag-like inclusion, c. 25mm. The tiles are flat and curved, perhaps ridge tile fragments, and there is a sherd (U/S) with brown and green glaze that contains coarse quartz inclusions. The internal surfaces are fairly irregular and pitted, and the external surfaces are quite smooth with fine striations from a scraping tool. Some of the surfaces have evidence of a coarse sand finish (e.g. in (348)).

Tile C2 (537)
The main difference between C1 and C2 is that C2 contains coarser quartz inclusions, and both surfaces are smoother, although the internal surface is more ribbled with imprints that could well be from straw or grass. It is possible that this is an earlier type of Ely ware (Carole Fletcher 2003 *pers. Comm.)*. The tiles are c. 7" wide, and 3/8 to 5/8" wide. The surfaces are buff (7.5YR6/4), the margins peach (5YR5/6), and the core blue-grey (3 10/BG). The fabric is hard, with a rough-harsh feel and an irregular texture. Inclusions are calcareous grits (5%, medium to very coarse, 3mm, angular-rounded, poorly sorted), quartz (opaque-transparent, 10%, medium-coarse, sub-angular-rounded, fairly well sorted), iron minerals (5%, fine-medium, angular-rounded, well sorted), mica (<5%, very fine, rounded, well sorted) and voids (5%, medium) from folding the clay into the mould and possibly from burnt out organic material.

Tile C3 (U/S)
This is a glazed fabric variant of fabric C, based on one fragment 3/8" thick. The underside is smooth, maybe slip coated, and there is a patchy colourless glaze. The top is smooth with a fine sand layer. The external surface is pink-red (2.5YR4/6), the margins and intrernal surfaces are orange-red (2.5YR5/6) and the core is blue-grey (5/10G). The fabric is very hard, with a fine feel and a rough texture. Inclusions are quartz (opaque and transparent, 5%, medium-coarse, rounded-sub-angular, fairly well to poorly sorted), mica (5%, very fine, rounded and well sorted), iron minerals (5%, medium to coarse, rounded, fairly well to poorly sorted), calcareous grits (<5%, coarse, sub-angular, poorly sorted) and voids (<5%, coarse) from folding the clay into the mould.

Tile D1 (538)
This fabric, used to make ridge tiles, was partly defined on the presence of glaze, although the actual fabric seemed to differ from others. This may be because the glazed tiles are different elements, and so would fire differently in a kiln due to shape variations. It is possible that the fabric is a variant of fabric A. The external surface is a red-brown (5YR5/4), the core is orange red (2.5YR5/8), with a hint of grey (10YR5/1) in the thicker sherds, and the internal surfaces are reddish-brown

(2.5YR5/6 – 2.5YR4/2). The fabric is hard, feels harsh and has an irregular texture. Inclusions are stones (mainly flint, 5%m very coarse <10mm rounded – angular, very poorly sorted), grog (<5%, coarse- very coarse, rounded, poorly sorted), iron minerals (<5%, medium-very coarse, rounded, poorly sorted), quartz (milky, 5%, medium – coarse <2mm, sub-rounded – sub-angular, poorly – fairly well sorted), mica (10%, fine, rounded, well sorted) and voids from folding the clay into the mould and from burnt out organic inclusions (10%, very coarse). The fragments are >5" wide and c. ½" thick. The glaze is brown/green in appearance (5YR3/4 – 2.5Y4/4) and is often on the smoother side (up side) of the tile, with trickles running onto the coarser side. The glaze containts coarse quartz or salt inclusions (c10%, sub-angular), and there was possibly a sand lining in the mould.

Tile D2 (333)
This variant of D1 is of a 'biscuity' texture with lots of air bubbles. The top surface is hackly, with voids that would appear to be burnt out organic materials. The underside is smoother. The tile is ½" thick. The external surface is red-brown (2.5YR4/6), the core is darker red-brown (2.5YR4/4) and the internal surface is orange brown (2.5YR4/8). The fabric is hard, rough and irregular in texture. Inclusions are flint (5%, very coarse, angular, poorly sorted), calcareous grits (<5%, coarse - very coarse, sub-angular, poorly sorted), iron minerals (10%, coarse - medium, rounded-sub-angular, well sorted), quartz (red, milky, transparent and opaque, 20%, coarse, rounded-sub-angular, well sorted), mica (10%, fine, rounded, well sorted), grog (<5%, very coarse, rounded, poorly sorted) and voids (10%, coarse to very coarse).

Tile E (537)
This tile has brown/red surfaces (5YR5/4), a brown external and internal margin (7.5YR2.5/1), a red-brown outer core (2.5YR4/4) and a brown inner core (7.5YR2.5/1). Variation in the controlling of the firing have lead to some examples with different layers of brown and red (514) (2.5YR5/6 – 2.5YR3/2), and occasionally grey (4/10 GY, context (349)) or blue black (2.5/5B, (347)). It is very hard, rough and irregular in texture. Inclusions are mica (10%, very fine, rounded, well sorted), quartz (5%, medium – coarse, sub-angular – sub-rounded, poorly sorted), stones and calcareous grits (5%, medium to very coarse, angular to rounded, poorly sorted) and voids from folding the clay into the mould (<10%, coarse and elongated). The tile in this fabric is c1/2" thick. Both surfaces are coated with sand (30%, sub-angular, coarse), and the internal surface has striations on it. This fabric is similar to TD, although much harder, smoother and more vitrified. Tiles in this fabric are neatly made, with square 'edges' and are ½ " thick.

Tile F (347)
This fabric has a cream external surface (2.5Y7/3), a purple-brown external and internal margin (10YR3.1), a red-purple outer core (10R4/3) and a purple-blue inner core (10YR3/1) and an internal margin ranging from cream to brown (10YR3/3 – 10YR6/2 – 2.5Y7/3). The fabric is hard, hackley and irregular. Inclusions are calcareous grits (<5%, coarse, rounded – subangular, well sorted), iron minerals (<5%, medium – coarse, rounded to sub-angular, poorly sorted), quartz (<5%, medium, rounded – sub-angular, well – fairly well sorted), mica (20%, very fine, rounded and well sorted) and voids from mixing the clay (5%, medium to coarse, rounded). The texture is bubbly and almost slag like. The underside has striations, and the top has a sand coating.

Tile G (350)
This is a white, chalky clay fabric very similar to Fabric B. However, it is more common on the site, is better mixed and much harder which suggests it is a different type. The surfaces are pale cream (2.5Y8/4 - 5Y8/2-3) and the core is slightly pink (5YR7/6 - 7.5YR8/3-4) with some blue (2.5Y7/2). The fabric is hard, fine to the touch and irregular in texture. Inclusions are grog (<2%, coarse, rounded and poorly sorted), iron minerals (5%, very fine-medium, rounded and poorly sorted), small stones (>2%, coarse, rounded - angular, fairly well sorted), very coarse stones (<2%, very coarse, rounded – angular, poorly sorted), mica (10%, fine, rounded – sub-

angular, well sorted) and folded voids (2%, very coarse). The external surface has a grainy texture and sand coating, with some possible straw and grain impressions and the underside shows striations. The clay is well mixed and made with sharp corners, and the tiles are ½ " thick. The fragments show a slight concavity and a lip of clay over the edge of the mould, and overall it looks like they could have been mechanically produced. The fabric may well be later than some of the others.

Tile H (347)
This fabric has a red-brown external surface (10R4/4), a blue grey core (10YR5/1), a red-brown internal margin (10R5/6) and a brown red internal surface (10R4/3). The texture is very hard with a fine feel and an irregular texture. The tiles are 6/8" thick. The underside is smooth with striations and the top is coated with a coarse sand with calcareous grits. Inclusions are quartz (mainly milky, <5%, medium to coarse, rounded to sub-angular, poorly sorted), mica (<5%, fine, rounded and well sorted), iron minerals (<5%, fine, rounded, well sorted), glassy, vitreous black grits (5%, coarse, rounded, poorly sorted) and voids (5-10%, fine to very coarse) from the burning out of gases and organic materials.

Tile I (535)
This fabric is finer than some of the others. The surfaces are orange red (5YR5/6 – 2.5YR5/6), and the core is a more peachy orange (2.5YR5/6) although some examples are more red (10R5/6). The oxidised form has a 'sandwich'effect of brown or red (10YR4/2, 2.5YR5/6) with a purple or blue-grey core (5YR4/1, 4/5B). The fabric is hard, irregular in texture but fairly smooth to the touch. Tile thicknesses vary between 3/8 and ½". Inclusions are (some large, e.g. in context (347)). This fabric bears some similiarity to fabric A, although the tiles are coated on both sides with a finer sand, and are better shaped with less unevenness and variation in firing. The underside shows some striation. The fabric is less sandy than fabric A. There is one fragment of glazed ridge tile in this fabric, with a colourless glaze that has taken poorly.

Tile J (537)
This fabric has red-brown surfaces (2.5YR5/6), orange-brown margins (5YR5/6) and a blue-grey core (5/10G). The matrix is very hard, feels fine and is irregular in texture. Tiles in this fabric are ½ " wide. The internal surface is sandy and smooth, the top has a coarser sand coating. The fabric is similar to TI, but is more dense and vitrified. Inclusions are flint (<5%, very coarse, rounded –sub-angular and poorly sorted), calcareous grits (<5%, coarse, sub-angular, poorly sorted), quartz (mainly milky, 5%, fine to coarse, sub-angular – rounded, poor to fairly well sorted), mica (5%, very fine, rounded and well sorted), iron minerals (5%, very fine to very coarse, mainly fine, rounded, poorly – fairly well sorted) and small elongated voids (5%).

Summary of Ceramic Building materials by Fabric

	No. of Fragments	Weight in kilogrammes	Fabric type	No. of Fragments	Weight in kilogrammes
Brick A	46	5.438	Tile D glazed/decorated	17	0.943
Brick B	2	0.262	Tile D glazed	18	1.623
Brick C	4	0.764	Tile D2	18	0.425
Tile A	874	37.249	Tile E	27	2.464
Tile A2	12	0.512	Tile F	1	0.140
Tile A3	1	0.041	Tile G	379	7.868
Tile B1	4	0.170	Tile G glazed	1	0.001
Tile B2	2	0.104	Tile H	3	0.085
Tile C	2	0.074	Tile I	168	8.275
Tile C1	75	4.958	Tile I glazed	1	0.096
Tile C1 glazed/decorated	5	0.342	Tile J	35	3.666
Tile C1 glazed	5	0.419	Tile J glazed	1	0.049
Tile C2	33	3.296			
Tile C2 glazed	21	2.389			

	No. of Fragments	Weight in kilogrammes	Fabric type	No. of Fragments	Weight in kilogrammes
Tile C3 glazed/decorated	1	0.019			
Tile D	17	0.877			

Appendix 4: . Number of Identified Animal Bone Specimens (NISP).

Taxon	Area							Total
	1	2	3	4	5	6	7	
Cattle (*Bos* f. domestic)	13	2	18	5	14	4	-	**56**
Sheep/Goat (*Ovis/Capra* f. domestic)	12	5	27	7	10	-	3	**64**
Sheep (*Ovis* f. domestic)	(5)	(-)	(8)	(1)	(3)	(-)	(-)	**(17)**
Fallow Deer (*Dama dama*)	1	-	-	-	1	-	-	**2**
Pig (*Sus scrofa*)	25	9	10	3	6	1	3	**57**
Horse (*Equus caballus*)	-	1	2	-	2	-	1	**6**
Hare (*Lepus* sp.)	-	-	-	-	-	+	-	**+**
Rabbit (*Oryctolagus cuniculus*)	-	-	5	-	-	1	-	**6**
cf. Water Vole/Rat (*Arvicola/Rattus*)	-	-	-	-	1	2	-	**3**
Mouse/Vole (Murid/Microtine)	-	1	-	-	-	-	-	**1**
Domestic Fowl (*Gallus* f. domestic)	+	1	-	+	-	-	-	**1**
Pheasant (*Phasianus colchicus*)	-	-	1[2]	-	-	-	-	**1**
Goose (*Anser/Branta* sp.)	-	+	-	-	-	-	-	**+**
Duck sp.	-	1[1]	-	-	-	-	-	**1**
Duck/Mallard (*Anas platyrhynchos*)	+	-	-	-	-	-	-	**+**
cf. Mallard/Gadwall (*A. platyrhynchos/strepera*)	1	-	-	-	-	-	-	**1**
Pigeon/Rock Dove (*Columba livia*)	+	-	-	-	-	-	-	**+**
cf. Woodcock (*Scolopax rusticola*)	+	-	-	-	1	-	-	**1**
cf. Jackdaw (*Corvus monedula*)	-	-	-	-	1	-	-	**1**
Anuran Amphibian (*Rana/Bufo* sp.)	-	5	-	-	-	-	-	**5**
Halibut (*Hippoglossus hippoglossus*)	1	-	-	-	-	-	-	**1**
Total	**53**	**25**	**63**	**15**	**36**	**8**	**7**	**207**

"Sheep/ Goat" also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. "+" means that the taxon is present but no specimens could be "counted" (see text).

[1] eighteen bones from a partial skeleton
[2] six bones from a partial skeleton

Appendix 5: Environmental Evidence

Eight soil samples were collected (see table below), processed and assessed for environmental remains. None of the samples proved to contain a viable quantity of identifiable charred seeds or other environmental remains and no further work was undertaken.

Sample No.	Context No	Area	Sample Size
100	133	1	10
101	113	1	10
102	152	1	30
300	309	3	30
400	409	4	10
500	514	5	10
600	601	6	10
601	601	6	10

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