Excavation Report

An Excavation on Medieval Remains On The Land behind 1a East Street, St Ives, Huntingdonshire

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An Excavation on Medieval Remains On The Land behind 1a East Street, St Ives, Huntingdonshire

Archaeological Excavation

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Table of Contents

List of Figures

List of Plates

LIST OF TABLES

Summary

An archaeological evaluation at the 1a East Street, St Ives in December 2011 revealed extensive archaeological deposits from the medieval and post medieval period. The evaluation was rapidly followed by an archaeological excavation that was completed in January 2012. This report addresses the findings of both investigations.

The site was located on land behind the main market square in St Ives and revealed well preserved archaeological deposits 0.9m below the modern ground surface. The earliest recorded activity on site was from Early Saxon period, attested by the retrieval of pottery.

There were three main phases of activity identified during the evaluation and excavation; The earliest phase, dating to the 12th-14th century, was characterised by the digging of several cess and rubbish pits, relating to the site position within the backyard of a tenement plot. Following the 14th century, a period of disuse is evident coincides with the Black death epidemic. Activity picks up again towards the Late 15th century where several inter-cutting ovens were constructed, which were shown to be used for making bread and small scale grain parching. The 16th -17th centuries and a return to the use as a backyard area, characterised by larger pits, for quarrying and rubbish disposal.

There is some evidence for quarrying to the north of the site after the 17th century, however activity does diminish, which coincides with the devastation of the town following a massive fire in 1689.

1 INTRODUCTION

Location and Scope of Work

1.1 An archaeological excavation was conducted land behind 1a East street, St Ives.

1.2 This archaeological excavation was undertaken in accordance a specification provided by OA East, in relation to the CCC; Planning Application 10/02057/OUT. The work was commissioned by Amesview Developments.

1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *Planning Policy Statement 5: Planning for the Historic Environment* (Department for Communities and Local Government 2010).

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

Geology and Topography

1.5 Solid geology in the vicinity of St Ives comprises of Oxford clay formation mudstone. The superficial deposits which was encountered during the excavations at a height of 5.67m OD. These deposits consisted of river terrace deposits: sand and gravels (BGS, 1993).

1.6 The site itself was generally flat at an average height of 6.40m OD.

Archaeological and Historical Background

Prehistoric

1.7 Find spots have shown a continued presence within the environs of St Ives. These include Neolithic agricultural tools, such as a horn awl found near Ramsey Road (CHER 03458). As well as several flint tools, including an arrowhead (CHER 03552) and a blade (CHER 02114a).

1.8 Several further find spots have been recorded dating from the Bronze Age including an arrowhead (CHER 02114) and a spearhead (CHER 02030) both of which was recovered to the north of the river.

1.9 Prehistoric activity within the vicinity of St Ives would of been part of a larger agricultural landscape. However no features relating to settlement have been recorded in the vicinity of St Ives, though this is likely to be the result of later truncation rather than original absence.

Roman

1.10 St Ives lies 5km south-east of the small Roman town of Godmanchester (DVROVIGVTVM), which would of acted as the focal point for the surrounding area, providing a market centre for agricultural produce. St Ives itself, would of comprised of small nucleated settlements with surrounding agricultural fields. There is evidence for a

settlement, consisting of an enclosure and related pits and ditches, located at the old priory site (MCB15820).

Anglo Saxon

1.11 The Anglo Saxon settlement in this area was known by the name of Slepe. This was centred on the area close to All Saint's church, west of Broadway (Drummond-Murray, 2006). However settlement was not limited to this area as evidence of domestic activity was revealed during excavations at Green End house (MCB 15802). Further sunken featured buildings and other timber built structures were excavated near to the old priory (MCB 15820), suggesting a pattern of small nucleated dwellings.

Medieval

1.12 During the 10th Century the town was granted to Ramsey abbey, This coincides with a shift in the settlement focus to what was known as 'The Street'. This ran parallel with the river, close to what is now the market square. The town flourished as a medieval market and held regular fairs, which was ranked as one of the greatest in England at its height in the 13th century, becoming known especially for its trade in cloth (Redstone, 1974).

1.13 At this time East street was known by as Thwertway, Thwertpath or Twyrtpath. On the northern side lay houses belonging to the sacristan of St Ives, recorded in 1315 (Redstone, L, 1974, 212).

1.14 The absence of Late medieval archaeology within previous excavations, would suggest that there is a fall in the population of the town, which coincides with the Black death epidemic in England between 1348 - 1350. The town did continue to serve as a focus for the surrounding area but the importance of the market and fair steadily declined until it was abandoned in 1511.

Post Medieval

1.15 A fire was reported to devastate the town in 1680, followed by another fire in 1689 which originated near White Hart Lane and consumed the settlement to the south, up to the river (Redstone, L, 1974, 210). After the event the town was rebuilt, when it became renowned for its weekly cattle market.

1.16 Pettis' map of 1728 shows the extent of the town, with the main street running parallel to the river, along what is now the market square. To the north-east, East Street, marks the edge of settlement with agriculture land further on. These were cultivated within an open field system, until the enclosure act in 1801.

Previous Archaeological Work

1.17 An evaluation at 30-32 West street (MCB17351) recovered evidence of Early Medieval quarrying, which was later sealed by post medieval cultivation soil (Clarke, R. 2006). A series of Early Medieval pits and possible boundary ditches were recorded in an evaluation at 5 West street, including a possible oven (Grassam & Eddisford, 2004).

1.18 An evaluation on Oliver road (ECB264), revealed multiple pits, spannning the medieval and post medieval period (Prentice, 2001).

Acknowledgements

1.19 The author would like to thank Amesview Developments for commissioning the work. Thanks are also extended to Peter Boardman, Graeme Clarke, Nick Cox, Stuart Ladd and Stephen Porter who helped with the fieldwork. Taleyna Fletcher carried out all on-site survey. The project was managed by James Drummond-Murray and monitored by Dan McConnell of Cambridgeshire County Council.

2 Aims and Methodology

Aims

2.1 The objective of this excavation was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.

Methodology

2.2 The Evaluation trench measured 25.5m by 1.6m and ran north to south located to the north-west of the proposed residential block extension. This was excavated by Oa East staff.

2.3 Six Geotech pits (see fig 2) were excavated by the developers using a JCB-type machine. With an archaeologist in attendance, recording the deposits that were revealed and retrieved any finds present and took environmental samples from relevant deposits.

2.4 The excavation area measured 15m by 5m running north to south and was located immediately to the south of the original evaluation trench (Fig. 2).

2.5 Machine excavation was carried out under constant archaeological supervision with a wheeled JCB-type excavator using a toothless ditching bucket.

2.6 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.

2.7 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.

2.8 The site survey was carried out by Taleyna Fletcher using a Leica GPS 1200 system which located the trench positions on the Ordnance Survey grid. The heights of ground level and base of trenches were also surveyed and noted on site for trench plans and section drawings".

2.9 Bulk samples were taken during the excavation after consultation with the project's environmental specialist (Rachel Fosberry). The results of any analysis is included in the excavation report.

2.10 The site conditions were good. The weather throughout the excavation was generally dry and mild. Frozen conditions were experienced during the final two days, however this did not inhibit the work.

3 RESULTS

Introduction

1.1 The results are presented for each phase of archaeological work individually. Within each phase the results are given in chronological order and described from north to south. Further contextual detail is provided in Appendix A.

Evaluation Trench

3.1 Archaeological deposits were revealed at a depth of 0.45m below modern ground level. Excavation was halted where obvious post medieval deposits were revealed, for completion during the excavation stage of the project.

To the south of the trench lay a sub-oval pit (**20**), measuring 1.2m long, 0.8m wide and 0.15m deep. The feature had steep sides, concave base and was orientated north to south. This was filled with a charcoal rich dump of dark grey brown sandy silt (21) with sherds of Late Medieval pottery.

3.2 A posthole (**7**) was excavated in the south-western part of the trench. This was oval in plan, measuring 0.6m in diameter and 0.4m deep, extending into the section. It had steep sides and a concave base. It was filled by a mid greyish brown sandy silt (6) that contained sherds of mid 14th - Late 15th century pottery. Immediately to the east lay an oval posthole (**12**), this was 0.6m in diameter and 0.4m deep. This had near vertical sides and a flat base. Its fill of comprised of a dark greyish brown sandy silt (13) containing mid 12th to Mid 14th century pottery.

3.3 Truncating this, was a irregular shaped pit (**16**), measuring 1.8m long, 1m wide and 0.1m deep, it had shallow sides and a flat base. The fill comprised of a mid greyish brown sandy silt (11) containing mortar and rubble debris.

3.4 In the northern part of the trench evidence for post medieval quarry pits and the construction of a basement during the Modern period was evident. This truncated any visible archaeology within the evaluation trench, extending from the northern end of the trench running for 23m. It is possible that some deeply dug archaeological features may be surviving below this activity, however the majority of the remains would of been truncated. One in particular was noted to the north, which was a large sub-rectangular pit (**19**) with vertical sides and a flat base. It measured 7m in length and its observed width was 0.3m. The observed depth was 0.4m, which was recorded during the excavation of Geotech pit 6. This was filled by a mid greyish brown sandy clay (18) containing sherds of 19th century pottery.

Geotech Pit 1

3.5 Geotech pit 1 was located towards the centre of the development (Fig. 2), measuring 1.8m long and 0.65m wide. The natural sand and gravels was revealed at 2.8m below the modern ground surface. A layer 1.40m thick was present overlying this, which was a dark yellowish brown sandy silt (22). This was overlain by several modern make-up deposits (23,24). Truncating these layers was a modern 20th century wall (26) running east to west, this comprised of red brick regular courses, with an English brick bond. The sequence was sealed by a 0.5m thick topsoil consisting of a dark greyish brown silty sand (25).

Geotech Pit 2

3.6 Geotech pit 2 was located to the east of the evaluation trench (Fig. 2), measuring 2.0m long and 0.65m wide. The natural sand and gravels was revealed at 1.1m below the modern ground surface. Cut into the natural was a pit (**5**), with a concave profile, this was filled with a dark brownish grey clayey silt (4). Overlying this, was several modern make-up deposits (27,28 and 29). The sequence was sealed by a 0.1m thick concrete yard surface (30).

Geotech Pit 3

3.7 Geotech pit 3 measured 2.05m long and 0.65 wide, located to the northern part of the development area (fig 2). The natural deposits were recorded at 1.6m below modern ground level. A mid orangish brown make-up layer (31), 0.35m thick was recorded underlying a 0.4m thick, dark brownish grey silty clay make-up layer (32). This was overlain by the modern make-up material and hardcore (33), 0.9m in thickness.

Geotech Pit 4

3.8 To the east lay Geotech pit 4 (Fig. 2), measuring 1.5m long and 0.65m wide. The natural geology was revealed at 1.6m below the modern ground surface. This was overlain by several modern make-up deposits (34,35). Sealing this was a 0.6m thick modern make-up layer (36)

Geotech Pit 5

3.9 Geotech pit 5 was located to the east of the evaluation trench (fig 2), The natural sands and gravels were recorded at a depth of 1.3m, however the trench sides collapsed before any further records could be taken of this trench. Further work on this trench was halted due to health and safety concerns.

Geotech Pit 6

3.10 Geotech pit 6 was located at the northern end of the evaluation trench (fig 2), measuring 1.9m long and 0.65m wide. The natural sands and gravels was recorded at 1.8m deep. Overlying this was a mid greyish brown sandy silt (2), 1.2m thick, this is believed to be a fill of a feature, however the size of the Geotech pit meant its full extent was unclear. Cut into this layer was a series of post medieval quarry pits. The earliest pit (**17**) was vertical sided with a flat base, measuring 0.6m wide and 0.6m deep. This was was filled with a series of gravel layers (1). Truncating this was a further pit (**19**) which was exposed and described during the evaluation trench.

Excavation

3.11 A trench was excavated, measuring 15m in length and 5m wide, orientated north-east to south-west, perpendicular to the line of East Street (see Fig 2). The modern deposits, comprising of building rubble and make-up deposits, were machined to an average depth of 0.9m.

3.12 Four modern wall relating to the printing works (c.1950's) were left in situ. This meant that the archaeological remains were in four distinct areas, separated from one another by these walls (see Fig 2).

3.13 The archaeological remains are presented chronologically starting with the earliest then by broad feature type. The archaeological features can be broken down into three broad periods medieval, Late Medieval and post medieval. A full context summary can be found in appendix A. Full interpretation is given in the discussion section.

Natural Flood Deposits

3.14 The earliest deposit encountered was a layer (250), which was a pale orangey brown sandy clay. This layer was seen to overlie the natural in area 3 and had a thickness of 0.15m.

3.15 A similar layer (111) was excavated to the south in area 1, measuring 0.2m thick. This layer was heavily truncated by later features and only surviving in one area, measuring 1m by 1.4m in extent. These are likely to be the result of deposition during flooding episodes.

Phase 2: Medieval AD 1200 - 1350

Group 2.1: Pits

3.16 A series of pits dated to the medieval period were recorded throughout the excavation area. There location is shown in figure 3.

3.17 In the northern area of the excavation a circular pit (**203**) was cut through natural, with steep sides and a concave base. The diameter was 0.95m and 0.26m deep. This pit was filled with a mid brown sandy silt (202), containing Mid 12th to Mid 14th Century pottery. Immediately to the south lay a small circular pit (**233**), 0.5m in diameter and 0.08m deep. This had a concave profile and was filled by orangish brown sandy silt (232).

3.18 To the east of this feature lay a further sub circular pit (**239**). The pit extended outside of the excavation area, but the observed measurements was 0.9m long, 0.48m wide and 0.09m deep. The base of the pit was flat and had shallow sides. This had a single fill of dark greenish grey sandy silt (238), containing Mid 12th to Mid 14th Century pottery.

3.19 To the north-western corner of area 4 lay an oval pit (**254**), extending below the modern wall foundations. This was concave in profile, 1.1m long, 0.5m wide and 0.15m deep. This was filled with a dark brownish grey silty clay (253). Immediately truncating this was a sub-rectangular pit (**252**), with concave side and a flat base. Measuring 1.3 long, 0.8m wide and 0.23m deep. It had a single dark greyish brown fill (251).

3.20 To the south-west, within area 3, lay an oval pit (**229**). This was heavily truncated by the Late Medieval ovens. This pit measured 0.85m long, 0.4m wide and 0.25m deep. The feature had a concave profile and was orientated north-west to south-east. It had a single fill of reddish brown sandy clay (228), resulting from deliberate backfilling.

3.21 Situated to the west was pit **249**. This was squarish in plan, extending beyond the excavation area. The sides were concave and a flattish base. The dimensions were 1m long, 1.2m wide and 0.3m deep. The primary fill, 0.25m deep, was a dark greenish grey

clayey silt with occasional charcoal fragments (248). The pit was then infilled by secondary deposition (247). A similar pit (**217**) was located to the south, measuring 1m by 0.8m. The pit survived to a depth of 0.6m and was filled with dark greenish grey silty clay (116), showing inclusions of gravelly mineralised deposits.

3.22 To the south, within area 3, lay a further pit (**157**). The feature was heavily truncated to the south by midden **142**, The surviving side was vertical and had a flat base, measuring 0.2m in depth. The pit was backfilled with a charcoal rich silt (143), possibly associated with its use.

3.23 The southern most area of excavation revealed two intercutting pits. The earliest pit (**85**) was oval in shape, orientated north-east to south-west. Measuring 1.4m by 1m and 0.4m deep, with steep sides and a concave base. This was filled with dark greenish grey silty clay (84) containing Mid 12th to Mid 14th Century pottery. This was cut to the north-west by pit **83**, oval in shape, extending into the baulk. The base was concave with steep sides. This was filled with a similar dark greenish grey silty clay (82), containing 13th to Mid 14th century pottery. The similarity of the cuts and pit fills would suggest they were of a comparable function and pit **85** was cut as a replacement.

3.24 Directly south-west of these, lay a squarish pit (**104**). This extended outside of the excavation area, so it was not possible to see its full extent. The pit has concave sides and a flattish base, its observed diameter was 0.5m and was 0.15m deep. The base of the pit contained the remains of burnt wood (97), to a depth of 0.1m, This may of been an in situ wooden lining associated with its use, which was burnt either accidentally or at the end of its use. A later disuse fill sealed the pit which was a dark greenish grey sandy clay containing Mid 14th - Late 15th century pottery, likely to be on the earlier side of this date range.

Group 2.2: Structural Remains

3.25 Several features which possibly relate to structures were present, these are shown in fig 4. A square posthole (**235**), 0.3m wide 0.28m deep, with a U shaped profile. This had a single fill. Given the shape and size of the posthole it would suggest that it held a structural post, but no further features were uncovered to suggest a structure.

3.26 Several remains of linear beam slots were recorded. To the north of the site lay two similar sized features, one (**237**) was orientated north-east to south-west, with steep sides and a flat base, 0.7m long, 0.3m wide. The depth was 0.09m with a single disuse fill. Immediately to the south-east lay a similar beam slot (**205**) with the same shape and profile orientated perpendicular. These two features may of formed a building, however the area has been severely truncated by later activity, to show this conclusively.

3.27 Located to the south in area 3 was a north-east to south-west beam slot (**215**?), measuring 1.4m long 0.45m wide, this was heavily truncated by later activity and 0.05m deep. This was filled with a dark greyish black silt with frequent charcoal inclusions (214), suggesting the timber may of been burnt in situ.

3.28 A small square posthole (**219**) lay 1.8m to the south-east. This again was heavily truncated, but the visible remains had vertical sides and a flat base. Measuring 0.2m long and 0.05m deep, with a single disuse fill. Immediately to the east lay a similar square posthole (**159**) which survived to a depth of 0.2m, with a single disuse fill.

3.29 A large and substantial posthole (**241**) was excavated within area 2. This was circular in shape, with vertical sides and a flat base. The diameter was 1.2m and had a depth of 0.74m. This posthole was filled by a mid brownish grey silty clay (240), a result of secondary deposition. No finds were recovered within the fill, however stratigraphically the posthole can be placed into the medieval period. There were no obvious associated features revealed within the excavation area.

Group 2.3: Midden Features

3.30 A series of pits dated to the medieval period were recorded throughout the excavation area. These are thought to function as middens or cess pits. Their location is shown in figure 5.

3.31 To the north of the excavation area lay an oval pit (**231**), with near vertical sides and a flat base. The pit was 1.8m long, 1.2m wide and 1.05m deep. The initial filing was in waterlogged conditions and consisted of a dark grey sandy silt (223), 0.25m thick. This was then infilled by a series of silty grey fills (220, 221 and 222) representing deliberate backfilling of the pit.

3.32 To the south-east lay a large oval pit (**246**) (see plate 1), measuring 3.6m in length, 1.6m in width and 0.92m in depth. The pit had near vertical sides, a slightly concave base and was orientated north-west to south-east (see fig 9 for section). This was initially infilled with a dump of dark grey clay (245), 0.11m thick. The fill contained pottery, animal bone, an iron nail and a worked bone needle. The second phase of deposition was a separate backfilling event, comprising of a dark greenish grey silty sand (244), measuring 0.46m in thickness. The deposit was rich in cessy material, containing pottery, ceramic building material and an iron nail. The final backfilling was a mid greenish grey clayey loam (243), 0.48m thick, containing pottery, animal bone and small finds

Phase 3: Late Medieval AD 1200-1350

3.33 Sealing the medieval features in area 4, was a layer (170), comprising of a mid brownish grey sandy silt. The extent of which was 4m by 2.3m and had a maximum depth of 0.25m. Pottery dating to the 12th - 14th century was retrieved from this layer. A similar layer (242) sealed the Early Medieval features in area 2, measuring 0.2m in thickness. Equivalent to this, was layer 107, located to the south-west which contained residual Early Saxon pottery.

3.34 To the south-western corner of the excavation a layer (75), 0.15m deep and 1m across was excavated. This was a dark greyish greyish orange sandy clay, containing 12th - 13th century pottery. This was a redeposited natural deposit, possibly placed to build up the ground level.

Phase 4: Late Medieval AD 1200 - 1350

Group 4.1: Cess Pits

3.35 To the south of area 3 lay a pit (**142**) with an oval shape (see plate 2). This feature had near vertical sides, though evidence of side collapse was recorded, which has resulted

in a slightly undercut profile (see fig 9 for section). The pit measured 1.8m long, extending north-west into the edge of excavation and was 1.4m wide. The pit was excavated to a depth of 0.9m, when further excavation was halted due to concerns over health and safety, but augering showed the pit to have a total depth of 1.3m. The pit was initially infilled to a depth of 0.7m by a dark blueish grey silty clay (141). This was then filled with alternating layers of redeposited orange clay redeposited natural (140, 124) and cessy dark green silty clays (125, 117), suggestive of deliberate tipping of materials.

3.36 Positioned on the north-east corner of pit **142** and possibly associated with its function lay posthole **156**. This was square in plan with vertical sides and a flat base, 0.9m in length and 0.4m deep. This may of have been to support a timber superstructure over the cess pit. This was filled by dark greenish grey silty clay (144), which was similar in nature to the final filling event, suggesting that the feature was removed and backfilled within the same event as pit **142**.

Group 4.2: Ovens

3.37 A series of ovens and pits relating to the practise of bread making and grain parching were present to the north of the excavation. Figure 6 shows their location and form.

3.38 To the northern end of the trench lay an sub oval pit (**51**), this was revealed during the evaluation stage and recorded as pit **20**. Further environmental sampling was undertaken after the pit was 100 per cent excavated which revealed a large assemblage of cereal grains, with a high proportion of hulled barley.

3.39 Within area 3 a series of ovens were excavated. The earliest (**184**) was circular in shape with a flat base and a protrusion extended out to the south-west, c2m long and 0.22m deep. This was lined with a 0.07m thick mid orange clay (183), which was heavily heat affected, overlying this was a use deposit (182), greenish orange sandy clay in nature. The oven showed evidence of possible relining by a 0.04m thick layer of mid orange sandy clay (181). This was followed by several use fills (178,179), which varied from dark red and black sandy clay. The final deposit filling the oven was a light reddish orange burnt clay (175), which may indicate a capping of the oven when it had gone out of use. No finds were retrieved from within the fills, however the plant remains showed a high frequency of Great Fen sedge.

3.40 This was truncated by another oven (**131**) which formed a shallow, concave depression 1.05m wide and 0.16m deep. There is a slight protrusion to the south-west, but less pronounced. The initial filling comprised of a yellow clay lining (127), 0.06m thick. afterwards a build up layer of yellowish grey clay was present (126). This again was filled with a series of use fills (120,122,123), containing a high frequency of charcoal and burnt clay, along with abundant plant remains of bread wheat and Great Fen sedge. A further relining occurred, seen by a 0.07m thick layer of mid reddish orange burnt clay (121). A final sealing cap was placed at the end of its use, which comprised of mid greenish orange sandy clay. No finds were retrieved from this feature.

3.41 Two metres to the west lay a further oven (**227**) this was irregular in shape, extending outside of the excavation. This had a shallow concave profile, 1.15m in diameter and 0.12m deep. This was lined by a heat affected whitish sandy clay (226), followed by two use layers (224,225) varying from light white to a dark red sandy clays. No finds were present within the fills. Truncating this, was oven **213**, which was sub-rectangular in shape with a concave base. 0.9m in diameter and 0.18m deep. This was filled by several distinct layers of linings (210-212). Within the fill 212 a high abundance of bead

wheat and Great Fen sedge was recovered from the sample. This was overlain by mixed silty clay layers associated with its use (198-201). This was overlain by a mid reddish brown burnt clay (195) which may of acted as capping when the oven went out of use.

3.42 Overlying this was oven **166**, which had a similar circular shape to oven 184 , however the protrusion faced towards the south-west. The oven measured 1.7m in length and 0.2m in depth. The initial use of the oven is represented by a lining fill, 0.02m thick, followed by two layers associated with its use (154,155). This was followed by three further phases of relining and use (151-149,150,147/146-137,138,139/136-134,135). Of note was the pottery recovered from fill 134, being the only finds retrieved from the series of oven deposits. These pottery sherds dated to the 12th to 14th century, which are likely to be residual.

3.43 The latest oven (**113**) in the sequence, which also was had the least truncation and best survival of its super structure. This was sub-circular in shape with a bowl shaped profile (see plate 3), measuring 1.25m in diameter and 0.2m deep. The base of the oven was lined with brick and stone (112), which showed evidence of being subjected to intense heat. The sides of the oven were lined with a mid yellow sandy clay (108), which shows less intense heat. It had a series of three fills, varying between black charcoal and dark red sandy clay, resulting from continued use (95,102,103). No finds were present within the feature. The environmental results showed a high frequency of bread wheat and barley within the fill 112.

Directly to the south of these ovens lay a large shallow pit (**206**), filled with a series of charcoal rich fills (194,196,197,207-209). The pit extended outside of the excavation but was observed to be sub-rectangular in shape with a flat base. The dimensions were 1.4m long, 0.6m wide and 0.12m deep. This was known to originally been cut during the earliest phase of the ovens and may of formed a rake out pit for the firing residue.

Phase 5: Post Medieval AD 1550 - 1800

Group 5.1: Cess and Quarry Pits

3.44 Two large pits were present within the excavation, these are thought to relate to quarrying for the sands and gravel and a secondary use as a cess pit. These are shown in figure 7.

3.45 A large rectangular pit (**193**) extended into the north-eastern edge of site (see plate 4). This was observed to be 2.35m long and 1.85m wide. The sides were vertical where it cut through the natural gravel, however when a previous archaeological fill was encountered the edge of the pit was seen to flatten out and skirt the deposit (see fig 9 for section). The pit was excavated to a depth of 0.7m, however its full depth was not observed, due to concerns over the safety of continuing the excavation. The fact that the cut was observed to ignore non gravel deposits would suggest the function was to quarry for the natural gravel. The pit was filled with a series of dumps containing large quantities of charcoal, pottery and ceramic building material.

3.46 To the south-east of the site lay a large oval pit (**55**) extending into the baulk, its observed length was 1.1m and was 1.6m wide. The pit was excavated to a depth of 0.6m with the sides recorded as being vertical. Excavation was ceased at this point due to possibility of the section edge collapsing. The fill (54) was a dark greenish grey clayey silt with occasional green clay lenses and gravel inclusions.

Group 5.2: Pits and Postholes

3.47 Various pits and postholes dating to the post medieval period are present throughout the excavation, their location is shown in figure 8.

3.48 To the north-west of the site lay pit **80**. This feature is sub-circular in plan with steep sides and a concave base. The exposed length of the pit is 0.81m, however it extended outside of the excavation area, the width was 0.3m and 0.28m deep. It had a single mid brown sandy silt (79) containing a large fragment of post medieval ceramic tile. Truncated by this, was pit **101**. This was sub circular with a U shaped profile, 0.8m wide and 0.08m deep, with a single fill (100) containing residual mid 12th-14th century pottery.

3.49 To the north of the trench lay a posthole (**78**), this was squarish in plan with steep sides and a flat base. It measured 0.25m across and had a depth of 0.14m. This had a single fill (77) resulting from secondary deposition. Immediately to the east a pit (**57**) was excavated, which was circular in shape with a U-shaped profile. Measuring 0.61m in diameter and 0.24m deep, with a single fill (56) containing a sherd of 17th century pottery.

3.50 Posthole **188** was located within area 3, this was oval in shape with a concave profile, measuring 0.62m in diameter and 0.19m deep. It was filled with a dark brownish grey silty sand (187).

3.51 Two further small oval postholes (**119**,**174**) are located within area 3. Both of which are 0.2m in diameter and 0.15m deep, with a U shaped profile. These may be related and due to their small size would relate to a non load bearing function such as a fence line. A scatter of postholes / small pits (**60,62,64,66,68,70,89** and **91**) of similar size and shape extending over an area of 3m², of which no associations are noted. Three metres to the south west lay a further oval posthole (**87**) with a concave profile, measuring 0.36m long, 0.22m wide and 0.2m deep. Further to the south lay another series of postholes (**161,163,165**), which were similar in size and shape, no obvious association are noted between these postholes.

3.52 To the east within area 3 lay a small circular posthole (**168**) 0.25m deep and 0.3m wide, extending into the baulk. The feature had near vertical sides and a concave base, filled by a mid reddish grey silty clay (167) containing residual medieval pottery and post medieval ceramic roof tile. Truncating this posthole was a further pit (**153**), oval in shape with a concave profile. Measuring 0.66m long, 0.47m wide and 0.11m deep. Filled with a mid brownish grey silty sand (152). To the south lay a pit (**106**) extending underneath the modern wall foundations. The pit was circular with a concave profile, measuring 0.8m in diameter and 0.2m deep and was filled with loose brick and mortar rubble (105).

Phase 6: Modern AD 1800 - Present

3.53 Posthole **94** was located within area 3, this was oval in shape with a concave profile, measuring 0.42m long, 0.27m wide and 0.06m deep. It was filled with a light greenish grey clayey sand (93).

3.54 A modern make-up layer (92), 0.1m in depth, was present within area 3. This was truncated by two postholes (**71,98**), both of which circular in shape with vertical sides and a concave base. Measuring 0.35m in diameter and 0.12m deep with a single fill. In

the south-west corner of the trench, two pits (**53,81**) were excavated truncating earlier cess pits. Both of which were oval in shape with a concave base, filled with blue clay. The fill of 53 contained pottery dating to the mid 12th - mid 14th century, which is likely to be residual.

Finds Summary

Metalwork Assemblage (appendix B.1)

3.55 A small assemblage of metal objects, including iron nails, were recovered few of which were datable. The assemblage also consisted of several copper alloy artefacts associated with domestic use, though these were not closely datable.

Pottery Assemblage (appendix B.2)

3.56 A moderate Post-Roman assemblage of 377 sherds, weighing 7.665kg were retrieved during the excavations. This assemblage mainly represent domestic occupation and the disposal of rubbish along with the use of the ovens during the Late Medieval period.

Brick and Tile Assemblage (appendix B.3)

3.57 A small to medium assemblage of brick and tile comprising 166 fragments (23.733kg) were found in the excavation. The assemblage was recovered from several pits and postholes, with the earliest dating to the 14th -15th century.

Environmental Summary

Faunal Assemblage (appendix C.1)

3.58 Finds retrieved included a small assemblage of animal bone. A total of 56 “countable” bones were recovered which represents general occupation waste

Shell Assemblage (appendix C.2)

3.59 A small assemblage of 0.7Kg of marine shell was recovered from twelve contexts during excavations, The presence and small quantity of the marine shell indicates that this assemblage resulted from the domestic consumption.

Environmental Assemblage (appendix C.3)

3.60 A total of 46 samples were taken and were submitted for an initial appraisal. The samples were taken from features such as ovens, pits, and postholes from multiple phases. The charred plant remains are dominated by cereals, the most common of which, was bread wheat would have been used for human consumption in the form of bread or soup. The weed species were dominated by the presence of Saw sedge, which was one of the major vegetation types of the Fen and was commonly used as fuel. Other evidence of burning is from the charcoal fragments occurring in most of the

samples. The assemblage encountered suggest site specific activities relating to bread making and grain drying.

4 Discussion and Conclusions

Introduction

4.1 During the evaluation stage, the Geotech pits only allowed for small interventions, which allowed the presence of archaeological deposits to be established. However interpretation of their wider significance was limited as the full extent was not clear. Therefore the discussion will focus on the results of the evaluation trench and excavation phase.

4.2 The archaeological remains can be attributed to six phases spanning from the Saxon period to the present day. These phases are described separately, where they are put into context with the broader development of St Ives.

Flooding Deposits

4.3 Two layers of river silts (111, 250) were revealed on site. These are likely to have covered the whole excavation but have been truncated by later activity. There is no historical documentary evidence for flooding, but given its height of 6.4m OD and the proximity of the river Ouse, the site is likely to have suffered from several episodes of significant flooding in the past. No dating was present within these layers but it can be stated that these floods happened before the medieval period.

Phase 1: Saxon

4.4 The earliest phase of occupation from the site is likely to have been in the Early to Mid Saxon period, this can be attested to by the recovery of six sherds of pottery. There were no features or deposits that can be attributed to this period, however this is probably due to the high level of truncation present at later times.

4.5 Given its proximity to the main settlement in the Saxon period 200m to the west near modern day Broadway. It is likely that domestic activity was occurring on this site, though evidence to support this is scarce.

Phase 2: Medieval Period

1.1 The first phase of activity on site that is clearly represented by archaeological remains dates to the medieval period. This activity can be seen largely by the digging of small to medium sized pits, the pottery ranges were to broad to suggest any sub-phases, within this period. Several pits are recorded that have similar in size, profile and fill (**83**, **85**, **203**, **217**, **233**, **239**, **249**, **252**, **254**) although it is difficult to say with certainty what the function is, it is likely given the greenish hue to the fills that they may of acted as cess pits. These pits are mainly concentrated in two area of the site, to the south-west and the north-west.

4.6 Two further pits (**104**, **154**) were revealed in the south-west corner of the excavation area. These were both squarish in shape with steep sides. The fills contained burnt materials which the environmental results showed the presence of charred barley and

wheat grains. It is possible that these pits may of acted as small scale rubbish pits for the disposal of domestic waste.

1.2 To the north of the excavation area two pits (**231** and **245**) were recorded which were distinct in form and likely function. The fills and incorporation of refuse suggest that they acted as middens for the disposal of domestic waste. It is possible that these pits may of originally been used dug as extraction pits to quarry the natural gravels, however there is no evidence to confirm this or which function was of primary importance.

1.3 Possible structural remains were present within the excavation area, though given the high degree of truncation caused by later activity any definite structures are difficult to ascribe. Theses included a large posthole (**241**) located in the centre of the excavation. The size suggests that it would of been capable of holding a load bearing post. However this posthole is the only one of that type that was revealed during excavation, so it is not possible to construct a structure at present.

4.7 Two postholes (**159**, **219**) are present within area 3, which are both similar in size and shape, these are separated by 1.5 metres. given the small size of these postholes it is unlikely that they would of held posts that were load bearing, however these could of been part of an internal division of the land, such as a fenceline. The size and depth of the postholes means that any further postholes were likely to have been truncated, so it is difficult to say with certainty if this did form a division.

4.8 Further evidence for possible structures can be interpreted from the presence of possible beam slots. one (**215**) is present within area 3 aligned north-east to south-west, and is relatively substantial, however there is no evidence of an associated feature.

1.4 To the north, there are two beamslots within close proximity. one (**205**) is aligned north-west to south-east and the other one (**237**) running perpendicular to the north-west. It is possible that these may have been contemporary and related. It is likely that these were not substantial building, but represented little more than a shed or small outbuilding.

4.9 During the medieval period the site would of fallen between the main market street to the south and 'back lane' to the north, thought to be the edge of the settlement. These were partitioned into tenements for individual settlement.

4.10 The archaeology that has been encountered would be conclusive with this setting. Although no domestic structure relating to housing was uncovered this would of fallen to the south of the excavation area. The majority of the pits and middens would have occurred within the backyard of the property, being used as a area to dispose of domestic waste.

4.11 This land would commonly have been used for 'cottage' industries, such as further down East street where evidence for tanning was present (Fletcher, 2009). however no evidence for specific industries have been recovered from this site, suggesting a purely domestic dwelling at this time.

Phase 3: Late Medieval

4.12 Two layers were present on site, although heavily truncated by later activity. These are representative of the site having gone out of use and the result of gradual accumulation.

4.13 The town was known to have declined in population and activity around the time of the black death, where the reported toll was a third of the population. The presence of these disuse layers within the excavation would suggest a hiatus of settlement which can be dated to around the period of the black death. A similar decline in activity was noted in the 14th century further along East street at the Bowd Engineering works (Fletcher, 2009)

Phase 4: Late Medieval

4.14 After a period of disuse occupation of the site resumes during the Late Medieval period, whereby the nature of activity on site changes, becoming used for the production of bread, which may of formed a a small cottage industry concern. The sudden change in occupation type with communal ovens being constructed within the tenement could suggest a change in ownership. This is represented by the presence of a series of ovens.

4.15 The ovens (**51**, **113**, **131**, **166**, **184**, **213** and **227**) were dug within close proximity to each other, little evidence of exact dating was recovered and what was found is likely to be residual in nature. The long sequence of ovens suggests continual use over a relatively long time with one acting as a replacement to the older one when the oven became damaged or collapsed.

4.16 The environmental results from the fills show a abundance of whole cereal grains with a predominance of wheat, which is expected given the late medieval date. however a high frequency of agricultural weed seeds were recovered as well. It is likely that these ovens would have been used for both bread making and some small scale grain parching. The environmental results show that a high frequency of saw sedge nutlets wee present which would of provided an easily accessible fuel for the ovens. Direct comparisons can be made with ovens found in Stafford, although of an earlier date show similarities in the environmental results (Moffett, 1994).

4.17 The ovens comprise of three distinct groups based on their shape and construction type, with the earlier ovens (**227**, **213**) being more circular in shape and with no obvious flue. This may this lack of a flue may be the result of truncation by later activity or by construction design. The second type of oven (**131**,**166**,**184**) have a circular chamber with a flue which faces towards the south-west. both of these construction types would of had a clay lined base. The third type of oven (**113**) shows a very different construction, being circular in shape and lined with red brick and stone rather than clay.

4.18 Only the latest oven can be securely dated to 14 to 15th century by typology of the brick used to line the oven. It is likely that the earlier ovens would have been in use for around ten years before they were rebuilt. Given the change in construction type of the last oven, which may of meant that it was feasible for a longer time span, the complex could of functions as a source of bread for up to a century, at some time between 1300 and 1500.

4.19 The construction of the ovens with the flue/protrusion facing south-west towards the the rake out pit (**206**). Along with the fact that there is no second chamber, though this

could be the result of truncation, that the a fire was first lit within the oven chamber. When it had reached temperature the ashes were raked out, and the bread was placed to cook in the residual heat. This is similar in design to the bakehouses excavated in West Cotton, Raunds (Chapman, 2010).

4.20 There is no evidence that the earlier ovens, before **113**, contained any brick or stone lining. It is possible that this new construction technique was put in place due to economic concerns. A more substantial lining would make the oven more durable and longer lasting, it may also improve the quality of the bread being cooked, as a brick lined oven will have a more even heat. This would suggest that the community that the oven was serving was slightly higher in number, making the upfront cost of construction economically viable.

4.21 The tenement plot would of faced onto the market street, which would be an ideal location to make the bread ovens a more commercially orientated venture with their products being sold at the market. This may explain the why so much cost was put into the construction and its economic viability. Historical documents show that the tenements would of been subject to copyhold payments, paying a yearly fine or service in kind as part of there rent. (Redstone, 1974, p 216), in return to hold the right to sell their products at the market.

4.22 A similar abrupt change in settlement pattern from the cess pits during the medieval period towards the bread ovens of the Late Medieval period was seen in Waldon house, Huntingdon. Showing that both towns experience similar changes in market forces due to population fluctuations.

4.23 No evidence for the human produced waste, associated with domestic settlement has been found from the phase associated with the ovens, other than a very small assemblage of pottery and animal bone. This is unusual given its setting within a town during the Late Medieval period. This maybe because the waste is being transported elsewhere of site, to be disposed of. This may be due to the introduction of communal rubbish collections / dumps, known as 'night-soil collection' which is a common feature during this time in many medieval towns. However there is no similar decease in assemblages from other excavations in St Ives, which may suggest that it is specific to this site alone. It is unclear whether this type of waste was not been produced on site or that it is being collected. Though it is likely that the specialised nature of the site as a bakehouse would mean that the site was clear of domestic refuse.

To the north of the oven complex, pit **142** was dug into the natural, again possibly its original use was for gravel extraction. Its primary use, which is suggested by the series of greenish, slightly mineralised in nature fills, was as a cess pit. to the north of the pit there was a small posthole present which could of been contemporary and may of formed a timber structure, such a guardrobe over the top of the fill.

4.24 The dating retrieved from the ovens and cess pit is too broadly dated to be able to say if they were contemporary, but given the lack of cereal grains within the pit fills it would suggest that they were open at different times.

Phase 5: Post Medieval

4.25 The post medieval period shows a continuation of small scale activity on site, but an end to the small scale semi-industrial baking. Evidence for occupation lies with two large pits (**55** and **193**) being dug, again there original use was probably to extract the natural gravel and then reused as cess pits.

4.26 There are several small pits and possible postholes located within the excavation area, mainly clustered to the centre, however given the lack of precise dating and no obvious associations between each one, no direct function could be prescribed to them.

4.27 There was no evidence of a layer or debris related to the known fires in 1680 and 1689 that swept through St Ives. Further down East Street heavily vitrified brick and slag was recovered thought to date to this event, so it is believed that the fire would of affected the site. There is however, little occupation associated with the period after the fire, suggesting that this part of St Ives would of suffered a decline in occupation, when settlement became focused elsewhere.

4.28 Pettis' survey of 1728 show the land to be divided into strips with the domestic dwelling facing on the market square, with agricultural fields on the land behind.

Phase 6: Modern Period

4.29 Modern disturbance was present to the north of the site, located mainly within the evaluation trenches. These comprised of substantial quarry pits, which would of truncated most of the earlier archaeological features.

Significance

4.30 Investigations at East Street have revealed a good example of a tenement plot surviving in the centre of this historic town, with domestic activity attributed by the presence of middens and cess pits relating to the medieval period. This site has provided an opportunity to identify the change in occupation to a more commercial enterprise in the Late 15th century and also the chance to link it to events and periods of growth and decline in the town.

4.31 The site fits in well with other investigations nearby and adds to the understanding of St Ives from the 12th century onwards.

Appendix A. Context Inventory

Contexts						
Context No	**Category**	**Cut**	**Feature Type**	**Width (m)**	**Depth (m)**	**Phase / Group**
1	fill	17	pit	0.6	0.6	
2	layer		layer		1.2	
3	void		void			
4	fill	5	pit	1.6	0.7	
5	cut	5	pit	1.6	0.7	
6	fill	7	pit	0.62	0.38	
7	cut	7	pit	0.62	0.38	
8	fill	9	posthole	0.4		
9	cut	9	posthole	0.4		
10	layer		layer	0.8		
11	fill	16	pit	1.6		
12	cut	12	posthole	0.26	0.21	
13	fill	12	posthole	0.26	0.21	
14	cut	14	pit	15	2	
15	fill	14	pit	15	2	
16	cut	16	pit	1.6		
17	cut	17	pit	0.6	0.6	
18	fill	19	pit	7	1	
19	cut	19	pit	7	1	
20	cut	20	pit	0.81	0.15	4.2
21	fill	20	pit	0.81	0.15	4.2
22	layer		layer	0.6	1.4	
23	layer		layer	0.6	0.1	
24	layer		layer	0.6	0.7	
25	layer		layer	0.6	0.5	
26	masonary		wall	0.6	0.3	
27	layer		layer	1.6	0.3	
28	layer		layer	1.6	0.1	
29	layer		layer	1.6	0.6	
30	layer		layer	1.6	0.1	
31	layer		layer	2	0.3	
32	layer		layer	2	0.3	
33	layer		layer	2	0.9	
34	layer		layer	0.65	0.6	
35	layer		layer	0.65	0.4	
36	layer		layer	0.65	0.6	
50	fill	51	pit	0.85	0.23	4.2
51	cut	51	pit	0.85	0.23	4.2
52	fill	53	pit	0.4	0.3	6
53	cut	53	pit	0.4	0.3	6
54	fill	55	pit	1.6	0.6	5.1
55	cut	55	pit	1.6	0.6	5.1
56	fill	57	posthole	0.55	0.24	5.2
57	cut	57	posthole	0.35	0.35	5.2

58	layer		layer	0.87	0.02	
59	fill	60	posthole	0.52	0.19	5.2
60	cut	60	posthole	0.52	0.19	5.2
61	fill	62	posthole	0.47	0.22	5.2
62	cut	62	posthole	0.47	0.22	5.2
63	fill	64	pit	0.45	0.18	5.2
64	cut	64	pit	0.45	0.18	5.2
65	fill	66	pit	0.4	0.11	5.2
66	cut	66	pit	0.4	0.11	5.2
67	fill	68	posthole	0.24	0.12	5.2
68	cut	68	posthole	0.24	0.12	5.2
69	fill	70	posthole	0.31	0.04	5.2
70	cut	70	posthole	0.31	0.04	5.2
71	cut	71	posthole	0.38	0.08	6
72	fill	71	posthole	0.38	0.11	6
73	cut	73	tree throw	0.5	0.04	
74	fill	73	tree throw	0.5	0.04	
75	layer		make-up	0.8	0.15	3
76	fill	81	pit	0.4	0.15	6
77	fill	78	posthole	0.26	0.14	5.2
78	cut	78	posthole	0.26	0.14	5.2
79	fill	80	pit	0.3	0.28	5.2
80	cut	80	pit	0.3	0.28	5.2
81	cut	81	pit	0.8	0.15	6
82	fill	83	pit	0.7	0.2	2.1
83	cut	83	pit	0.7	0.2	2.1
84	fill	85	pit	1	0.4	2.1
85	cut	85	pit	1	0.4	2.1
86	fill	87	posthole	0.22	0.1	5.2
87	cut	87	posthole	0.22	0.1	5.2
88	fill	89	pit	0.48	0.04	5.2
89	cut	89	posthole	0.48	0.06	5.2
90	fill	91	posthole	0.25	0.04	5.2
91	cut	91	posthole	0.25	0.04	5.2
92	layer		make-up	1.3	0.1	6
93	fill	94	posthole	0.27	0.04	6
94	cut	94	posthole	0.27	0.04	6
95	fill	113	oven	0.85	0.05	4.2
96	fill	104	pit	0.5	0.05	2.1
97	fill	104	pit	0.5	0.1	2.1
98	cut	98	posthole	0.36	0.32	6
99	fill	98	posthole	0.36	0.32	6
100	fill	101	pit	0.8	0.08	5.2
101	cut	101	pit	0.8	0.08	5.2
102	fill	113	oven	0.66	0.01	4.2
103	fill	113	oven	0.8	0.07	4.2
104	cut	104	pit	0.5	0.15	2.1
105	fill	106	pit	0.4	0.2	5.2
106	cut	106	pit	0.4	0.2	5.2
107	layer		make-up	1.4	0.2	

108	fill	113	oven	0.18	0.16	4.2
109	cut	109	disturbance	0.36	0.06	
110	fill	109	disturbance	0.36	0.06	
111	layer		flooding	1.4	0.2	
112	masonry	113	oven	0.76	0.07	4.2
113	cut	113	oven	1.12	0.2	4.2
114	cut	114	disturbance	0.7	0.04	
115	fill	114	disturbance	0.7	0.04	
116	void		void			
117	fill	142	pit	1.4	0.3	4.1
118	fill	119	posthole	0.21	0.15	5.2
119	cut	119	posthole	0.21	0.15	5.2
120	fill	131	oven	0.37	0.07	4.2
121	fill	131	oven	1	0.07	4.2
122	fill	131	oven	0.86	0.01	4.2
123	fill	131	oven	0.98	0.03	4.2
124	fill	142	pit	1.2	0.4	4.1
125	fill	142	pit	1.4	1.2	4.1
126	fill	131	oven	0.26	0.01	4.2
127	fill	131	oven	0.12	0.06	4.2
128	cut	128	disturbance	1.11	0.25	
129	fill	128	disturbance	1.11	0.18	
130	fill	128	disturbance	1.11	0.07	
131	cut	131	oven	1.05	0.16	4.2
132	fill	133	disturbance	0.72	0.03	
133	cut	133	disturbance	0.72	0.03	
134	fill	166	oven	0.5	0.1	4.2
135	fill	166	oven	0.45	0.01	4.2
136	fill	166	oven	0.9	0.05	4.2
137	fill	166	oven	0.44	0.03	4.2
138	fill	166	oven	0.42	0.01	4.2
139	fill	166	oven	0.3	0.03	4.2
140	fill	142	pit	0.8	0.4	4.1
141	fill	142	pit	1.4	1	4.1
142	cut	142	pit	1.4	1	4.1
143	fill	157	pit	0.15	0.2	2.1
144	fill	156	pit	0.6	0.4	4.1
145	fill	148	disturbance	0.26	0.07	
146	fill	166	oven	1.4	0.08	4.2
147	fill	166	oven	0.56	0.01	4.2
148	cut	148	disturbance	0.26	0.07	
149	fill	166	oven	0.46	0.01	4.2
150	fill	166	oven	0.56	0.01	4.2
151	fill	166	oven	0.6	0.02	4.2
152	fill	153	pit	0.47	0.11	5.2
153	cut	153	pit	0.47	0.11	5.2
154	fill	166	oven	0.87	0.03	4.2
155	fill	166	oven	0.53	0.11	4.2
156	cut	156	pit	0.6	0.4	4.1
157	cut	157	pit	0.15	0.2	2.1

158	fill	159	posthole	0.3	0.2	2.2
159	cut	159	posthole	0.3	0.2	2.2
160	fill	161	pit	0.7	0.1	5.2
161	cut	161	pit	0.7	0.1	5.2
162	fill	163	pit	0.35	0.04	5.2
163	cut	163	pit	0.35	0.04	5.2
164	fill	165	pit	0.6	0.15	5.2
165	cut	165	pit	0.6	0.15	5.2
166	cut	166	oven	0.9	0.2	4.2
167	fill	168	posthole	0.33	0.25	5.2
168	cut	168	posthole	0.33	0.25	5.2
169	fill	166	oven	0.7	0.02	4.2
170	layer		make-up	2.3	0.25	3
171	fill	172	disturbance	0.48	0.03	
172	cut	172	disturbance	0.48	0.03	
173	fill	174	posthole	0.17	0.15	5.2
174	cut	174	posthole	0.17	0.15	5.2
175	fill	184	oven	0.42	0.05	4.2
176	fill	177	disturbance	1.57	0.03	
177	cut	177	disturbance	1.57	0.03	
178	fill	184	oven	0.3	0.01	4.2
179	fill	184	oven	0.63	0.04	4.2
180	fill	184	oven	0.57	0.02	4.2
181	fill	184	oven	1.3	0.04	4.2
182	fill	184	oven	1.12	0.06	4.2
183	fill	184	oven	1.14	0.07	4.2
184	cut	184	oven	1.14	0.22	4.2
185	fill	186	disturbance	0.62	0.19	
186	cut	186	disturbance	0.62	0.19	
187	fill	188	posthole	0.29	0.07	5.2
188	cut	188	posthole	0.29	0.07	5.2
189	fill	193	pit	1.85	0.2	5.1
190	fill	193	pit	1.85	0.25	5.1
191	fill	193	pit	1.85	0.2	5.1
192	fill	193	pit	1.85	0.6	5.1
193	cut	193	pit	1.85	0.7	5.1
194	fill	206	pit	0.8	0.05	4.2
195	fill	213	oven	0.68	0.11	4.2
196	fill	206	pit	0.4	0.06	4.2
197	fill	206	pit	0.7	0.05	4.2
198	fill	213	oven	0.21	0.02	4.2
199	fill	213	oven	0.78	0.02	4.2
200	fill	213	oven	0.54	0.01	4.2
201	fill	213	oven	0.47	0.1	4.2
202	fill	203	pit	0.95	0.26	2.1
203	cut	203	pit	0.95	0.26	2.1
204	fill	205	pit	0.35	0.15	2.2
205	cut	205	pit	0.35	0.15	2.2
206	cut	206	pit	2	0.15	4.2
207	fill	206	pit	2	0.05	4.2

208	fill	206	pit	0.8	0.08	4.2
209	fill	206	pit	0.6	0.12	4.2
210	fill	213	oven	0.7	0.11	4.2
211	fill	213	oven	0.26	0.12	4.2
212	fill	213	oven	0.26	0.12	4.2
213	cut	213	oven	0.9	0.18	4.2
214	fill	215	beam slot	0.45	0.05	2.2
215	cut	215	beam slot	0.45	0.05	2.2
216	fill	217	pit	0.8	0.06	2.1
217	cut	217	pit	0.8	0.06	2.1
218	fill	219	posthole	0.2	0.04	2.2
219	cut	219	posthole	0.2	0.04	2.2
220	fill	231	pit	1.2	0.23	2.3
221	fill	231	pit	1.2	0.07	2.3
222	fill	231	pit	1.2	0.55	2.3
223	fill	231	pit	1.2	0.24	2.3
224	fill	227	oven	0.51	0.04	4.2
225	fill	227	oven	0.52	0.01	4.2
226	fill	227	oven	1.14	0.1	4.2
227	cut	227	oven	1.14	0.12	4.2
228	fill	229	pit	0.44	0.25	2.1
229	cut	229	pit	0.41	0.25	2.1
230	layer		oven	0.6	0.05	4.2
231	cut	231	pit	1.2	1.05	2.3
232	fill	233	posthole	0.5	0.08	2.1
233	cut	233	posthole	0.5	0.08	2.1
234	fill	235	posthole	0.3	0.28	2.2
235	cut	235	posthole	0.3	0.28	2.2
236	fill	237	posthole	0.3	0.09	2.2
237	cut	237	posthole	0.3	0.09	2.2
238	fill	239	pit	0.48	0.09	2.1
239	cut	239	pit	0.48	0.09	2.1
240	fill	241	posthole	1.2	0.74	2.2
241	cut	241	posthole	1.2	0.74	2.2
242	layer		make-up	2.9	0.2	3
243	fill	246	pit	1.4	0.48	2.3
244	fill	246	pit	1.6	0.46	2.3
245	fill	246	pit	1.38	0.11	2.3
246	cut	246	pit	1.6	0.92	2.3
247	fill	249	pit	1.2	0.2	2.1
248	fill	249	pit	1.2	0.25	2.1
249	cut	249	pit	1.2	0.3	2.1
250	layer		flooding	3	0.15	
251	fill	252	pit	0.8	0.23	2.1
252	cut	252	pit	0.8	0.23	2.1
253	fill	254	pit	0.5	0.15	2.1
254	cut	254	pit	0.5	0.15	2.1

APPENDIX B. FINDS REPORTS

B.1 Small Finds Catalogue

By Chris Faine

1.1 SF **1** (Context 11): Copper alloy ring.

SF **2** (Context 10): Copper alloy button. Composite type. Plain. Late 13th to 15th Centuries.

SF **10** (Context 207): Unidentified copper alloy fragment.

SF **12** (Context 243): Copper alloy forked spacer from a composite oval type buckle. Mid-Late 14th Century.

SF **13** (Context 243): Unidentified iron object. Possibly blade fragment.

SF **15** (Context 243): x 6 square section iron nails.

SF **17** (Context 242): Unidentified iron fragment.

SF **18** (Context 244): Iron nail

SF **19** (Context 13): Iron Nail

SF **20** (Context 245): Unidentified folded copper alloy sheet. Possible vessel handle?

Worked Bone

1.2 SF **16** (Context 245). Bone net needle. Length: 15.6cm. Max width: 2.75cm. Made from the distal end of a cattle metapodial, parallels have been found in a 13/1th Century context from Market Mews, Wisbech (Faine, 2012) and an unphased context from Norwich (Margeson, 1993).

B.2 Pottery

By Carole Fletcher

Introduction

B.2.1 Excavation at East Street, St Ives, Cambridgeshire, produced a moderate post-Roman pottery assemblage of 377 sherds, weighing 7.665kg. This total includes material from the evaluation, unstratified material and un-phased contexts. Unstratified material and pottery recovered from un-phased contexts have been excluded from the analysis of the assemblage within this report, however these are recorded in the pottery catalogue.

B.2.2 For the purpose of this report the total phased and stratified assemblage is 336 sherds, weighing 5.223kg.

B.2.3 A small number of Middle Saxon and Early Medieval sherds were recovered indicating some occupational activity on or close to the site in these periods. The majority of the stratified assemblage is medieval, suggesting the main phase of activity was the mid 12th to mid 14th century. A moderate number of mid 14th to late 15th century sherds were also recovered, alongside a number of post medieval sherds. The condition of the overall assemblage is moderately abraded and the average sherd weight is small to moderate at approximately 16g.

Methodology

B.2.4 The Medieval Pottery Research Group (MPRG) *A Guide to the Classification of Medieval Ceramic Forms* (MPRG, 1998) and *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics* (MPRG, 2001) act as a standard.

B.2.5 Recording was carried out using OA East's in-house system based on that previously used at the Museum of London. Fabric classification has been carried out for all previously described medieval and post-medieval types. All sherds have been counted, classified and weighed on a context-by-context basis.

B.2.6 The pottery and archive are curated by Oxford Archaeology East until formal deposition.

Sampling Bias

B.2.7 The excavation was carried out by hand and selection made through standard sampling strategies on a feature by feature basis. There are not expected to be any inherent biases. Where bulk samples have been processed for environmental remains, there has also been some recovery of pottery. These small quantities of sherds have been incorporated into this report.

The Assemblage

B.2.8 Ceramic fabrics, abbreviations and a summary catalogue by fabric, sherd count and weight for the phased and stratified assemblage are given in Table 1.

Fabric Name	No. Sherds	Weight (kg)
Brill-Boarstall Ware	7	0.037
Colne Late Medieval Ware	22	0.650
Colne Transitional Ware	1	0.067
Colne Type Ware from Caxton and Bourn	9	0.144
Developed St Neots Type Ware	9	0.116
Developed Stamford Ware	5	0.044
East Anglian Redware	8	0.104
Frechen Stoneware	1	0.148
Grimston Type Ware	56	0.882
Huntingdon Late Medieval Calcareous Ware	1	0.010
Huntingdonshire Early Medieval Ware	2	0.008
Huntingdonshire Fen Sandy Ware	59	0.643
Huntingdonshire Fen Sandy Ware/Huntingdon Late Medieval Calcareous Ware	2	0.076
Late Medieval Ely Ware	27	0.270

Fabric Name	No. Sherds	Weight (kg)
Late Medieval Grimston Type Ware	1	0.007
Lyveden A Type Shelly Ware	2	0.016
Lyveden-Stanion Glazed Ware	16	0.416
Medieval Ely Ware	34	0.641
Medieval Ely Ware/Late Medieval Ely Ware	1	0.011
Oolitic Shelly Ware	2	0.024
Peterborough Shelly Ware	3	0.027
Post-medieval Black Glazed Ware	2	0.016
Post-medieval Redware	3	0.207
Sandy Shelly Ware	2	0.015
Handmade Early-Middle Saxon Fabrics Sandstone Tempered Ware	6	0.077
Shelly Ware	1	0.014
Siegburg Stoneware	1	0.002
Unglazed Grimston-Blackborough End Type Ware	41	0.385
Unprovenanced Glazed wares	1	0.003
Unprovenanced wares	11	0.163

Table 1. Summary by fabric, sherd count and weight for the stratified assemblage

Pottery by Period

B.2.9 Six sherds of hand-made, Early-Middle Saxon sandstone tempered coarsewares, as identified and described by Dr Paul Spoerry, were recovered as a residual element from late medieval layers. The pottery is all reduced and coarsely tempered, with either rough or partially smoothed surfaces. The inclusions are principally sandstone (quartz grains and cemented quartz grains) occasionally with some calcareous inclusions. Pottery with similar inclusions is known from Hinxton Hall, and possibly Willingham High St, and in both cases the general date is probably late 6th-late 8th century. The inclusions are probably glacially derived (originally from sources in northern and eastern England) and are found in drift geology across large parts of this region. The sherds are relatively unabraded and may indicate some Early-Middle Saxon activity in the vicinity of the excavation.

B.2.10 A small number of Late Saxon-early medieval pottery was recovered from unphased contexts. Early Medieval fabrics form less than 0.2% of the stratified assemblage by weight, represented by two sooted, Huntingdonshire Early Medieval Ware jar sherds.

B.2.11 Medieval fabrics form the bulk of the pottery recovered, comprising 252 sherds weighing 3.510kg, approximately 67% of the total assemblage by weight. The largest group of sherds by weight are, Grimston type vessels from Norfolk, almost entirely jug sherds. By sherd count the largest group is Huntingdonshire Fen Sandy Ware, by weight the fabric is the second largest group. Followed by Medieval Ely Ware with a mixture of glazed and unglazed jugs, unglazed jars and some glazed bowls. From Northamptonshire, Lyveden-Stanion Glazed Ware jugs are also present, alongside Unglazed Grimston-Blackborough End Type Ware. Small numbers of other medieval wares are present including Colne Type Ware from Caxton and Bourn, described recently by Dr Paul Spoerry (Spoerry forthcoming), Developed St Neots Type Ware, Brill-Boarstall Ware and a small number of sherds tentatively identified as Peterborough Shelly Ware (Spoerry forthcoming).

B.2.12 Three sherds were were identified as being transitional between high medieval and late medieval. Two of the sherds are from a Grimston dripping dish, and although these sherds are not a cross-join they were recovered from the same feature, pit **246** and appear to be the same vessel. The third sherd is a small fragment from an imported Siegburg Stoneware vessel. Siegburg Stoneware from the German Rhineland appears early in the 14th century and continues in production well into the 16th century. Early vessels are plain and utilitarian, becoming more highly decorated with relief-moulded decoration popular by the 16th century. The sherd is too small to date closely, however it is most likely later medieval.

B.2.13 In contrast, only 66 sherds of late medieval pottery were identified, approximately 21% of the stratified assemblage by weight. A third of this late medieval assemblage comprises 22 sherds (0.650kg) of Colne Late Medieval Ware, 18 sherds of which were recovered from from pit **93**. Also present are 26 sherds of Late Medieval Ely Ware and a single sherd from a Huntingdon Late Medieval Calcareous Ware bowl.

B.2.14 Seven sherds of post-medieval pottery were identified in the stratified assemblage, forming approximately 8% of the assemblage by weight. These include two sherds of Post-medieval Black Glazed Ware, three sherds of Post-medieval Redware and a large body sherd from a Frechen Stoneware drinking jug. The post-medieval assemblage is unrepresentative of the period as much of the material of this date recovered from the site was from unphased contexts.

Assemblage

B.2.15 The site was divided into six phases/groups. These phases and groups are relatively small and only suitable for limited statistical analysis, therefore an overall summary of the phases is offered before discussing the assemblage in relation to excavated features.

Phase	**No. Sherds**	**Weight (kg)**	**Group**	**No. Sherds**	**Weight (kg)**	**% of stratified assemblage by weight kg**
Phase 2	230	3.340	2.1	39	0.540	10.3
			2.2	2	0.017	0.3
			2.3	183	2.783	53.3
Phase 3	29	0.329				6.3
Phase 4	43	0.402	4.1	7	0.106	2.0
			4.2	36	0.296	5.7
Phase 5	31	1.096	5.1	23	0.887	17.0
			5.2	8	0.209	4.0
Phase 6	3	0.056	0			1.1

Table 2: Pottery assemblage by stratigraphic phase

Residuality and Intrusiveness

B.2.16 The level of intrusiveness in Phase 2 may be artificially high. The excavator has assigned pits **104**, **231** and **246** to Phase 2 and all of these features contain Later medieval pottery. While the sherds in **104** and **231** could be intrusive or represent late medieval infilling or sealing of the features, the three fills of pit **246** that produced pottery contained a significant number of late medieval sherds - 41 sherds from a total of 148 sherds or 22% by weight of the total assemblage of pit **246**. High levels of intrusiveness in medieval phases was a problem in the evaluation assemblage from the Bowd Engineering Work Site evaluation and subsequent excavation revealed that much

of the medieval pottery recovered was actually redeposited within post-medieval features (Fletcher 2009). It appears that here, reworking or sealing of features has incorporated later material into the upper layers of what otherwise appear to be a medieval feature. The upper fills of pit **246** relate to late medieval infilling rather than use.

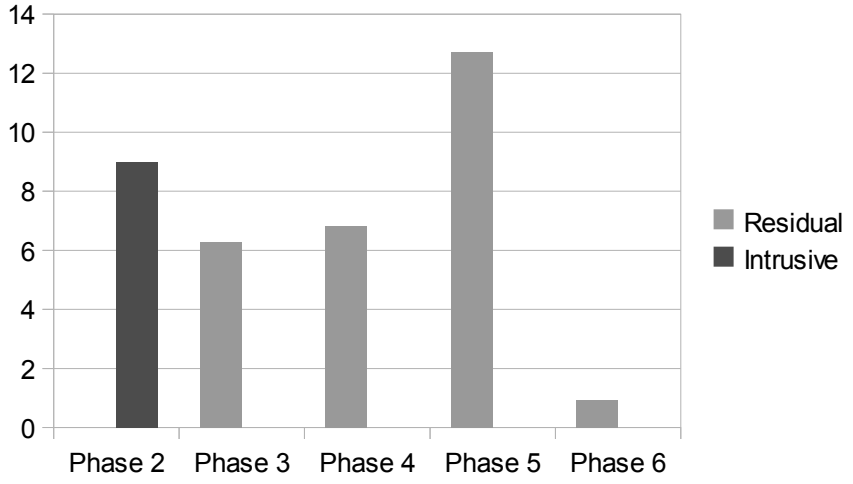

Figure 10: Residuality and intrusiveness as percentage of total assemblage by weight (kg)

B.2.17 Levels of residuality are moderate in relation to the percentage of the total assemblage however for some phases this represents most of the pottery recovered. This is the case with both Phase 4 and 6 and the entire assemblage of Phase 3 (see figure 10).

Provenance

B.2.18 The information detailing the statistics for the supply of pottery have been simplified to provide a clear picture of the generalised supply of pottery. Overall, fabrics from Cambridgeshire form the bulk of the assemblage with 48% of the total assemblage by weight, Norfolk fabrics form almost 25% and the rest of the assemblage being made up of small numbers of sherds from the surrounding countries including Buckinghamshire, Northamptonshire and a very small number of imports.

B.2.19 The provenance of the assemblage does demonstrate change across the phases. In Phase 2 local products from Cambridgeshire, namely Huntingdonshire Fen Sandy Wares and Ely Wares, are very important, along with other Cambridgeshire fabrics comprising approximately 26% of the total assemblage. Norfolk potteries is the next largest supplier with almost 22% of the assemblage. This relatively large part of the assemblage is divided between Grimston Wares and a small number of Unglazed Grimston-Blackborough End Type sherds. A similar pattern of provenance was seen in the medieval assemblage at the Bowd Engineering Work Site, East Street, although there the Norfolk fabrics for the same period were almost entirely Unglazed Grimston-Blackborough End Type Ware sherds (Fletcher 2009).

B.2.20 The pattern of supply of local pottery repeats in Phases 3 and 4, where much of the material is residual. The earliest imported material, a sherd of Siegburg Stoneware appears in Phase 4, while further imported wares appear in Phase 5 and although the levels of Cambridgeshire fabrics remain relatively high, the supply of fabrics from other regions falls, with Norfolk, alongside Buckinghamshire, Lincolnshire and Northamptonshire, all supplying less than 1% of the assemblage by weight.

Fabric

B.2.21 A large number of different fabrics were identified in the assemblage, as indicated in Table 1, although half of these are represented by fewer than five sherds. The most common fabric by weight in Phase 2 is Grimston Ware, followed by Cambridgeshire fabrics - Ely Ware and Huntingdon Fen Sandy Ware. Other fabrics of note are Lyveden-Stanion Glazed Ware, Unglazed Grimston-Blackborough End Type Ware and a number of intrusive Late Medieval Ely Ware, Colne Late Medieval Ware and Huntingdon Late Medieval Calcareous Ware sherds.

B.2.22 In Phase 3 the residual Saxon and medieval fabrics include a small number of those present in Phase 2, while in addition Developed Stamford Ware and Colne Type Ware are also present. Phase 4 produced a moderate range of fabrics similar to that of Phase 2 and including those present in Phase 3 with the addition of an imported sherd of Siegburg Stoneware.

B.2.23 Late medieval Colne forms the largest group of sherds (18 sherds,. 0.620kg) in Phase 5, alongside a small number of other late medieval sherds and Post-medieval Redware, Blackware and imported Frechen Stoneware. The remainder of the assemblage in this phase are mainly residual medieval sherds.

B.2.24 Phase 6 produced little pottery - a single sherd of Post-medieval Black Glazed Ware and two residual sherds of Huntingdonshire Fen Sandy Ware.

Form

B.2.25 Jugs are the dominant form in the assemblage comprising 43% of the total assemblage by weight, with Grimston jugs the most common with 15.5% of the total assemblage by weight. Jars are the second most common form with 27% of the assemblage by weight with Huntingdon Fen Sandy Ware and Unglazed Grimston-Blackborough End Type Ware forming the bulk of the vessels. A small number of bowls were identified, mainly late medieval Colne vessels and a single Post-medieval Black Glazed Ware drinking vessel was also identified.

B.2.26 The assemblage contains few vessels to which a specific form type could be assigned, with sherds from a single late Grimston dripping dish and a late medieval Colne rounded bowl being the exception. No industrial vessels were identified within the assemblage and approximately 13% of the assemblage could not be assigned a form.

Assemblage in Relation to Phase and Excavated Features.

Phase 1, Saxon.

B.2.27 No Saxon features were identified and the sherds of hand-made, Early-Middle Saxon pottery were all recovered as residual elements from late medieval layers.

Phase 2, Medieval

B.2.28 Phase 2 is divided into three medieval groups. Group 2.1 consists of a series of medieval pits, of which six produced pottery, of these only two produced more than four sherds of pottery. Pit **83** produced 19 sherds of pottery (0.311kg) including a rod handle from a Grimston Type Ware jug, a base sherd from a Developed St Neots Type Ware jar, single sherds from an Ely Ware jar and an Ely Ware jug. The largest group of sherds are from a number of Huntingdonshire Fen Sandy Ware jars including two rim sherds. The context is dated from the 13th-mid 14th century. Pit **85** produced nine sherds of

Huntingdonshire Fen Sandy Ware, including six sherds from several sooted jars. The context is dated from the mid 12th-mid 14th century.

B.2.29 Pit **104** is also placed in Group 2.1, however its fill 97 produced a moderately abraded sherd from a Huntingdon Late Medieval Calcareous Ware bowl. The sherd may be intrusive in the context or represent later infilling and would therefore date this context to the late medieval period (Phase 3).

B.2.30 Group 2.2 is described by the excavator as medieval structural remains, consisting of postholes and beam slots. Of these, only feature **205** produced pottery, a small residual sooted sherd from a Huntingdonshire Early Medieval Ware jar.

B.2.31 Features in Group 2.3 are described as medieval midden features, of these **231** and **246** produced pottery. Feature **231** contained three contexts, 220 which produced 29 sherds, 0.738kg of pottery including eight sherds from an Unglazed Grimston-Blackborough End Type Ware jar, 10 sherds from two Lyveden-Stanion Glazed Ware jugs including a rim and rod handle and six sherds from the base of a Grimston Type Ware jug. Context 222 produced a smaller assemblage of 10 sherds (0.072kg), including Lyveden-Stanion Glazed Ware jug sherds, Huntingdonshire Fen Sandy Ware jar sherds, alongside late medieval sherds, which consist of a single sherd from a late medieval Ely Ware jug and three small sherds from a Colne Late Medieval Ware bowl. These sherds may be intrusive or represent a late medieval phase of infilling of the pit. Context 223 produced only two sherds of medieval Huntingdonshire Fen Sandy Ware.

B.2.32 Three fills from **246** produced the largest assemblage recovered from a single feature during the excavation - 148 sherds weighing 1.964kg. The majority of these are Grimston Type Ware, 43 sherds (0.672kg) from a number of jugs including a rod handle and rim from a single vessel and a small incised sherd possibly from a face jug. Also present is a sherd from a Grimston Ware dripping dish. The second largest group are medieval Ely wares (20 sherds, 0.388kg) of which half of the sherds are from jugs the remainder from jars and bowls. The third largest group are late medieval Ely Ware sherds (26 sherds,0.265kg). Other late medieval sherds include late medieval East Anglian Redwares. Other fabrics present include Huntingdonshire Fen Sandy Ware (17 sherds, 0.183kg), Colne Type Ware from Caxton and Bourn (4 sherds, 0.051kg), two sherds of Lyveden-Stanion Glazed Ware (0.023kg) and a single sherd from a glazed Brill-Boarstall Ware jug.

B.2.33 A significant number of late medieval sherds were recovered from feature **246**, a single sherd from context (243), 16 sherds (0.163kg) from context 244 and 24 sherds from context 245. It is unlikely that all of these sherds are intrusive and that contexts 244 and 243 represent late medieval infilling or levelling and relate to Phase 3 rather than excavation or use in Phase 2.

Phase 3

B.2.34 Phase 3 describes late medieval layers. Of these, 107 produced only sherds of Early-Middle Saxon pottery and 170 produced a number of medieval sherds including Huntingdonshire Fen Sandy Ware, Medieval Ely Ware and Unglazed Grimston-Blackborough End Type Ware. These layers contained only residual pottery.

Phase 4

B.2.35 Phase 4 is divided into two groups. In Group 4.1 a feature described as a late medieval cess pit or midden produced seven sherds of pottery, the majority of which were medieval, including Huntingdonshire Fen Sandy Ware, Colne Type Ware from Caxton

and Bourn, and Developed St Neots Type Ware. A single sherd from an Ely Ware jug is considered transitional (medieval-late medieval) and a sherd from a Colne Late Medieval Ware jar represents the late medieval pottery.

B.2.36 Group 4.2 consists of a series of late medieval ovens, pits and a small number of layers, which produced 36 sherds weighing 0.296kg from nine contexts, almost all of which are residual medieval fabrics.

B.2.37 Three ovens produced pottery. Oven **131** produced a single undiagnostic body sherd of Unglazed Grimston-Blackborough End Type Ware. Oven **166** produced 23 sherds, (0.139kg) from four contexts. Context 154, a layer associated with the use of the oven produced two small Grimston Type Ware jug sherds. The excavator identified further phases of use and relining of this feature and some of these produced pottery. Context 134 produced 14 sherds including 11 sherds of Unglazed Grimston-Blackborough End Type Ware, while 137 and 147 each produced a single sherd of Huntingdonshire Fen Sandy Ware.

B.2.38 Oven **113**, described by the excavator as the latest in the sequence, produced the only contemporary pottery, a single sherd from a 14th-mid 16th century Siegburg Stoneware vessel. The excavator indicates the bricks that lined the oven were 14th to 15th century in date.

B.2.39 This sequence of ovens may have been quite long-lived, however the majority of the pottery recovered is residual.

Phase 5

B.2.40 Phase 5 is also subdivided. From group 5.1, described as post-medieval cess pits and quarries, only a single feature produced pottery. Twenty-three sherds (0.887kg) of pottery were recovered from pit **193**. The majority of these sherds are from a single bowl, forming a partial profile of a Colne Late Medieval Ware vessel. Also present were a small number of Post-medieval Redware sherds, a Post-medieval Black Glazed Ware sherd and a large base sherd from a Frechen Stoneware drinking jug, suggesting that the contexts date from the mid 16th to the end of the 17th century.

B.2.41 Group 5.2, described as post-medieval pits and postholes, produced only eight sherds of pottery weighing 0.209kg from six different features. From pit **101** two residual 13th-mid 14th century sherds were recovered. Pit **153** produced a base sherd from a late medieval-early post medieval (transitional) Colne vessel.

B.2.42 Three postholes produced single sherds of pottery. Posthole **57** contained a strap handle from a Post-medieval Redware jug of 16th century or later date, **91** produced a single small sherd from a Developed Stamford Ware jug and **165** produced a small sooted sherd from an Unglazed Grimston-Blackborough End Type Ware. A final posthole **168** produced two small glazed body sherds, one from a Grimston Type Ware jug the other from a Brill jug.

Phase 6

B.2.43 The excavator describes this phase as modern features, 19th century to present, and two features from this phase produced pottery. Pit **53** produced two residual sherds of medieval Huntingdonshire Fen Sandy Ware and posthole **98** contained a small section of strap handle from a Post-medieval Black Glazed ware drinking vessel.

Conclusion

B.2.44 The presence of Early-Middle Saxon pottery, recovered from late medieval features, suggests some Early-Middle Saxon activity in the vicinity of the site. The small number of Late Saxon-early medieval sherds from phased and unphased contexts also suggests some domestic occupation or rubbish disposition from the mid 11th century onwards close to the area of excavation, although no settlement activity of this date was present.

B.2.45 St Ives lies approximately 9km to the west of Huntingdon, and a prominent role is played by the Huntingdonshire fabrics in the assemblage in the form of medieval Huntingdon Fen Sandy Ware, supplemented by Norfolk Unglazed Grimston-Blackborough End Type Ware, which reached St Ives from Kings Lynn via the Great Ouse. Together these fabrics provided the majority of the day-to-day jar requirements of the domestic assemblage for both cooking and possibly storage. Alongside these, Grimston Ware glazed jugs, present in much greater numbers than the local medieval Ely Ware glazed and unglazed vessels, were used for serving liquids. A small number of other manufactures are also present, including Brill-Boarstall products from Buckinghamshire.

B.2.46 This assemblage differs somewhat from that recovered from the Bowd Engineering Work Site, East Street, where the levels of Huntingdon Fen Sandy Ware were lower and the assemblage was orientated towards the kilns in and around Ely, which lies approximately 27km to the east of St Ives. This difference may relate to small variations in the date of occupation of the two sites, or a personal preference by the purchaser of the ceramics disposed of on the excavated area.

B.2.47 The whole assemblage is broadly domestic in character, and produced a similar, although smaller, range of fabrics and vessels to those seen in the domestic assemblage at the Bowd Engineering Work Site, East Street. These assemblages appears to represent mainly rubbish deposition, probably relating to occupation of burgage plots and the use of the ovens during the late medieval period.

Context	Fabric	Basic Form	Sherd Count	Weight	Assessment date range
2	Post-Medieval Redware	Bowl	4	1.750	16th-19th century
7	Late Medieval Reduced Ware	Jug	2	0.075	Mid 14th-end of 15th century
13	Unglazed Grimston-Blackborough End Type Ware		1	0.006	Mid 12th-mid 14th century
15	Refined White Earthenware	Drinking Vessel	1	0.005	18th century+
	Post-medieval Redware	Bowl	3	0.107	
	Staffordshire Slip Ware	Bowl	1	0.038	
	Staffordshire White Salt Glazed Ware		1	0.001	
	Staffordshire White Salt Glazed Ware	Drinking Vessel	2	0.003	
	Tin Glazed Earthenware	Bowl	6	0.075	
18	Huntingdonshire Fen Sandy Ware	Jar	1	0.017	18th century+
	St Neots Type Ware		1	0.014	
	Post-medieval Black Glazed Ware		1	0.001	

Context	Fabric	Basic Form	Sherd Count	Weight	Assessment date range
	Refined White Earthenware	Drinking Vessel	1	0.005	
21	Bourne D Type Ware		1	0.005	16th century
	Colne Type Ware from Caxton and Bourn		1	0.007	
	Grimston Type Ware	Jug	1	0.003	
52	Huntingdonshire Fen Sandy Ware		2	0.049	Mid 12th-mid 14th century
56	Post-medieval Redware	Jug	1	0.104	17th century+
74	Huntingdonshire Fen Sandy Ware	Jar	1	0.003	Mid 12th-mid 13th century
	Handmade Early-Middle Saxon Fabrics Sandstone Tempered ware		1	0.028	
75	Developed Stamford Ware	Jug	3	0.034	Mid 12th-mid 13th century
	Huntingdonshire Fen Sandy Ware	Jar	1	0.033	
82	Developed St Neots Type Ware		1	0.004	13th-mid 14th century
	Developed St Neots Type Ware	Jar	1	0.026	
	Grimston Type Ware	Jug	2	0.048	
	Huntingdonshire Fen Sandy Ware		1	0.002	
	Huntingdonshire Fen Sandy Ware	Jar	11	0.193	
	Medieval Ely Ware	Jar	1	0.029	
	Medieval Ely Ware	Jug	1	0.005	
	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.004	
84	Huntingdonshire Fen Sandy Ware		4	0.021	Mid 12th-mid 14th century
	Huntingdonshire Fen Sandy Ware	Jar	5	0.083	
90	Developed Stamford Ware	Jug	1	0.003	Mid 12th-mid 14th century
96	Huntingdonshire Early Medieval Ware	Jar	1	0.004	Mid 12th-mid 14th century
	Shelly Ware	Jar	1	0.014	
97	Huntingdon Late Medieval Calcareous Ware	Bowl	1	0.010	Mid 14th-late 15th century
99	Post-medieval Black Glazed Ware	Drinking Vessel	1	0.007	17th century
100	Lyveden A Type Shelly Ware	Jar	1	0.008	Mid 12th-mid 14th century
	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.016	
103	Siegburg Stoneware		1	0.002	14th-mid 16th century
107	Handmade Early-Middle Saxon Fabrics Sandstone Tempered ware		4	0.046	5th-mid 9th century
115	Bourne D Type Ware		1	0.003	13th-mid 14th century if Bourne D intrusive.
	Grimston Type Ware		1	0.160	
	Medieval Ely Ware	Bowl	1	0.034	
117	Colne Late Medieval Ware	Jar	1	0.017	Mid 14th-late 15th century
	Colne Type Ware from Caxton and Bourn	Jar	1	0.024	
	Huntingdonshire Fen Sandy Ware	Jar	1	0.018	
121	Unglazed Grimston-Blackborough End Type Ware		1	0.006	Mid 12th-mid 14th century

Context	Fabric	Basic Form	Sherd Count	Weight	Assessment date range
124	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.015	Mid 12th-mid 14th century
125	Developed St Neots Type Ware		1	0.013	13th-mid 14th century
	Lyveden-Stanion Glazed Ware	Jug	1	0.008	
	Medieval Ely Ware/Late Medieval Ely Ware	Jug	1	0.011	
130	Grimston Type Ware	Jug	2	0.027	13th-mid 14th century
	Huntingdonshire Fen Sandy Ware	Jar	1	0.021	
	Medieval Ely Ware		1	0.025	
132	Grimston Type Ware	Jug	1	0.005	13th-mid 14th century
	Huntingdonshire Fen Sandy Ware		1	0.002	
	Medieval Ely Ware	Jug	1	0.012	
	Medieval Ely Ware	Jar	1	0.010	
134	Medieval Ely Ware	Jug	1	0.004	13th-mid 14th century
	Unglazed Grimston-Blackborough End Type Ware	Jar	11	0.050	
	Unprovenanced wares	Jug	1	0.003	
137	Huntingdonshire Fen Sandy Ware		1	0.006	Mid 12th-mid 14th century
143	Medieval Ely Ware		1	0.003	Mid 12th-mid 14th century
	Unprovenanced Glazed Wares	Jar	1	0.003	
147	Huntingdonshire Fen Sandy Ware		1	0.004	Mid 12th-mid 14th century
152	Colne Transitional Ware		1	0.067	Mid 15th- late 16th century
154	Brill-Boarstall Ware	Jug	5	0.023	13th-mid 14th century
	Grimston Type Ware	Jug	2	0.003	
	Medieval Ely Ware	Jar	1	0.046	
164	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.004	Mid 12th-mid 14th century
167	Brill-Boarstall Ware	Jug	1	0.005	13th-mid 14th century
	Grimston Type Ware	Jug	1	0.002	
170	Huntingdonshire Fen Sandy Ware		1	0.004	13th-mid 14th century
	Huntingdonshire Fen Sandy Ware	Jar	2	0.009	
	Huntingdonshire Fen Sandy Ware	Jug	1	0.042	
	Lyveden-Stanion Glazed Ware	Jug	1	0.021	
	Medieval Ely Ware		3	0.034	
	Medieval Ely Ware	Jug	1	0.011	
	Unglazed Grimston-Blackborough End Type Ware	Jar	4	0.033	
190	Late Medieval Grimston Type Ware	Jug	1	0.007	Mid 14th-late 15th century
191	Colne Late Medieval Ware	Bowl	18	0.620	Early 17th century
	Frechen Stone Ware	Jug	1	0.148	
	Post-medieval BlackGlazed Ware		1	0.009	
	Post-medieval Redware	Bowl	1	0.083	
192	Post-medieval Redware	Bowl	1	0.020	16th-19th century
194	Medieval Ely Ware	Jar	2	0.047	Mid 12th-mid 14th century
197	Huntingdonshire Fen Sandy Ware	Jar	2	0.006	Mid 12th-mid 14th century

Context	Fabric	Basic Form	Sherd Count	Weight	Assessment date range
202	Huntingdonshire Fen Sandy Ware	Jar	1	0.005	Mid 12th-mid 14th century
	Medieval Ely Ware	Jar	2	0.061	
	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.015	
204	Huntingdonshire Early Medieval Ware	Jar	1	0.004	Mid 12th-mid 14th century
	Medieval Ely Ware	Jar	1	0.013	
207	Colne Type Ware from Caxton and Bourn		1	0.044	Mid 12th-mid 13th century
	Colne Type Ware from Caxton and Bourn	Jar	2	0.011	
	Developed Stamford Ware	Jug	1	0.007	
	Huntingdonshire Fen Sandy Ware	Jar	1	0.011	
	Peterborough Shelly Ware	Jar	2	0.023	
220	Developed St Neots Type Ware		1	0.044	13th-mid 14th century
	Grimston Type Ware	Jug	6	0.082	
	Lyveden-Stanion Glazed Ware	Jug	10	0.340	
	Unglazed Grimston-Blackborough End Type Ware	Jar	9	0.184	
	Unprovenanced Wares		3	0.088	
222	Colne Late Medieval Ware	Jar	3	0.013	Mid 14th-late 15th century
	Developed St Neots Type Ware	Jar	1	0.010	
	Huntingdonshire Fen Sandy Ware	Jar	3	0.020	
	Late Medieval Ely Ware	Jug	1	0.005	
	Lyveden-Stanion Glazed Ware		1	0.018	
	Lyveden-Stanion Glazed Ware	Jug	1	0.006	
223	Huntingdonshire Fen Sandy Ware	Jar	2	0.009	Mid 12th-mid 14t century
238	Huntingdonshire Fen Sandy Ware		1	0.007	Mid 12th-mid 14th century
	Unglazed Grimston-Blackborough End Type Ware	Jar	1	0.003	
242	Colne Type Ware from Caxton and Bourn		1	0.014	Mid 12th-mid 14th century
	Developed St Neots Type Ware		2	0.003	
	Huntingdonshire Fen Sandy Ware		2	0.003	
	Huntingdonshire Fen Sandy Ware	Jar	1	0.011	
	Handmade Early-Middle Saxon Fabrics Sandstone Tempered Ware		2	0.031	
243	Colne Type Ware from Caxton and Bourn	Jar	1	0.019	13th-mid 14th century
	Developed St Neots Type Ware		1	0.007	
	Developed St Neots Type Ware	Jar	1	0.009	
	East Anglian Red Ware	Jug	1	0.005	
	Grimston Type Ware	Jug	7	0.182	
	Huntingdonshire Fen Sandy Ware		1	0.002	
	Huntingdonshire Fen Sandy Ware	Jar	2	0.022	
	Lyveden-Stanion Glazed Ware		1	0.013	
	Lyveden-Stanion Glazed Ware	Jug	1	0.010	

Context	Fabric	Basic Form	Sherd Count	Weight	Assessment date range
	Medieval Ely Ware	Jug	1	0.006	
	Peterborough Shelly Ware		1	0.004	
	Sandy Shelly Ware	Jug	2	0.015	
	Unglazed Grimston-Blackborough End Type Ware	Jar	3	0.023	
244	Brill-Boarstall ware	Jug	1	0.009	Mid 14th-late 15th century
	Colne Type Ware from Caxton and Bourn	Jar	3	0.032	
	Grimston Type Ware	Bowl	1	0.029	
	Grimston Type Ware	Jug	25	0.221	
	Huntingdonshire Fen Sandy Ware		5	0.017	
	Huntingdonshire Fen Sandy Ware	Jar	9	0.142	
	Late Medieval Ely Ware		8	0.043	
	Late Medieval Ely Ware	Jug	1	0.005	
	Lyveden A Type Shelly Ware		1	0.008	
	Medieval Ely Ware		1	0.010	
	Medieval Ely Ware	Bowl	2	0.045	
	Medieval Ely Ware	Jar	5	0.052	
	Medieval Ely Ware	Jug	7	0.248	
	Oolitic Shelly Ware		2	0.024	
	Unglazed Grimston-Blackborough End Type Ware	Jar	7	0.032	
	Unprovenanced Wares	Jug	7	0.072	
245	East Anglian Red Ware	Jug	7	0.099	Mid 14th-late 15th century
	Grimston Type Ware	Bowl	1	0.046	
	Grimston Type Ware	Jug	11	0.269	
	Late Medieval Ely Ware		2	0.012	
	Late Medieval Ely Ware	Jug	15	0.205	
	Medieval Ely Ware		1	0.006	
	Medieval Ely Ware	Jar	1	0.004	
	Medieval Ely Ware	Jug	2	0.017	

Table 3: Catalogue for phased and unphased pottery

B.3 Brick and Roof Tile

By Rob Atkins

Introduction

B.3.1 A small to medium assemblage of brick and tile comprising 166 fragments (23.733kg) were found in the excavation (Table 4). The brick and tile were recovered by hand collection and through soil samples with all the CBM retained. Relatively little has been written on the history of brick use or production in Cambridgeshire and partly because of this this present report tries to understand when and where the brick from the site

was produced. Analysis of roof tiles is also difficult as little recording of Cambridgeshire tiles have taken place. Elsewhere, sites in Huntingdon have shown that generally the fabric and tile shapes do not change significantly from the 12th to the 18th centuries and therefore dividing medieval and post-medieval tile CBM is not generally feasible.

Type	No. of contexts	No. fragments	Weight (g)	Average weight per fragment (g)
Brick	8	28	10098	360.64
Floor brick	1	1	203	203
Ceramic roof tile	28	136	13202	97.07
Limestone roof tile	1	1	230	230
Total		**166**	**23733**	

Table 1: Brick and roof tile

Methodology

B.3.2 The material were all weighed by context and type and rapidly assessed by fabric and count. The difference in colour of brick and tile was affected by how much lime there was in the clay. In Ely, Kimmeridge Clay, Gault Clay and alluvium clay was used with the three different clays respectively producing reddish-brown brick, white (yellow) and a range of brindled and mottled hues (Lucas 1993, 158). The brick and tile from St Ives were in all these colour/fabrics.

B.3.3 All complete lengths, widths and thickness of the brick pieces were recorded (Table 5). The presence of mortar was recorded on fragments to assess if they had been used before being discarded. The peg holes of the tiles were measured to try and differentiate between one and two peg hole types. Generally peg holes less than 60mm from the side of the tile are likely to 2 peg hole type but this needs to be taken with caution as this is not always the case - indeed one tile from St Ives with a peg hole 70mm from tile (pit **14**) was also of this 2 peg hole type. On balance tiles with peg holes more than 60mm from the side have been called a probable 1 peg hole type.

Results

Brick

B.3.4 There were just 28 brick fragments (10.098kg) recovered from eight contexts and these came from seven different features (Table 5). One undiagnostic brick fragment (pit **246**) was found in medieval phase dated AD 1200-AD 1350. It is possible the brick dates to this period but it is more likely to be intrusive. Diagnostic brick was found in only three features (Oven **113**, posthole **57** and pit **193**).

B.3.5 Oven **113** has been phased to the late medieval period (AD 1350-1550) and it has partly survived (Plate 3). The oven floor comprised flat laid stones with part of the oven's eastern side was also present. This side comprised *in situ* bricks laid adjacent to the stone floor, consisting of at least one course of three bricks placed stretcher to stretcher as well as a part of a brick positioned between the stones and the brick course. Presumably, the other sides the oven had also originally been brick lined in this fashion. The three complete bricks were all crudely made, possibly all from the same kiln batch, and they equate to Drury's (1993; Group B; Table 2) dating to the 14th/15th

centuries. All the bricks were heavily burnt becoming cracked and in some areas split, with extensively sooted on the top of the bricks all suggesting the oven had been used over a long time period. On lifting the bricks during the excavation, the bricks fell apart into several fragments (though they are recorded as three bricks).

B.3.6 posthole **57** and pit **193** were phased as post-medieval (AD 1550-1800). The brick from these features included examples dating to the 17th/18th century but also residual late medieval and early post-medieval fragments (Table 5). One of the residual medieval bricks from posthole **57** has soot along the side of the brick, and it is highly likely that this was laid with this side exposed presumably within an oven. This fragment has a possible animal print on its face. Another residual medieval fragment from posthole **57** has a dog paw print. Several heavily burnt residual fragments from pit **193** are also likely to have originated in ovens from this period.

B.3.7 None of the brick recovered from the site dates to after c. AD 1800.

Cont	No.	Wt(g)	Dimensions	Comments	Feature
18	1	36		Red. Undiagnostic.	Pit **19**
56	3	109	1) 120mm (4¾"+) wide 45-46mm (1¾") thick + 44--46mm (1¾") thick 2) 50mm (2") thick	Brick in two fabrics: 1) Two part bricks in an orange sandy fabric (860g). Probably same kiln? Both have vegetative impressions on top and 1 side of one. Arises poor to moderate. Uneven brick. Both bricks are cracked. Poorly made. One has a dog paw print on top, the other has a possible animal print. Mortar on top and base of brick. One is sooted on side - was it laid on side within oven? 14th-15th century? 2) 1 fragment (199g) in a mixed yellow-red clay. Sanded. Dragmarks on base - removing excess clay. Arrises poor. ?17th/18th century	posthole **57**
99	1	33		Red fabric. Undiagnostic	posthole **99**
112	4	7965	1) 228/232/243 mm (9"/9"/9½") long 115/115/110mm (4½") wide 48-52 mm (2") thick	1) Three of the bricks collected were identical fabric but slightly different dimensions (6591g). Can be explained by wooden moulds warping in wet weather etc. They were seemingly complete (Plate 3) but fell into several pieces when lifted (heat had caused them to become badly cracked/split). Presently they are all c.98% complete and weighed 2124g/2159g/ 2306g respectively. The three were in a deep orange sandy fabric with some internal voids up to 8mm in length. Mould impressions on brick. Arrises ok. All 3 bricks had uneven thickness's. Drag marks showing excess clay scraped off bricks. All had many vegetative impressions on top and a few along the side of one. All had sooted residue along top and soot continued down c.20mm of all sides. Heat at the top had caused bricks to crack and in the top of the bricks, the fabric had turned a light purple. Slight evidence of mortar on base of one brick. Is this an oven? Bricks date to 14th/15th centuries and equate to Drury	Oven **113**

			2) 105mm (4" wide) 50-53mm thick (2")	1993, Group B. 2) 1 part brick (1376g), a slightly narrower brick in a slightly different fabric? Are these just differences due to the mould warping and a separate batch using different clay? Deep red/light purple with slight yellow clay on base and one side. Some internal voids in clay. Uneven brick. Very poor arrises. A large quantity of vegetative impressions on top and some on two sides. Sooted on top and along top of sides. Burning caused brick to crack badly. 14th/15th centuries	
152	1	63		Orange sandy. Mortar attached. Undiagnostic.	Pit **153**
189	7	418		Brick in three fragments: 1) Two in a deep orange fabric (51g). Sanded. ? Post-medieval 2) Two orange sandy fabric (262g) Undiagnostic. 3) One yellow/red mixed fabric (105g) 17th/18th century.	Pit **193**
191	10	1441	1) 105mm (4") width 51-53mm (2") thick 2) Three with thickness (48mm and two at 51mm)	Brick in three fabrics: 1) 1 Part brick in a light purple colour (507g). Largely sanded but a few vegetative impressions on two sides and top. Uneven. Mortar. Similar to Ramsey Abbey brick? 16th/17th century. 2) Eight fragments (912g) in an orange to deep red fabric. Most have internal voids. Poor arrises. Mould impressions. Vegetative impressions on four. Several have sooted or been burnt. Mortar on one. 14th/15th century? 3) One brick fragment (22g) in a mixed yellow-red fabric. Post-medieval ?17th/18th century	Pit **193**
243	1	33		Orange sandy. Undiagnostic	Pit **246**
Total	28	10098			

Table 5: Bricks

Floor Brick

B.3.8 One floor brick fragment (203g) was recovered from context 189 (pit **193**) and dates to the 17th/18th century. This is in a yellow/red clay mixed fabric, is 38mm thick (1½") and the top has a smooth worn surface-presumably had been well used as part of a floor. Mortar survive on sides of brick showing the floor had been well laid.

Ceramic Roof Tile

B.3.9 There was a small to moderate assemblage of 136 ceramic roof tile fragments (13.22kg) from 28 contexts which derive from 21 features (Tables 6 and 7). All the tile was seemingly peg tiles with no nibs or ridge tile in the assemblage. The vast majority of this tile (65.4% by number and 71.2% by volume) were found in just three features (Pits **193**, **206** and **246**). The three features had 23 fragments (1.791kg), 12 fragments (1.007kg) and 54 fragments (6.615kg) respectively.

B.3.10 If the ceramic tile is analysed by site phase (Table 6), more than half the ceramic tile was found in Phase 2 (AD 1200-1350). This was largely due to a significant

assemblage of tile found in Pit **246**. This was probably not a primary assemblage, and would likely to have been deposited via a midden. None of the tiles from this pit had complete widths surviving and the fragment size, although above the site average at 122.5g per fragment, was only *c.*25g per fragment larger (Table 6). The tile largely comprised a single fabric type, an orange sandy fabric with very few tiles in other fabrics (Table 7). Five of the orange sandy fabric tile had peg holes, all sub-rounded and two were 2 peg hole types and three the fragments did not survive enough to calculate. There were three other fabric types including tile in a red fabric with frequent small yellow clay inclusions and occasional flint, which was identical to tile found in Huntingdon (Atkins 2012a and b). Two tile fragments had mortar attached.

No. of tiles	Weight (g)	Average size per sherd (g)	No. features and layers	Phase
68	7853	115.49	5	2
23	1443	62.74	4	4
31	2975	95.97	7	5
8	515	64.38	3	6
6	416	69.33	2	Unphased
136	**13202**	**97.07**	**21**	

Table 6: Ceramic tile by phase

B.3.11 In the late medieval period (Phase 4) there just four features with tile (1.443kg) of which most (1.007kg) was recovered in small quantities from three deposits within pit **206** (Table 7). The vast majority of this tile was still (as in Phase 2) in an orange sandy fabric. Two fragments of tile had sub-rounded peg holes were found including a possible 1 peg hole type tile. Lime mortar was only found attached to a single tile fragment.

B.3.12 There was an increase in tile recovered in the post-medieval phase (5) with 2.975kg of tile from seven features. Nearly half of this tile was found in three deposits from pit **193** (1.791kg). The only tile with a complete width surviving from the site was found in pit **14** and this was a two sub-rounded peg hole type in a yellow/red mixed fabric. The orange sandy fabric dominated the assemblage. Six tile fragments had peg holes with four sub-rounded and two sub-square. The former comprised two each probably being in a 1 and 2 peg hole type tiles and both sub-square peg holes were from 2 peg hole type tiles. Four tiles had mortar attached. A very small number of tiles were found in modern deposits with just 0.515kg of tile from three features and layers. One of these tiles was burnt and mortar was attached to two.

Cont	No.	Wt (g)	Comments	Feature	Phase
4	2	52	Red fabric with small yellow clay lump inclusions	Pit **5**	0
15	1	476	Part tile in a yellow/red clay mixed fabric. Tile 166mm wide and 199mm+ long. Has two sub-rounded peg holes. One 12mm in diameter is 8mm from side of tile and 36mm from top. The other hole is 14mmby 12mm in diameter, 96mm from same side (and 70mm from the other) and 31mm from top. The peg holes were therefore not in the centre of tile - severely off to one	Pit **14**	0

			side. Mortar attached		
18	4	343	Yellow/red clay mixed. One burnt. Mortar on two.	Pit **19**	6
56	1	18	Mixed yellow/red clay. mortar attached	posthole **57**	5
72	1	19	Orange sandy	posthole **71**	6
82	1	294	Orange sandy	Pit **83**	2
92	3	153	1)Two orange sandy (97g) 2) One Red with small yellow clay lump inclusions (56g)	Layer	6
115	2	359	Orange sandy	Pit **114**	5
124	2	123	Orange sandy	Pit **142**	5
125	2	37	1) Hard orange with yellow clay lump inclusions (22g). Mortar attached. 2) Red with small yellow lump inclusions (15g)	Pit **142**	5
130	6	265	Orange sandy	Disturbance **128**	5
132	4	364	Orange sandy	Pit **133**	0
134	1	11	Orange sandy with small yellow clay lump inclusions	Hearth **166**	4
160	2	212	In two fabrics: 1) Orange sandy (170g) with mortar attached. Sub-rounded peg hole, 70mm from side and 25mm from top of tile. Probably 1 peg hole type. 2) Hard orange (42g). Mortar attached.	Pit **161**	5
164	1	114	Orange sandy	Pit **165**	5
167	1	5	Hard orange with yellow clay lump inclusions	posthole **168**	5
170	8	513	Orange sandy	Layer	3
189	7	405	In three fabrics: 1) Two orange sandy (168g). 1 fragment had a 12mm sub-rounded peg hole (12mm in diameter), 42mm from side and 30mm from top. 2 peg hole type. 2) Four in a yellow/red clay mix (181g) 3) One in a hard orange (56g)	Pit **193**	5
191	9	727	In three fabrics: 1) Six in a orange sandy fabric (583g). Mortar on one. Two tiles fragments with sub-square peg holes, both of 2 peg hole type tiles: A) 1 fragment with two sub-square peg holes (c.13mm). One 52mm from side and 23mm from top of tile. Other 110mm from side. B) 1 sub-square peg hole 40mm from side and 23mm from top. 2) Two in hard orange (113g) 3) One hard orange with small yellow clay lump inclusions (31g)	Pit **193**	5
192	7	659	Tile in an orange sandy fabric. Two have sub rounded peg-holes. A) Hole 38mm from side and 13mm from top. 2 peg hole type. B) 12mm diameter hole, 62mm from side and 20mm from top. Probably 1 peg hole type?	Pit **193**	5

197	1	51	Hard orange fabric	Pit **206**	4
202	1	141	Orange sandy	Pit **203**	2
207	8	799	Tile in an orange sandy fabric. Two fragments with sub-rounded peg holes. A) c.13mm diameter hole, 63mm from side and 23mm from top. Probably 1 peg hole type?. B) c.18mm diameter peg hole, 20mm from top.	Pit **206**	4
209	3	157	Orange sandy fabric	Pit **206**	4
242	4	290	Tile in two fabrics: 1) Two orange sandy (275g). Mortar on one. 2) Two hard orange (215g) Mortar on one.	Layer	3
243	17	1539	Tile in four fabrics: 1) 9 (1158g) in an orange sandy fabric.. Two have peg holes: A) 1 sub-rounded c.16mm in diameter B) 1 sub-rounded c.20mm in diameter and 19mm from side of tile. 2) 1 fragment (43g) in an orange sandy fabric with yellow clay lump inclusions up to 23mm in length. 3) 3 hard orange fragments (207g) with occasional small shell inclusions. Mortar on one. 4) 4 in a red fabric (131g) with frequent small yellow clay inclusions and occasional flint (identical to tile found in Huntingdon).	Pit **246**	2
244	26	3431	Tile in two fabrics: 1) Twenty-four in an orange sandy fabric (3313g). One has mortar attached. Three fragments have sub-rounded peg holes. A) Hole with a 12mm diameter, 48mm from side and 21mm from top. 2 peg hole type tile. B) c.15mm diameter. C) c.16mm diameter and 19mm from ?top of tile. 2) Two hard orange (118g)	Pit **246**	2
245	11	1645	11 in an orange sandy fabric. One sub-rounded peg hole, 51mm from side and 25mm from top. 2 peg hole type.	Pit **246**	2
	136	**13202**			

Table 7: ceramic roof tile

Limestone roof tile

B.3.13 One fragment (230g) of limestone roof tile, 13mm thick, was found in late medieval context 209 (pit **206**) and this has mortar attached.

Discussion

B.3.14 Excavations at St Ives have found *in situ* 14th/15th century bricks from an oven (**113**). This is the earliest brick/partly brick feature the author has come across for this part of Cambridgeshire. The importance of this has meant that the author has tried to understand when and where brick was being produced.

B.3.15 St Ives is not close to stone outcrops and the lack of this commodity would probably have effected how ceramic brick and tile were used. Towns such as Northampton, where stone is plentiful, there is little evidence of brick making or use before the 18th century (Atkins 2002). At St Ives, wooden structures would have been the cheapest

and easiest structures to build in this medieval periods. Brick was first used in a secondary role especially when there was no stone around, "walls of clay-bat, either made solid between boards, or built as blocks, must have been very common in the Middle Ages. Walls formed, or only faced, with flints, need protection of stone or brick on all exposed edges, doors, windows, buttresses, etc." (Hughes 1937, 9). Other affects on types of building construction in St Ives was the that the town was built on low lying ground adjacent to a major river (Great Ouse), with water encountered across the town just below ground level. This high water level affected what could be built, for example undercrofts which are common from the late 13th century in Norwich could not be built in St Ives.

B.3.16 In the medieval period the role of rivers was extremely important to trade and St Ives was accessible through the Great Ouse, but in relation to the main sea ports such as Kings Lynn or Norwich it was considerably further away than the other major towns of Wisbech, Ely or even Cambridge. It is interesting to note that traders in nearby Huntingdon (less than 10km away) were complaining in the 13th century that communication between Kings Lynn and Huntingdon had begun to be impeded with the Ouse river affected by sluices etc. built by the Abbot of Ramsey (quoted in Page *et al* 1974, 123).

B.3.17 The role of brick and tile found at St Ives are discussed by type below by period:

Brick

Medieval Brick

B.3.18 The earliest bricks found in the present excavations is likely to date to the 14th or 15th centuries and are likely to have been made 'locally'. There were no imported earlier Flemish bricks type bricks which were being produced in a sanded form (Drury 1993). Flemish bricks therefore do not seem to have progressed as far inland as St Ives or nearby Huntingdon (Atkins 2012a and b). This is in contrast to places nearer the coast - documentary records show that large quantities of Flemish brick was being imported into Norwich in the late 13th and 14th centuries and these bricks were also traded into Kings Lynn in the same period (Drury 1981, 127; Carter 1977, 441; Brown and Hardy 2011, 10).

B.3.19 Unfortunately no brick typology has been done for Cambridgeshire and so brick has to be compared with other places further away. The early brick recovered from the St Ives excavations equates with Drury's (1993) Group B which were produced local to Norwich on a vegetative surface. This seems to suggest that different places across different parts of East Anglia may have been following a 'blueprint' in brick production.

B.3.20 It is possible that the St Ives bricks derived from Wisbech or Ely - these are the only pre *c.*AD 1500 known brickworking areas in Cambridgeshire and both of these were on land owned by Ely Cathedral. Documents recording Wisbech brick making have been found within manorial account rolls of Ely for three separate periods 1333-4, 1347-8 and 1355-6 (Sherlock 1998, 59). The only brickworks specifically mentioned was in 1347-8, at Waldersea, which is immediately south-west of Wisbech (near the River Nene) although bricks in these accounts could have been made at several places within the bishop's fenland estates (Sherlock 1998, 65). These Wisbech brick (and Flemish bricks) were used in a new bridge at Ely Castle in 1334-5 (Sherlock 1998, 65). In 1339 Wisbech, King's Lynn and other Norfolk brickmaking areas (Emneth and Wiggenhall) supplied Ely Cathedral with brick in the mid 14th to mid 15th centuries (Lucas 1993, 157). It is possible that some bricks found at St Ives came from Ely itself with the

earliest reference to brickmaking in Ely is in 1334/5 but this may have been a one-off job as there is an absence of reference to any further firings in subsequence records and brick was being imported into Ely a few years later (see above; Sherlock 1998, 65). Wisbech bricks were continued to be manufactured into at least the end of the 15th century (Atkins 2010).

B.3.21 The 14th/15th century brick recovered from St Ives were found only in very small quantities with 15 bricks or fragments of bricks found in three features and two of these features were post medieval in date (Table 5). Evidence seems to suggest that most of these bricks including the residual ones may have derived from ovens. The three complete bricks from oven **113** were all sooted on the top of the bricks, the top have of the fabric had turned purple (from originally deep orange, and cracked and broken, falling into pieces when removed. Eight small residual fragments in the same fabric and also heavily burnt and sooted from post-medieval pit **193** and posthole **57** may have originated from oven(s).

B.3.22 The relatively small quantity of bricks in this medieval period at St Ives is in partly due to early bricks were being used in relatively small quantities as they were not meant to be seen. They were, "generally used as an ingredient of rubble walling, or where they offered constructional convenience, in the construction of vaults, which often show signs of originally being plastered." (Drury 1993, 164). St Ives lack of ability to have undercrofts because of the high water levels in the town and its long distance/costly to transport meant that even fewer bricks were needed and/or too expensive. These early St Ives brick are therefore only being used for specialist use such as for ovens.

B.3.23 The late medieval oven (**113**) survived partly *in situ* and shown that it was built partly in brick and stone. Ovens can be made of brick, stone, cob, clay or various combinations. Most of the St Ives ovens were seemingly clay which would have been local whereas for oven **113**, the stone and brick would have been 'imported'. This added expense and effort would only have occurred if there were economic benefits - the oven producing better results and/or the structure surviving longer than the clay lined equivalent. Morton writing in neighbouring Northamptonshire in the early 18th century states that a brick oven "is sooner hot, than one of stone of the same dimensions...a floor of brick is drier, imbibes any wet that falls upon it, more speedily that a floor of stone of the former sort, and it is not subject to sweating in damp weather." (Morton 1712, 70).

B.3.24 In other places nearby, 14th/15th century brick is also a relative rare artefact on sites. At nearby Huntingdon, brick may have taken until the c.mid 14th century to arrive at the large scale excavations at Walden House with possibly two or so small fragments likely to date to this period and a further 19 fragments from the late 14th to mid 15th century including some produced at Wisbech (Atkins 2012a). A further four brick fragments dating to the latter period was found at the Huntingdon Town Centre site (Atkins 2012b).

B.3.25 In the early post-medieval period brick was still a rare artefact with the St Ives excavation including a possible early 16th brick produced at Ramsey Abbey or (or maybe) Ely and this was found in post medieval pit **193**. Documents from Ramsey Abbey have many records of bricks and brick moulds being produced by the abbey employees in the early 16th century for themselves as well as presumably for trading with the abbey using its own boats for this purpose (DeWindt and DeWindt 2006, appendix 8; Spoerry *et al* 2008). Ramsey Abbey is also more likely to be the producer as the Abbey were lords of the manor of St Ives from the Late Saxon period (Redstone 1974) and presumably the abbey sold its products including bricks at the important annual fair in the town and its weekly market. It is possible, though less likely, that the St Ives brick originated from Ely. Here, the earlier 15th century brickworks seem to have

continued as there are brick records for a 'kilnhouse' in 1565 in this same land area in a lease-book of the Ely Dean and Chapter (Palmer 1937, 377; Hampson 1967, 41). Lucas quotes Thomas Baskerville observations at Ely in 1681 that, "the great trade of this town and country hereabout is the making of bricks and earthenware, for which purpose they have excellent sorts of earth." (1993, 158). Ely had a wide distribution market for its bricks and tiles, including Cambridge and as far as Kingston upon Hull (Lucas 1993, fig. 1) with for example, Ely brick purchased by Trinity College in 1528/9 (*ibid*, 158). St Ives is not recorded on Lucas's map, but it is possible/likely that some of the St Ives brick had been made there (1993, fig. 1).

B.3.26 Overall, it is possible that Cambridgeshire brick were only being produced at these monastic owned sites with the bricks being transported around Cambridgeshire. The monastic sites had incredible power and wealth, allowing them to engage in a multitude of industrial and business activities including brick and tile making. Importantly, the monastic sites controlled/influence some of the movement of trade along Cambridgeshire's rivers etc. with some sluice gates being under their control.

B.3.27 There were only a few bricks from St Ives dating to the c.17th or 18th century and these were all made in a mixed yellow/red clay and came from three contexts (posthole **57** and two fills of pit **193**). A floor brick in the same fabric, and dating to this period also came from pit **193**. It is tempting to see that these brick and floor bricks originating in a brickworks near St Ives. Unfortunately, the only post-dissolution early post-medieval brickworks known in Cambridgeshire were made in Ely.

B.3.28 It is very likely that by c.1700, there were bricks being produced close to St Ives itself but unfortunately no one has researched brickmaking in the area during this period. This assertion is likely when one compares the better published (at least of post-medieval and modern brickworks) county of neighbouring Northamptonshire. In the early 18th century Morton wrote that in every one of the twenty hundreds in Northamptonshire there was a brick kiln and this kiln mostly was established near to large settlements of occupation and Morton listed several (Morton 1712, 69-70). This brick manufacturing was despite Northamptonshire having significant quantity of building stone across a lot of the county and these stone workings were still being mined for building well into the 19th century (Atkins 2002).

Ceramic Roof Tile

B.3.29 All the tile seems to be from peg tiles. The size of the assemblage at 136 fragments (13.202kg) is 97.07g per sherd and this is above average for assemblages in the area (Table 8). This relatively large sherd size is partly due to almost half the tile at St Ives being derived from a relatively unabraded assemblage from a single medieval pit.

Site	No. of fragments and weight	Comments	Publication
Walden House, Huntingdon	411 (28.061kg) = 68.27g per sherd	Found in features	Atkins and Fletcher 2009; Atkins 2012a
Huntingdon Town Centre	485 (40.259kg) = 83.01g per sherd	Found in features but includes two primary assemblages	Atkins 2012b
Brunswick, Cambridge	735 (22.339kg) = 30.39g per sherd	Recovered from a layer affected by ploughing etc.	Atkins in press

Wisbech Castle	836 (57849kg) = 69.20g per sherd	Recovered from test pits but very small pieces discarded before counting	Atkins 2010

Table 8: Site comparisons of ceramic roof tile (not pantiles)

B.3.30 Half the tile by weight was found in contexts dating to AD 1200-1350. This is not unusual - at Walden House and Huntingdon Town Centre, tile was being used in small quantities from Period 2.3 (mid/late 12th to early 13th centuries) with a large increase in use in both site in the mid 13th to early 14th centuries. This starting date for tile is similar elsewhere with the earliest ceramic roof tile in Kings Lynn dating to late 13th century although iron nails, often associated with roof tiles, have been found in earlier contexts (Carter 1977, 441).

B.3.31 The tile fabrics include types seen in Huntingdon, c.10km away but none in the Ely fabric. It is likely therefore likely the tiles were being made fairly close to St Ives and Huntingdon. The dominance of peg tile in the St Ives collection is similar to other sites in Cambridgeshire (Table 5). At Huntingdon Town Centre, the 485 tiles recovered all seemed to be peg tiles except one possible nib and two ridge tile fragments, a single nib was found at Walden House at Brunswick there was only a single sherd of ridge tile and at Wisbech Castle with just four ridge tiles out of 836 ceramic roof tile sherds.

B.3.32 The single limestone roof tile fragment at St Ives was found in a late medieval pit (AD 1350-1550). The first limestone roof tile at Walden House was found in small quantities within features in mid/late 12th to early 13th century features. The roof tile would have come either from Kings Lynn or from the vicinity of Rockingham Forest, where the Welland flows near Collyweston, Barnack, King's Cliff and Weldon, the famous medieval roof tile and stone quarries.

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Animal Bone

By Chris Faine

Introduction

C.1.1 Seventeen kilograms of faunal material was recovered from the excavations at East St, St Ives yielding 56 "countable" bones (see below). All bones were collected by hand apart from those recovered from environmental samples; hence a bias towards smaller fragments is to be expected. Residuality appears not be an issue and there is no evidence of later contamination of any context. Faunal material was mostly recovered from a number of pits dating from the Early and Post-Medieval periods. One hundred and eighteen fragments of animal bone were recovered with 56 identifiable to species (47.4% of the total sample).

Methodology

C.1.2 All data was initially recorded using a specially written MS Access database. Bones were recorded using a version of the criteria described in Davis (1992) and Albarella & Davis (1994). Initially all elements were assessed in terms of siding (where appropriate), completeness, tooth wear stages (also where applicable) and epiphyseal fusion. Completeness was assessed in terms of percentage and zones present (after Dobney & Reilly, 1988). Initially the whole identifiable assemblage was quantified in terms of number of individual fragments (NISP) and minimum numbers of individuals MNI. The ageing of the population was largely achieved by examining the wear stages of cheek teeth of cattle, sheep/goat and pig (after Grant, 1982). Wear stages were recorded for lower molars of cattle, sheep/goat and pig, both isolated and in mandibles. The states of epiphyseal fusion for all relevant bones were recorded to give a broad age range for the major domesticates (after Getty, 1975). Measurements were largely carried out according to the conventions of von den Driesch (1976). Measurements were either carried out using a 150mm sliding calliper or an osteometric board in the case of larger bones.

The Assemblage

C.1.3 Table 9 shows the species distribution for the assemblage. As one would expect the assemblage is dominated by domestic taxa both in terms of NISP and MNI, with cattle being the most prevalent species, followed by lesser numbers of sheep/goat and pig remains. This distribution is similar to that observed in earlier excavations in the area (Fletcher, 2007). This is in contrast to sites further afield such seen in the assemblages from the Huntingdon Model Laundry (Clarke, 2005) and Old Music and Drama Centre sites (Gilmour, 2007), where sheep is the most prevalent taxon. Other large mammal remains are limited to small numbers of horse remains . Commensal species include dog and rabbit. A small number of bird remains were also recovered, including fowl and goose. A single cod preopercular was recovered from context **207**.

C.1.4 Cattle remains consist largely of lower limb elements and portions of the axial skeleton. Four horncores were recovered from 1 male, 1 castrate and two neonatal animals. However, it is worth noting that age of castration affects horn core morphology, with earlier castration producing larger horns more identifiable as oxen, with horns of those castrated later being more hard to distinguish from intact males (Armitage & Clutton-Brock, 1976). The larger horncore assemblage from the 2007 East St excavations also consisted almost entirely of males. No measurable elements were recovered. Aside from the horncores mentioned above no juvenile elements were recovered.

C.1.5 As with the cattle assemblage sheep remains consist largely of lower limb elements (metapodia and tibiae). All were from adult animals. Two measurable metacarpals were recovered from animals with withers heights of 55cm and 57cm respectively. No ageable mandibles were recovered. Pig remains are limited, consisting of lower limb elements from animals killed at a younger age than the other domesticates. Pigs are limited in the secondary products they produce, and are therefore often slaughtered at younger ages than the other domesticates. Few horse remains were recovered, consisting largely of scapulae and loose teeth. A single dog tibia was recovered from context **187**.

C.1.6 Of all the bird species present in the assemblage geese are the most numerous being kept for meat, eggs and feathers. No juvenile remains were recovered, suggesting exploitation for eggs and feathers instead of specialised meat production (although the sample size is too small to draw further conclusions from). Few fowl bones were recovered, consisting entirely of lower limb elements, with one tibiotarsus coming from a male bird. The single cod preopercular most likely came from a whole salted fish.

	NISP	NISP %	MNI	MNI %
Cattle (*Bos*)	17	30.3	11	28.2
Sheep/Goat (*Ovis/Capra*)	15	26.7	8	20.5
Pig (*Sus scrofa*)	8	14.3	5	12.8
Horse (*Equus*)	4	7.2	4	10.2
Dog (*Canis familiaris*)	1	1.8	1	2.6
Rabbit (*Oryctolagus cuniculus*)	1	1.8	1	2.6
Domestic fowl (*Gallus sp.*)	8	14.3	7	17.9
Domestic goose (*Anser sp.*)	1	1.8	1	2.6
Cod (*Gadus morhua*)	1	1.8	1	2.6
Total	**56**	**100**	**39**	**100**

Table 9: Species distribution for the assemblage.

Discussion

C.1.7 This is a small assemblage that represents general occupation waste, in contrast to the material from the 2007 East St excavations where quantities of tanning and horn working waste were recovered (Fletcher, 2007). There is no evidence for on-site breeding although juvenile cattle elements were recovered.

C.2 Shell

By Rachel Fosberry

Introduction and Methodology

C.2.1 A small assemblage of 0.7Kg of marine shell was recovered from twelve contexts during excavations at East Street, St Ives . The shells were quantified and examined in order to assess the diversity and quantity of these ecofacts and their potential to provide useful data as part of the archaeological investigations. Only shell apices were counted in order to obtain the Minimum Number of Individuals for each species, bearing in mind that each individual originally had two apices.

C.2.2 This assemblage is the result of both hand collection and shell recovered from environmental samples.

Results

Context	Material	Object Name	Weight in kg	MNI	Valve	shell state
2	Shell	Oyster	0.006	1	left	incomplete
2	Shell	Mussel	0.001	1		incomplete
4	Shell	Cockle	0.001	1		incomplete
72	Shell	Oyster	0.006	1	right	complete
125	Shell	Mussel	0.003	2		incomplete
129	Shell	Oyster	0.010		right	complete
145	Shell	Oyster	0.006	1	left	complete
170	Shell	Oyster	0.003	1	right	complete
185	Shell	Oyster	0.001	1	right	incomplete
190	Shell	Oyster	0.003		left	complete
191	Shell	Oyster	0.007	1	right	complete
207	Shell	Oyster	0.012	1	right	complete
220	Shell	Oyster	0.011	1	right	complete

Table 10. Shell recovered from East Street

C.2.1 The assemblage is comprised of small quantities of oyster (*Ostrea edulis*) and fragments of mussel (*Mytilus edulis*) and cockle (*Cerastoderma edule*) shells. All of the bivalve shells were unhinged. Each of the oyster shells are represented by one valve only. The right flatter oyster valve predominates but the assemblage is too small for this to be considered as significant.

DIscussion

C.2.2 Shellfish are common in medieval times as fish and shellfish were religiously consumed on Fridays and during Lent. Mussels, cockles and oysters would have been collected from the low and mid intertidal zone from the coast and transported inland.

C.2.3 None of the contexts contain significant quantities of shell and the assemblage most likely represents fragments of discarded shell.

Further Work and Methods Statement

C.2.4 The presence of marine shell indicates that these species are a food resource that was exploited but there is insufficient evidence to suggest that shellfish were prepared and/or discarded at this site. The assemblage has been fully quantified and no further work is required.

C.3 Environmental Samples

By Rachel Fosberry

Introduction

C.3.1 Thirty-three bulk samples were taken from features within the excavated area of the site at East Street, St Ives in order to determine whether preserved plant remains are present and whether they are of interpretable value. Features sampled include layers, pits and ovens dating to a number of phases within the medieval and possibly the post-medieval period. The initial assessment of these environmental samples produced a significant assemblage of charred plant remains which include quantities of cereals commonly encountered in medieval urban samples along with seeds of weed plants that are associated with cereal cultivation. Twelve of the original samples were chosen for full analysis on the basis of their archaeobotanical potential. The aims of the analysis are to characterize the cereal assemblages, identify the function of the late-Medieval ovens and to investigate the fuel used.

Methodology

C.3.2 For the assessment, approximately ten litres of each sample was processed by water flotation (using a modified Siraff three-tank system) for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The flot was collected in a 0.3mm nylon mesh and the residue was washed through a 0.5mm sieve. Both flot and residue were allowed to air dry. The dried residue was passed through 5mm and 2mm sieves and a magnet was dragged through each resulting fraction prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The flot was examined under a binocular microscope and the presence of any plant remains or other artefacts are noted on Table 11.

C.3.3 Any remaining soil of the samples chosen for analysis was processed and examined as before. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands and the authors' own reference collection. Nomenclature follows Stace (1997).

Quantification

C.3.4 For the purpose of the initial assessment, items such as seeds, cereal grains and small animal bones have been scanned and recorded qualitatively according to the following categories

C.3.5 # = 1-10, ## = 11-50, ### = 51+ specimens #### = 100+ specimens

C.3.1 Items that cannot be easily quantified such as charcoal, magnetic residues and fragmented bone have been scored for abundance

C.3.2 + = rare, ++ = moderate, +++ = abundant

C.3.3 The samples chosen for analysis have been quantified according to the number of complete (or near-complete) specimens counted. Where flot volumes and/or species densities are large, a fraction of the flot has been examined and the counts tabulated relate the the sorted fraction only.

Results

1.1 The results are recorded on Table 11.

Enviro results table	

1.2 Table 11. Environmental Results

Preservation

C.3.4 Plant remains are preserved by carbonization. The carbonized material is comprised of cereal grains and weed seeds in addition to charcoal and a substantial inclusion of charred saw-sedge (*Cladium mariscus*) leaf fragments. The waterlogged plant remains include seeds, roots and leaves. Seeds preserved by waterlogging often retain their outer surface (testa) enabling more accurate identification in contrast to carbonized seeds which, by the process of burning and burial, become blackened and often distort and fragment.

C.3.5 Many of the samples are rich in silicates and in some cases this has affected the preservation of the charred plant remains. High temperature and/or repeated burning has caused much of the charred material to become extremely friable and several seeds disintegrated on contact.

C.3.6 There is limited evidence of mineralization in the form of a single seed of goosefoot (*Chenopodium* sp.) in Sample 33, fill 207 of rake-out **206**. Waterlogged plant remains (preserved in anoxic conditions) occur in Sample 37, fill 233 of pit **231**.

Cereals

C.3.7 The charred plant remains are dominated by cereal grains along with seeds of weeds commonly encountered growing alongside cereal crops on cultivated soils and were most likely harvested with the cereal crop. All four cereal types are represented with wheat (*Triticum* sp.), in particular bread wheat (*Triticum aestivo/compactum)* the most predominant. Oats *(Avena sp.)* occur in most of the assemblages from each phase. A number of distinguishing floret bases have been recovered allowing identification of both the cultivated (*A. sativa*) and the wild (*A. fatua*) species of oats. Barley (*Hordeum*

vulgare) grains are abundant in Sample 5, fill 50 of pit **51** only, occurring rarely elsewhere. Rye (*Secale cereale*) also occurs infrequently, often as one or two specimens within an assemblage. A single glume base of spelt (*T.spelta*) was noted in Sample 34, fill 212 of oven **213**. Spelt is a hulled wheat most usually grown in the Roman period and it's presence in this assemblage is considered to be a residual contaminant. Cereal grains are generally well preserved but their corresponding chaff elements are relatively rare in comparison. Culm nodes indicating straw are more common than rachis fragments from the cereal ears. Cultivated pulses were also present (albeit in very low numbers) including peas (*Pisum sativum*) a fragment of bean (Fabaceae). Other economic food plants include flax *(Linum usitatissimum), a*pple/pear *(Malus/Pyrus sp.) and* hazelnut *(Corylus avellana).*

Weed Seeds

C.3.8 Charred weed seeds are abundant in many of the assemblages especially in the samples from the pits and ovens deposits but less so in the rake-out samples. Both segetal and ruderal weeds are represented; seeds of plants found growing amongst crops (segetal) include cornflower (*Centaurea* sp.), corn-cockel (*Agrostemma githago*), corn gromwell (*Lithospermum arvense*), cleavers (*Gallium aparine*) and vetch/tare (*Vicia/Lathyrus* sp.), brassicas (*Brassica* sp.), brome/rye grass (*Bromus/Lollium* sp.)*, wild radish (Raphanus raphanistrum*) grass seeds (Poaceae), and thistles *(Carduus/Cirsium sp.).* Stinking mayweed *(Anthemis cotula)* is a common crop weed but it has a specific habitat, preferring heavy clay soils. Hemlock (*Conium maculatum*) and spike rush (*Eleocharis* sp.) are plant species that prefer damp soils near streams and ditches but may also be found on the edges of cultivated fields.

C.3.9 Weeds such as dock (*Rumex* sp.) and clover/medick (*Trifolium/Medicago* sp.), ribwort plantain (*Plantago* lanceolata) and stinging nettles (*Urtica dioica*) have a broader habitat including disturbed and waste ground and are described as ruderals. Exploitation of local resources is indicated by the presence of nutlets and leaf fragments of great fen sedge (*Cladium mariscus*) which was one of the major vegetation types of the Fen and was commonly used for thatching and as fuel. Other wetland plants include several species of sedges (*Carex* sp.), black bog rush (*Schoenus nigricans*), common club-rush (*Schoenoplectus lacustris*), and rushes (*Juncus* sp.) which all have similar use. The waterlogged seeds retrieved from Sample 37 most likely represent weeds that were growing in the local vicinity of the feature and include brassicas, goosefoot, dead nettle (*Lamium* sp.), buttercup (*Ranunculus* sp.), stinging nettles, henbane *(Hyoscyamus niger),* elderberry *(Sambucus nigra),* sedges and cladoceran ephippia (egg cases of crustacean species such as the water flea).

Discussion

C.3.10 The environmental samples from from East Street, St Ives have produced a rich charred plant assemblage that is able to assist with interpretation of the features sampled and potentially the nature of the site itself.

C.3.11 The cereals are mainly represented by charred grains with chaff elements occurring only significantly in the earlier phase. The general lack of straw and culm-nodes is significant as it suggests that the grain had been processed elsewhere after harvesting and prior to importation to the site. Wheat is the principal crop, most likely for milling for flour to produce bread. Oats are recovered from all phases and appear to be both the

wild form that can be found growing as a crop weed and the cultivated form which would have been a crop. Oats were commonly used for fodder for horses.

C.3.12 The weed seeds present are typical ruderal/segetal species of East Anglia i.e. species of cultivated and disturbed ground and were probably from plants harvested with the crop. The species included allow some insight into cultivation conditions; cleavers and corn gromwell are associated with an autumn sown crops and the presence of stinking mayweed suggests that at least one of the crops were grown on heavy clay soils. Weeds mixed in with the cereal crops would have been a major concern for medieval farmers. Inevitably the harvested crop would be contaminated with weed seeds which would either be picked out by hand or tolerated although this would have affected the quality of the flour. The type of weed seeds recovered include many that are a similar size to the actual cereal grains or were possibly harvested in seed heads, such as stinking mayweed, which have subsequently broken into individual seeds. This strongly suggests that semi-clean grain was imported in to the site with the earlier stages of winnowing, threshing and primary sieving occurring elsewhere.

C.3.13 Great fen sedge appears to have been a major fuel component as the characteristic serrated-edged leaf fragments are found in large quantities in most of the hearth deposits. Sedge-beds in the fens were intensively managed during the medieval period for use in thatching and flooring material but also as a favoured fuel in bread ovens (Rowell, 1986). Burnt mollusc shells recovered from these samples were most likely burnt whilst still attached to the sedges. The inclusion of Great fen sedge fruits and nutlets along with those of black bog rush, sedges and spike-rush may suggest that the sedges were incorporated in peat which was known to be harvested, dried and used as fuel in this period (Murphy, 2001). Peat is almost impossible to identify in charred assemblages without obtaining AMS dates on the seeds of the peat-forming plants. Peat would be expected to contain numerous culm nodes and stem fragments which were rarely recovered in the oven samples but were more common in the Phase 1 samples. Sedge leaves are pretty tough, but if they are waterlogged (in peat) they would be too fragile to survive subsequent charring (R. Ballantyne pers comm.).

C.3.14 Legumes are generally under-represented in the archaeobotanical record as they do not need to be exposed to heat for drying as cereals do. Legumes are relatively common in these assemblages, particularly from the oven deposits. Preservation is quite poor and it is possible that these are in fact wild peas (Lathyrus sp.) or large vetches occurring as crop contaminants rather than cultivated peas. Legumes were regularly grown as a fodder crop and may indicate crop rotation regimes.

C.3.15 It may be significant that imported foodplants are not encountered on this site. Imports from other countries would have been a significant part of the medieval diet (Schofield, Vince, 1984). The lack of these imports substantiates the theory that this is a specialized area of activity associated with cereal processing/baking.

Phase 2 .1: Medieval Cess Pits 1200-1350 AD

C.3.16 The pits from this phase have been interpreted during excavation as cess pits due the nature of the deposits having a characteristic greenish-hue and, in some cases, smell. There is no evidence in the environmental samples to support this interpretation although this may simply be due to taphonomic conditions and it does not rule out the possibility that they are indeed cess pits. The disposal of latrine waste often produces mineralized plant and insect remains because the minerals in the sewage replace the organic components leading to a form of semi-fossilization. The Phase two pits, in particular pit **104**, have been used for the disposal of burnt grain deposits that include weed seeds, straw and charcoal (Samples 12 and 13). Pit **156** also contains charred

great fen sedge. If these features are indeed cess pits, it would have been common practice to add a layer of charcoal/charred material to cover up latrine waste and to damp down smells. Small quantities of fish bones and scales were noted in these samples which may substantiate their function as cess pits.

C.3.17 The only waterlogged deposit was from the lower fill 233 of pit **231** (Sample 37) and includes seeds of plants that are generally found growing in disturbed ground and damp places such as stinging nettles, docks, henbane and dead nettle. This sample indicates the local flora that would have been growing around the pits.

Phase 4.2: Late Medieval Ovens 1350-1550 AD

C.3.18 The features that have been interpreted as ovens with associated 'rake-out' pits were extensively sampled and selection of samples chosen for analysis with the aim of interpreting the function of the features. The samples from each of the ovens have produced substantial quantities of charred grains and weed seeds in mixed deposits along with large quantities of saw-sedge which appears to be a major component of the fuel used. The predominant cereal is bread wheat which was the type of wheat that was favoured for milling flour. Sample 5, fill 50 of pit **51** contains the most significant quantities of hulled barley grains (approx 150 grains per litre). This sample also contains almost equal number of wheat grains along with some oats. This is clearly a mixed deposit that includes a large quantity of poorly preserved cereals that can only been identified as such due to their characteristic 'honeycomb' internal structure. Most of the barley grains are well preserved, mainly because the hulled grains remain enclosed in their outer sheath. Barley is commonly used for brewing and for animal fodder. If it is used for human consumption in soups, stews etc the tough outer husks need to be removed and this is most easily achieved by parching. It is likely that one of the ovens may actually have been used to parch this batch of grain which was accidentally burnt and disposed of in pit **51**.

C.3.19 The three samples from oven **113** (Samples 11,14 and 15) are different in composition from the samples from the other ovens. No great fen-sedge leaf material was present suggesting that either an alternative fuel was used or that the deposits within this feature had not been mixed with the fuel. Bread wheat predominates along with occasional barley, oat and rye grains which may be contaminants of the bread wheat crop. Numerous seeds of small-seeded docks and corn gromwell are present along with other crop contaminants such as cleavers, clover and stinking mayweed.

C.3.20 The ovens would have involved regular cleaning and raking out of the ashes and charred remains. The rake outs associated with these features generally have less carbonized material than the ovens themselves and ash deposits are seen in many of the earlier pits. It is highly probable that the ovens were used successively with the waste from the current feature being dumped in the previous ovens and associated pits.

Four late Saxon kilns or ovens in Stafford, Staffordshire (Moffet, 1994) produced comparable charred plant assemblages from the oven features and also from the associated 'stokepits'. All four cereal types along with legumes and crop weed seeds were similarly recovered. The possible functions of the ovens were considered; bread ovens are a strong possibility with semi-clean grain being spread over the oven shelves to prevent the bread sticking. This would indeed produce substantial quantities of burnt grain that would have been raked out and discarded in contemporary rubbish pits. Grain drying is another possible use of the ovens as dried grain has been proven to store better and to mill quicker. It is most probable that the hearths/ovens at East Street were employed for both grain drying and bread making as the need arose.

Phase 5: Post Medieval 1550-1880 AD

C.3.21 The post medieval pits all contain cereals apart from pit **89** which contains a deposit of pure great-fen sedge. The numbers of cereal grains are far less than are seen in the previous phase and most likely represent low levels of domestic waste.

Conclusions

C.3.22 Examination of the environmental samples from East Street, St Ives has produced significant archaeobotanical assemblages of cereal crops along with evidence of the utilisation of the local fenland resources of sedge-beds to provide fuel. Whilst the cereal grains encountered are common for sites of this period and in this region such as those excavated in Huntingdon Town Centre (Clapham, Ballantyne, in-preparation), the evidence from this site suggests specific activities relating grain drying and bread making during the medieval period. There is no evidence of malting activities in the form of germinated grains. Fen sedge burns rapidly at high temperatures producing volatile oils and would be unsuitable as fuel for malting as a steady, moderate temperature would be required to roast the grain (Ballantyne, 2006). It would appear that the ovens were rebuilt several times and it is likely that the grain drying and bread making facilities were on a relatively large scale perhaps serving the local community.

Appendix D. Bibliography

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en.wikipedia.org/wiki/Oyster

APPENDIX E. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordar3-124132		
Project Name	1a East Street, St Ives		
Project Dates (fieldwork) Start	04-01-2012	Finish	17-01-2012
Previous Work (by OA East)	Yes	Future Work	No

Project Reference Codes

Site Code	STI ASS 11	Planning App. No.	10/02057/OUT
HER No.	ECB 3712	Related HER/OASIS No.	

Type of Project/Techniques Used

Prompt: Direction from Local Planning Authority - PPS 5

Please select all techniques used:

☐ Field Observation (periodic visits)	☐ Part Excavation	☐ Salvage Record
☐ Full Excavation (100%)	☐ Part Survey	☐ Systematic Field Walking
☐ Full Survey	☐ Recorded Observation	☐ Systematic Metal Detector Survey
☐ Geophysical Survey	☐ Remote Operated Vehicle Survey	☒ Test Pit Survey
☒ Open-Area Excavation	☐ Salvage Excavation	☐ Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the NMR Monument Type Thesaurus and significant finds using the MDA Object type Thesaurus together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
pits / posthole	Medieval 1066 to 1540	pottery/animalbone/	Medieval 1066 to 1540
pits/posthole/hearth	Post Medieval 1540 to 1901	a.bone/pottery/metal	Post Medieval 1540 to 1901
	Select period...		Select period...

Project Location

County	Cambridgeshire	Site Address (including postcode if possible)	
District	Huntingdonshire	1a East Street St Ives, Cambridgeshire PE27 5YP	
Parish	St Ives		
HER	ECB 3712		
Study Area	75 sq m	National Grid Reference	TL 3145 7128

Project Originators

Organisation	OA EAST
Project Brief Originator	Dan McConnell
Project Design Originator	James Drummond-murray
Project Manager	James Drummond-Murray
Supervisor	Helen Stocks-Morgan

Project Archives

Physical Archive	Digital Archive	Paper Archive
CCC stores	OA East	CCC stores
STI ASS 11	STI ASS 11	STI ASS 11

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	☒	☒	☒
Ceramics	☒	☒	☒
Environmental	☒	☒	☒
Glass	☐	☐	☐
Human Bones	☐	☐	☐
Industrial	☐	☐	☐
Leather	☐	☐	☐
Metal	☒	☒	☒
Stratigraphic		☐	☐
Survey		☐	☐
Textiles	☐	☐	☐
Wood	☐	☐	☐
Worked Bone	☒	☒	☒
Worked Stone/Lithic	☐	☐	☐
None	☐	☐	☐
Other	☐	☐	☐

Digital Media	Paper Media
☐ Database	☐ Aerial Photos
☐ GIS	☒ Context Sheet
☐ Geophysics	☒ Correspondence
☒ Images	☐ Diary
☒ Illustrations	☒ Drawing
☐ Moving Image	☐ Manuscript
☒ Spreadsheets	☒ Map
☒ Survey	☒ Matrices
☒ Text	☐ Microfilm
☐ Virtual Reality	☐ Misc.
	☒ Research/Notes
	☒ Photos
	☒ Plans
	☒ Report
	☒ Sections
	☒ Survey

Notes:

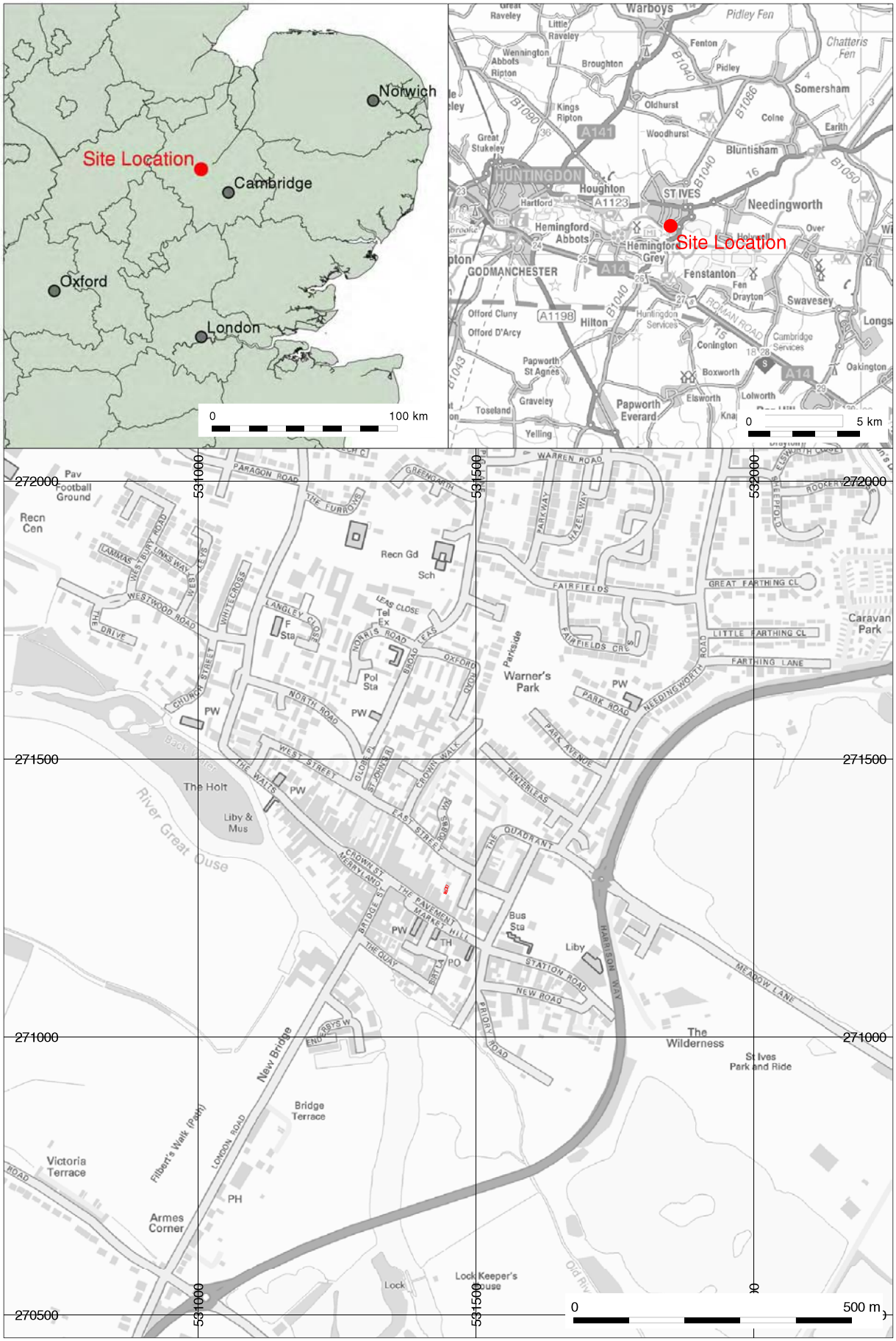

Figure 1: Site location