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A 14th- to 17th-century lime kiln and tile kiln: archaeological investigations on land east of Tilekiln Green, Great Hallingbury, Essex, CM22 7TH: November 2022-February 2023

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1 Summary

Archaeological evaluation and excavation were carried out on land east of Tilekiln Green, Great Hallingbury, Essex in advance of the construction of a residential development. Large quantities of broken tiles and medieval pottery sherds had previously been identified on the site, which was recorded on the Essex Historic Environment Record as the site of a former medieval/post-medieval tile kiln (EHER 4661).

A five trench archaeological evaluation in November 2022 revealed the remains of a kiln in Trench 1, with ditches, pits and a possible backfilled pond in the rest of the trenches. Subsequent excavation in February 2023 revealed a lime kiln, a tile kiln and three additional structures or workshops. Both kilns and one workshop where built partially below ground, the others at ground level.

The lime kiln consisted of a barrel-shaped combustion chamber with two opposing draw-holes. The draw-holes led into two ancillary chambers where the limeburners would have worked, one of which appears to have been a later addition. The combustion chamber was built of peg-tile. The retaining walls of the ancillary chambers were constructed out of courses of flint and peg-tile, with the internal walls of peg-tile alone.

The firing chamber of the tile-kiln had two flues divided by a spine wall, which were connected to the stokepit by two arched stokeholes. The flues were spanned by at least seven tightly packed arched spandrels which would have carried the floor of the kiln. The sheer quantity of peg-tile wasters from the site reveals that peg-tiles were being manufactured in the kiln.

The workshops included a tile-lined chamber at the back of the kiln, and two additional structures represented by beam slots, tiled surfaces, post-holes and hearths. One of these had been built over the backfilled tile-lined chamber.

Finds analysis and radiocarbon dating would suggest a date range for the kilns from the 14th to the 17th century.

2 Introduction (Fig 1)

This is the report for archaeological monitoring, an evaluation and excavation carried out by Colchester Archaeological Trust (CAT) on land east of Tilekiln Green, Great Hallingbury, Essex from 13th November 2022 to 15th February 2023. The work was commissioned by William Mallett of Amherst Homes and took place in advance of the construction of a new residential development.

In response to consultation with Essex County Council Place Services, the Historic Environment Advisor (ECCHEA) advised that, in order to establish the archaeological implications of this application, the applicant should be required to commission a scheme of archaeological investigation in accordance with the *National Planning Policy Framework* (MHCLG 2021).

All archaeological work was carried out in accordance with a *Brief for trial trenching and excavation at land to the east of Tile Kiln Green, Great Hallingbury* (ECCPS 2022) and a *Written scheme of investigation (WSI)* (CAT 2022). Archaeological investigation initially took the form of monitoring of test-holes and window samples. This was followed by a trial-trenching evaluation. Due to the high levels of significant archaeological remains in Trench 1 of the evaluation, it was advised by the ECCHEA that an excavation should be immediately undertaken on the site. This report presents the results of all phases of work.

In addition to the project Brief and WSI, all fieldwork and reporting was undertaken in accordance with:

- *Management of Research Projects in the Historic Environment* (*MoRPHE*) (Historic England 2015),
- Professional standards of the Chartered Institute for Archaeologists, including its *Code of Conduct* (CIfA 2020a-d, 2022),

- East of England standards and frameworks published by East Anglian Archaeology (Gurney 2003, Medlycott 2011) and the recent review updates on https://researchframeworks.org/eoe/
- Relevant health and safety guidelines and requirements (CAT 2022, 2023).

3 Archaeological background

The following archaeological background includes extracts of the ECC brief and the Essex Historic Environment Records (EHER) held at Essex County Council, County Hall, Chelmsford, Essex (accessed via http://www.heritagegateway.org.uk).

The Geology of Britain viewer (1:50,000 scale[1]) shows the bedrock geology of the site to be London clay formation (clay, silt and sand) with no superficial deposits.

Located just north of the historic settlement of Tilekiln Green (EHER 15631), the development site is in a field which the EHER identifies as the possible site of a medieval or post-medieval tile kiln (EHER 4661). Large quantities of broken, unused tiles have previously been recovered from the surface of the ploughed field along with fragments of baked clay and a number of sherds of medieval pottery with a yellow glaze.

The proposed development is also located just south of Stane Street, a Roman road which lies beneath the current Dunmow Road. The road is thought to have originally been an Iron Age trackway which was metalled and consolidated by Roman engineers (EHER 4697-8). Stane Street was a 39 mile route that ran from Colchester to Broughing.

The site lies approximately 1km southwest of Stansted Airport. A number of phases of archaeological work have been undertaken as the airport has evolved and expanded, beginning in 1985 when Stansted becoming classed as a London airport. Between 1985 and 1991, a major fieldwalking programme was conducted, followed by small- to large-scale excavations. These investigations revealed evidence of multiple phases of occupation during the prehistoric, Roman and medieval periods (Havis & Brooks 2004a & 2004b).

The site is located 121m north of the line of the former Bishop Stortford to Braintree Great Eastern Railway line, in use between 1869 and 1969 (EHER 19629). The route adjacent to the site (Start Hill) is now part of a country park known as Flitch Way.

A cropmark complex lies immediately to the south of the old railway line, indicating the presence of a number of historic field boundaries which are depicted on the first edition of the Ordnance Survey map (EHER 46554).

In 2015, Archaeological Solutions carried out an evaluation followed by an excavation in an area approximately 630m to the east of the site. Excavations revealed ten medieval quarry pits evidently dug to obtain clay. Six ditches and three further pits dating to the medieval period were also uncovered, as well as two post-medieval or modern field boundary ditches, and four pits and a ditch which could not be dated (EHER 48791).

4 Aims

Monitoring – Archaeological monitoring was undertaken to excavate and record any archaeological deposits which were exposed by the groundworks.

Evaluation – The aims of the archaeological evaluation were to record the extent of any surviving archaeological deposits and to assess the archaeological potential of the site to allow the ECCHEA to determine if further investigation was required. Specific projects aims were to 1) look for evidence of the tile kiln recorded on the Essex HER, and 2) look for features associated with the Roman road.

1 British Geological Survey – https://geologyviewer.bgs.ac.uk/?

Excavation – The aim of the excavation was to excavate and record the kiln found in Trench 1 of the evaluation along with any other associated archaeological remains.

5 Results

See Appendix 1 for a full context list of all archaeological remains including descriptions and dimensions.

5.1 Monitoring (Photographs 1-3; Figs 2 & 4)

November 2022 – Eight test-holes (1.5m x 0.5m x 1.5m deep) and three window samples were monitored by a CAT archaeologist. The test-holes/samples were dug through topsoil (L1, 0.1-0.2m thick) and made-ground (L3, 0.4-0.9m thick) into natural (L4, 0.6-1.2m below current ground level). In test-hole 1, between L1 and L3 was made-ground L2 (*c* 0.45m thick) which sealed peg-tile layer F1 (0.05-0.08m thick). Located to the south of the excavation area, both L2 and F1 are probably associated with the tile kiln (see below). Peg-tile layer F4 in test-hole 6 could be associated with F8 in Trench 5 (see below). Dark soil sealed by L3 in both test-pit 2 (F3) and test-pit 3 (F2) could represent features, but it was impossible to determine what they were.

Photograph 1 Test-hole 1, looking west.

Photograph 2 Test-hole 2, looking west.

Photograph 3 Test-hole 8, looking east.

5.2 Evaluation (Photographs 4-6; Figs 2-3 & 5)
December 2022 – Five trial-trenches were machine-excavated under the supervision of a CAT archaeologist. The trenches were 30m long and 1.8m wide.

Trench 1 – Topsoil (L1, 0.3-0.4m thick) sealed made-ground (L2, 0.1-0.2m thick) with natural beneath (L4, identified at a depth of 0.55-0.65m below current ground level [bcgl]). Structural remains (F6) later identified as chambers from a lime kiln were recorded in the trench. Within the remains of the kiln, topsoil (L1, 0.25-0.3m thick) sealed two layers of medieval/post-medieval backfill (L6, 0.28-0.3m thick sealing L5, 0.18-0.28m thick). Pit F7 and ditch F13 were also excavated. The archaeological remains in this trench will be discussed in detail in Section 5.3 below alongside the results of the archaeological excavation.

Trench 2 – Topsoil (L1, 0.4m thick) sealed made-ground (L2, 0.15m thick) with natural beneath (L4, identified at a depth of 0.55m bcgl). Ditch F15 was aligned north-north-west to south-south-east and continued into Trench 4 as ditch F10. The ditch was 0.92m wide, 0.4m deep, and was cut by pit F11. A note on the context sheet states that ceramic building material (CBM) from F15 were not retained for post-excavation analysis. The note does not elaborate on the type of CBM present, but it is assumed that it was peg-tile. Pits F5, F11 and F12 were all relatively deep. Pit F5 produced medieval pottery (AD 1150/1175-1225) and medieval/post-medieval peg-tile, with fragments of medieval/ post-medieval brick and peg-tile from F11.

Photograph 4 Trench 2, looking east.

Trench 3 – Topsoil (L1, 0.3-0.4m thick) sealed made-ground (L2, 0.15-0.3m thick) with natural beneath (L4, identified at a depth of 0.6-0.65m bcgl). Ditch F14 was aligned east to west and was U-shaped in profile at 1.64m wide and 0.62m deep. Pit F9 was relatively shallow at only 0.11m deep. Both features produced fragments of medieval/post-medieval peg-tile, with a concentration of peg-tiles towards the surface of ditch.

Photograph 5 Ditch F14, Trench 3, looking east.

Trench 4 – Topsoil (L1, 0.35-0.4m thick) sealed made-ground (L2, 0.1-0.2m thick) with natural beneath (L4, identified at a depth of 0.55-0.6m bcgl). Ditch F10 was aligned north-north-west to south-south-east and continued into Trench 3 as ditch F15. The ditch was 0.98m wide, 0.22m deep, and produced fragments of medieval/post-medieval peg-tile and ridge tile.

Trench 5 – Topsoil (L1, 0.3-0.35m thick) sealed made-ground (L2, 0.15-0.2m thick) with natural beneath (L4, identified at a depth of 0.5-0.55m bcgl). Large feature F8 was over 13.6m in length/width. A slot was excavated to a depth of 0.5m but the base of the feature was not reached. Fragments of frogged brick and peg-tile were not retained for post-excavation analysis but indicate that it was backfilled in the post-medieval/modern period. This is possibly a backfilled pond.

The discovery of significant archaeological remains during the evaluation resulted in the following mitigation strategy which was agreed in advance with the ECCHEA. As the site was located on a relatively steep slope heading down from the main road, the developers proposed to build up the ground level over most of the site (including the areas covered by roadways) and construct the majority of the new properties on piled foundations and thereby protecting the *in situ* archaeological remains. However, the properties centred over the area where the kiln had been identified were at the top of the slope and strip footings were the preferred option in this area. Therefore, it was agreed that an excavation area should be opened up which covered the area of the proposed new buildings where the kiln had been identified. Once excavation had begun, the area originally proposed was quickly extended to the south due to the presence of a great quantity of peg-tile and some additional structural remains.

Photograph 6 Trench 5, looking east.

5.3 Excavation (Photographs 7-14; Figs 6-15)

January-February 2022: An excavation area measuring 450m² was located over trench T1 to fully investigate the lime kiln revealed during the evaluation. Between 0.56-0.61m of topsoil (L1) and accumulation/made-ground (L15/L25) were removed by a mechanical excavator under archaeological supervision to the top of significant archaeological remains (81.2-82.85m aOD). Along the western quarter of the site, L1 and L15/L25 sealed archaeological remains. Moving east, the second quarter of the site was covered with a layer of lime (L7) sealing all archaeological remains beneath (to be discussed further below). Further to the east and largely confined to the areas above both the lime and tile kilns, a layer of broken peg-tile (L8) sealed a thinner layer of lime (L7). Along the eastern side of the site, L1 was removed, with features cut into L15/L25. Accumulation/made-ground L15/L25 is probably the same as L2 from the evaluation. These layers (L2/L15/L25) appear to have not been a single deposit but several deposits laid down over a period of time, sealing some features but being cut by others. Aside from pieces of tile, L2/L15/L25 produced pottery dating from 1200-1550, a lead weight and rivet, a U-shaped iron staple and copper-alloy ring, and fragments of intrusive modern glass.

Photograph 7 Aerial photograph showing the lime kiln to the north (top) and tile kiln to the south (bottom).

5.3.1 Lime kiln F6 (Photographs 7-14; Figs 6-11 & 15)

The basic process of lime burning is the same throughout history, and the following summary has been taken from three main sources, the Historic England guide *Pre-Industrial Lime Kilns* (Smith 2011), *Limekilns and Limeburning* by Richard Williams (1989) and David Johnson's *Lime Kilns History and Heritage* (2018). Raw limestone or chalk was quarried, broken down into manageable chunks and taken to the kiln. In Roman and medieval Britain, it was the intermittent flare kiln that was most commonly used. These consisted of an open-topped combustion chamber (called a bowl or pot) with one or more draw-holes at the base. A vault, usually of stone blocks resting on an internal ledge, was built over the hearth with the rest of the limestone stacked above, separating the fuel from the limestone/chalk and producing a good quality lime. The fire was lit at the end of the draw-hole leading into the hearth, with ashes raked out through the same or another draw-hole. The fire would have been stoked for several days and left to cool down completely before the lime could be removed. Later, these were replaced with continuous draw kilns which were more economic. A permanent grate was fixed over the hearth with limestone/chalk stacked above, alternating in layers with the fuel. As the fuel burned, calcined lime dropped down and was raked out, while new layers of fuel and limestone/chalk were added to the top of the kiln. David Johnson (2018, 7) argues against trying to determine whether a small-scale kiln was a flare or draw type as they both looked the same and could have been worked either intermittently or continuously.

Lime kiln F6 consisted of three subterranean chambers dug into the natural geology. The construction cut for the chambers was recorded as F34 but not excavated. It had been backfilled with a compact clay. Aligned east to west were Chambers A, B and C. Chamber B was the barrel-shaped combustion chamber (the bowl/pot). Chambers A and C were additional structures built on either side.

Chamber A (Figs 7-9) – Chamber A consisted of two L-shaped walls (Photograph 8). The north retaining wall was aligned west-north-west to east-south-east, and was 2.25m long by 0.4m wide with a maximum height of 1.7m. It was constructed of quite irregular courses of flint cobbles and peg-tile with occasional bricks also used. At the bottom of the wall slightly more regular courses of flint cobbles had been laid alternating with one or two courses of peg-tile. Above this was 12-13 courses of peg-tile, and above this the western two-thirds of the wall is a thick course of flint with the eastern third of peg-tile. The whole wall was then capped with more courses of peg-tile.

The western internal wall was aligned north-north-east to south-south-west, and was 2.2m long by 0.2m wide with a maximum height of 1.7m. It was constructed of peg-tile laid horizontally in a lime mortar and is partially collapsed to the south. This wall is adjacent to Chamber B, and between the two chambers was a large arched draw hole, 1.08m high by 0.55m wide. The arch itself had been made with peg-tile laid diagonally and used small broken pieces of peg-tile to fill in the point at the top. Leading from Chamber A into Chamber B, this draw hole is exceptionally well-made (Photograph 9). However, in the opposite direction, the opening appears considerably more ragged in appearance (Photograph 10), suggesting that a hole was punched through the wall of Chamber B into Chamber A, and that Chamber A is a later addition.

At a depth of approximately 1.6m from the top of the chamber walls, and sealed by backfill layers L5/L6, lime deposit L24 was recorded at 0.07m thick and could be the floor of the chamber. There were no finds from L24.

Photograph 8 Lime kiln F6 Chamber A, looking north-west.

Photograph 9 Draw-hole between Chambers A and B of lime kiln F6, looking west from Chamber A into B.

Photograph 10 Draw-hole between Chambers A and B of lime kiln F6, looking east from Chamber B into A.

Photograph 11 Lime kiln F6 Chamber B, looking south-west.

***Chamber B* (the bowl or pot)** (Figs 7-8 & 10) – Chamber B was D-shaped in plan, barrel-shaped in profile and was constructed of peg-tiles set horizontally in lime mortar (Photograph 11). Unsurprisingly given the high temperatures involved in lime burning, the walls of the chamber were heavily burnt and crumbling, and only a small section of the original face of the bowl had survived intact. As surviving, the chamber had a diameter of 1.9m. It was excavated to a depth of 0.94m, at which depth the chamber was 1.6m east/west by 1.04m north/south.

Chamber B and the adjacent Chamber C were clearly built at the same time, with the eastern wall of Chamber C forming the straight-wall of the bowl (Photograph 11). Within this straight-wall was a rectangular draw hole, *c* 0.56m wide and at least 0.6m high. Damage to the top section of wall means that the overall size and shape of the draw hole cannot be fully determined. However, looking at the wall from inside Chamber C, three peg-tiles are laid diagonally on one side of the upper section in a similar design to the arched draw hole in Chamber A (Photograph 12). The draw hole between Chambers A and B has already been described above.

Underneath backfill layers L5/L6 were deposits of lime and lenses of charcoal. This was most obviously seen in the draw hole between Chambers A and B where a deposit of lime (L29) sealed a layer of charcoal/ash (L22a), beneath which were a series of mixed lime layers (L30) (Photograph 9). Within Chamber B itself, L5/L6 sealed a layer of charcoal/ash (L22a) beneath which was a layer of broken peg-tile (L22b). This was not investigated in detail but could have been either demolition debris, or maybe event part of the arched vault over the furnace. This layer was identified at a depth of *c* 1m below the top of the chamber wall, but no further excavation took place and the base of the chamber/hearth was not exposed. No finds were recovered from any of the layers beneath L5/L6.

Chamber C (Figs 7-8 & 11) – Chamber C was roughly rectangular in plan with four walls and an entrance to the south. The north retaining wall was aligned east to west, and was 2.4m long by 0.3m wide with a maximum height of 1.7m. The western retaining wall was aligned roughly north-north-west to south-south-east, and was 2.96m long by 0.3m wide with a maximum height of 1.45m. Both were constructed of mortared courses of flint cobbles with two rows of flat peg-tile in between (Photograph 13).

The eastern and southern walls were both internal and constructed of mortared peg-tile alone (Photograph 12). The east wall was aligned north to south, and was *c* 0.3m wide with a maximum height of 1.38m. However, it had suffered the most damage with approximately half of the top section of wall missing, including the top of the arched draw hole into Chamber B. The wall was at least *c* 2.1m long but was incomplete at its southern end. The south wall was aligned west-south-west to east-north-east, was 0.7m long by *c* 0.4m wide, had survived to a height of *c* 1.1m, and included a doorway into the chamber.

As already described above, the remains of an arched draw hole connected Chamber C to Chamber B. Also in the east wall was a small arched opening, 0.18m wide by 0.18m high (Photograph 12). It was described on site as a shaft, and was possibly a draw-hole for Chamber B. However, it would have been an a very odd angle. A model of a lime kiln at Mouth Mill, Devon included a lean-to limeburner's hut on one the side of the kiln with an oven for cooking meals using heat from the kiln itself (Williams 1989, 9). Which raises the possibility that the small arched opening in Chamber C is an oven.

Within Chamber C, and beneath backfill layers L5/L6, were deposits of silty-clay mixed with lime (L21 sealing L23), and on the surface of L23 were the remains of wooden planks. Beneath L23 was another layer of lime (L27) on top of a layer of crushed peg-tile (L28). At *c* 1.6m from the top of the chamber wall, L27 could be similar to L24 in Chamber A and represent the floor of the chamber, suggesting that the layers above are either accumulation or associated with the demolition/decay of the structure. Pottery dated to 1200-1550 was recovered from L23 along a complete iron hinge with nailed U-shaped eye which could be from the doorway. Fragments of peg-tile and a possible hogsback ridge-tile came from L21. Layers L27 and L28 did not produce any finds.

Photograph 12 Lime kiln F6 Chamber C, looking east into Chamber B.

Photograph 13 Lime kiln F6 Chamber C, looking north-west.

In summary, excavation has shown that combustion Chamber B had two opposing draw-holes, both arched and with the hole into Chamber A seemingly a later addition. Chamber B was not excavated to the depth of the hearth, and no evidence was recovered for either a stone or clay ledge to support an arch (flare kiln) or a permanent grate (draw kiln). It is assumed that Chambers A and C would have had a roof, with Chamber A probably a lean-to structure. The external retaining walls for Chambers A and C were built of courses of peg-tile and flint, and would have been stronger that the internal walls between the chambers which were built of peg-tile alone. Used by the limeburners, Chambers A and C would have been used primarily to access and tend the hearth during the burn. Depending on the type of kiln, the calcined lime would have either been removed from the top of the chamber or raked out through the draw-holes into Chambers A and C. The chambers could therefore also have been used to store the calcined lime after burning, to store the fuel needed for the hearth, and/or to store tools.

With the exception of pottery dated to 1200-1550 from L23, all of the dating evidence from the lime kiln came from backfill layers (from contexts numbered F6 and L6). Pottery and CBM from these contexts dates to *c* 1475-1600.

Quicklime removed from the kiln would have resembled the raw product in size and shape, but because of calcination was only 44% of its weight (Williams 1989, 8-10). Quicklime can be transported in this state but was unstable as it reacts exothermically with water, generating steam. This was known as slaked lime. Farmers often transported quicklime to theirs fields where, when covered in earth and left to slake naturally, turned into a powder which could be ploughed in. Quicklime slaked with an excess of water to form lime putty could be mixed with sand to form a mortar. To the east of the lime kiln chambers, and at original ground level, a layer of lime (L7) covered the site (Photograph 14). The slaking process was usually done in a pit, but on this site this layer could represent a large area where quicklime was spread out and slaked (David Andrews pers comm).

Photograph 14 Lime layer L7, looking north-west.

5.3.2 Tile kiln F26 (Photographs 15-20; Figs 6, 12-13 & 15)

Approximately 4m to the south of the lime kiln was a tile kiln. The following brief summary of medieval kilns is taken from Pat Ryan's *Brick in Essex: The clayworking craftsmen and gazetteer of sites* (1999, 20). Medieval kilns were generally built with roofing tile, later kilns with brick. They were square or rectangular structures built partly below ground level and may not have had a permanent roof, with a temporary covering of brick, tile or turf used to protect the unfired load. Firing chambers were divided into two by a spine wall, forming two parallel flues fuelled from a stokepit. The flues were spanned by a number of arches which crossed from the side walls to the spine wall, and these arched spandrels were built to carry the floor of the kiln. Vents in the floor would have allowed heat to rise into the kiln. The sheer quantity of peg-tile, and importantly peg-tile wasters, from the development site shows that this tile kiln was producing peg-tile on a large-scale.

Tile kiln F26 had been constructed within large pit F42 which was over 7.5m long by 5.5m wide. The northeastern corner of the pit was excavated and was found to have been lined with whole waster peg-tiles, pushed into the natural clay edge of the feature in a fish-scale pattern (Photograph 15). It is uncertain if the peg-tile lining continued all the way around the kiln indicating that it was free-standing within the centre of the pit, or if it was just this back section that was left open once the kiln had been built. The latter is considered more likely as the whole idea of partially building kilns into the ground was that the ground gave a level of insulation which was beneficial for the operation of the kiln (Ryan 1999, 20).

Photograph 15 Tile-lined pit F42, looking east.

The tile kiln itself had survived relatively intact to a depth of 1.09m below the stripped level of the site, and had been backfilled with silty-clay and fragments of peg-tile. Aligned north-north-west to south-south-east, the kiln measured 4.5m long by *c* 3m wide, and consisted of a firing chamber fed by twin arched stokeholes. The stokepit pit would have been located to the south-south-east of the kiln beyond the southern edge of the excavation area.

In total, the kiln covered an area of 15 square metres and was subject to two area investigations. The first, *c* 6.5 square metres, on the southern edge of the excavation area exposed the surviving extent of the two arched stokeholes (Photograph 16). The remains were exposed, cleaned and recorded, but no further excavation took place as this area was to be

preserved *in situ* outside the footprint of the new development. To the north and within the firing chamber itself, an L-shaped area of *c* 5 square metres was excavated and recorded where the kiln was due to be heavily truncated by the new development.

Photograph 16 Front of tile kiln F26 showing the arched stokeholes and spine wall, with F38 beyond, looking north-east.

Photograph 17 Firing chamber of F26 showing the west and north walls, the arched spandrels that would have supported the floor, and the flue beneath with L31 and L32, looking west.

Photograph 18 Firing chamber of F26 showing the west and north walls, and the arched spandrels that would have supported the floor, looking south.

The kiln structure consisted of four external walls and a spine wall flanking two flues (Photographs 16-18). Three external walls around the firing chamber were at least partially exposed during the excavation and, as far as could be determined, were made of peg-tile set in a lime mortar. The northern wall was well-made and 0.3m wide. As exposed the western wall, at *c* 0.54m wide, was more of a spread of peg-tile without the crisp edges of the north wall. It is uncertain if the wall was deliberately built like this or, with further excavation and the removal of the upper layers of peg-tile, a more regular wall would have survived beneath.

Towards the front of the kiln, the external walls flanking the arched flues were made of brick and peg-tile in a lime mortar, as was the internal spine wall, with all three *c* 0.5m wide. The flues were 0.7m wide and capped at the southern end by arched stokeholes made of peg-tiles, one of which had survived reasonably well but the other had collapsed (Photograph 16). Associated with this front section of the kiln were a further two walls. To the north-east, and at a right-angle to the tile-kiln was wall F38, *c* 0.4m wide and built of flint nodules and peg-tile in lime mortar. To the south-west, and parallel to the kiln was the remains of wall F40, *c* 0.3m wide and built of peg-tile in a lime mortar.

A small sondage through north-west corner of the firing chamber revealed a layer of charcoal/ ash (L31) in the base kiln which sealed a dark reddish/brown clay layer (L32) which the kiln had been built on. The floor of the firing chamber was carried above the flues by at least seven tightly-spaced spandrels which are usually arched, but this was impossible to determine in this instance (Photographs 17-18). Aligned east-north-east to west-south-west and also made of peg-tile, three of the seven spandrels were still in place and measured *c* 0.25m wide.

In line with the spine wall, there is a small hole or vent through the north wall of the kiln into tile-lined pit F42 (Photograph 19). This could have been used to control the temperature of the kiln, or to create a warm room or workshop at the back of the kiln which was probably roofed. This space appears to have had direct access to Chambers A and C of the lime kiln, connecting the two kilns and allowing the tile makers/ limeburners to move freely between them.

Photograph 19 Firing chamber of F26 showing the spine wall, north wall, and the vent into F42, looking north.

Photograph 20 Beam slots F27 and F36, and floor F37, sealing pit F42, looking north-east.

Dating evidence from the tile kiln was scarce and mainly recovered from backfill over the structure. It included an earlier medieval pottery sherd (11th-early 13th century) and bonnet-hipped tile (13th-16th century). Two bricks, one of which came from the front wall of the kiln,

resembled bricks of late 17th to early 18th century date, but may actually be variations of an earlier form dating from the 15th to early 17th century (see Sections 6 and 8 for a discussion).

Tile-line pit F42 had been backfilled with a series of silty-clay layers mixed with peg-tile fragments and sealed by a thick layer of lime which seems to be similar to L7 further to the west (some of these layers were also recorded as F41). This in turn was partially sealed by F37, what was recorded as a possible floor of peg-tile fragments laid on a yellow brown sand. Floor F37 was cut by beam slots F27/F36, forming two sides of a rectangular structure that could be associated with the floor, although the floor appears to extend further to the north (Photograph 20). This sequence would suggest that the subterranean room at the rear of the kiln had been replaced with an above ground structure/workshop. A sherd of pottery from a bung hole cistern (dated *c* 1500-1625/1650) from the backfill of pit F42 would suggest that the replacement structure cannot date to before the 16th century.

5.3.3 Associated features

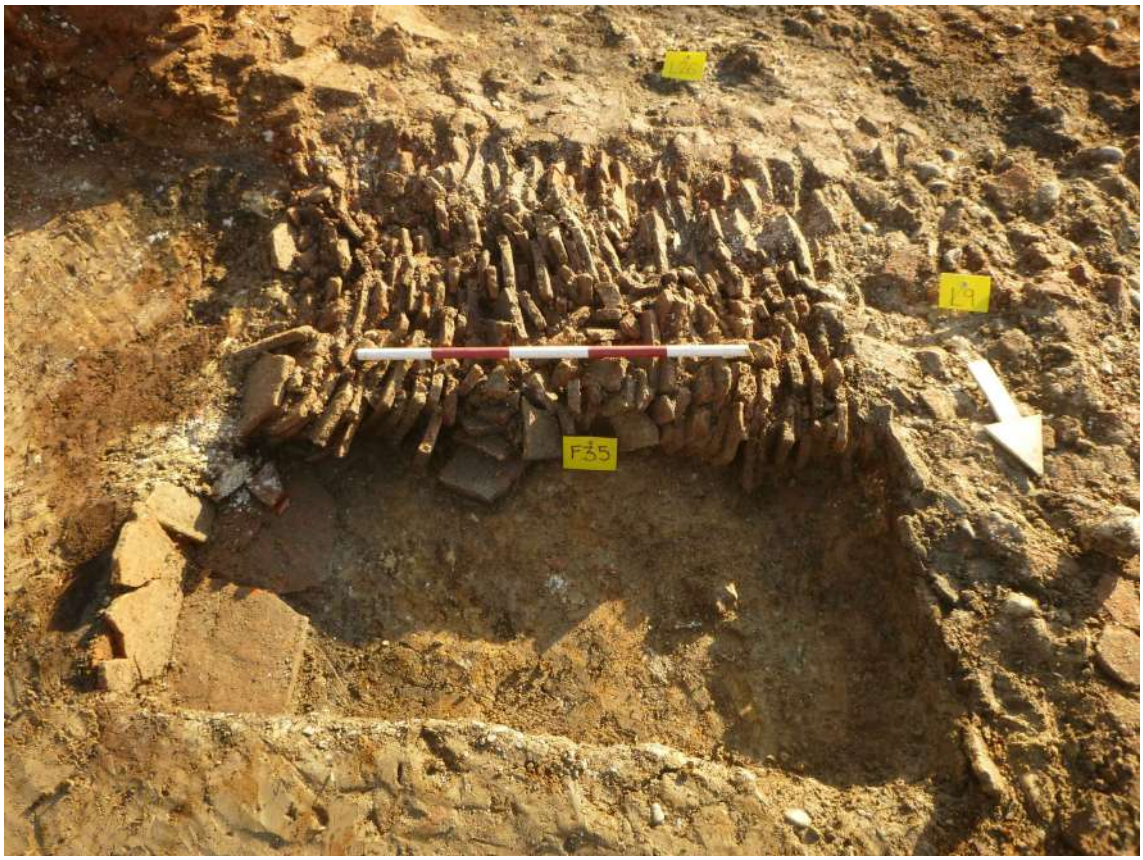
Ditches and drainage ditches (Photograph 21; Figs 6 & 14-15)
To the north of the lime kiln was north/south ditch F25 (0.72m wide, 0.14m deep). This had an uncertain relation with east/west ditch F16 (1.35m wide, 0.39m deep). Backfilled ditch F16 was sealed by metalled surface L10 in the north-west corner of the site, and had been replaced with drain F23 (0.6m wide, 0.08m deep), which was lined with ridge tiles. The terminus of ditch F16 cut ditch F13 which was aligned north-north-west to south-south-east (2.8m wide, 0.55m deep). All of these are probably drainage ditches designed to keep water away from the kilns, and ditch F10/F15 seen in evaluation trenches T2 and T4 (see above) may be a similar feature.

Photograph 21 Drain F23 in the top of backfilled ditch F16, looking east.

Ditches F17 and F19, and drain F20 were located in the southwestern corner of the site, to the west of ditch F13. Ditch F19 was a wide shallow feature (*c* 2m wide by 0.13m deep), with F17 and F20 smaller (0.78m wide by *c* 0.25m deep and *c* 0.42m wide by 0.2m deep respectively). Drain F20 had been stacked with peg-tile wasters and was probably similar to drain F23. Pit F7 was already recorded in the evaluation trench to the north of F20.

Backfill in the ditches included medieval and post-medieval pottery sherds, CBM and glass, with dating suggesting that none were still in use beyond the 17th century.

Additional buildings (Photographs 22-23; Figs 6 & 14-15)
Bounded by ditches F13, F16 and F25, and to the west of the lime kiln, was a series of structural features that likely represent an above ground workshop. This whole area was sealed by lime deposit L7, with tile spread L9 and accumulation/made-ground L12 beneath. Features underneath were east/west gully or beam slot F32 (0.33m wide, 0.1m deep), post-holes F28 and F29, pits F30 and F31, small area of peg-tile surface F18, and hearth F35. The hearth was roughly square in plan (*c* 0.85m by 0.85m, 0.13m deep) and had been made from vertically stacked peg-tiles (Photograph 22). Associated with these features were lenses of charcoal (L13, L18), scorching (L17, L26), and a stone spread (L16). Stone spread L16 was directly associated with scorching L17 and could represent another hearth. Underneath charcoal L13 was a layer of lime (L14). Feature F24 was thought to be a ditch, but the full extent or orientation of the feature was not determined, and neither was its relationship to the workshop. Stratigraphy would suggest that this building was demolished (represented by L9 and L12), before the area was used to slake lime (L7, see above). To the south of this activity, tile spread L9 sealed accumulation/made-ground L25. The only finds of note from these contexts were pottery dating to 1200-1550 from F24 and 1500-1700 from F31, and a lead weight from L13.



Photograph 22 Hearth F35, half-sectioned, looking south.

A similar feature to hearth F35 was located on the eastern edge of the site. The upper fill (*c* 0.25m deep) of square pit F22 was filled with crushed peg-tile and wasters, and was surrounded

by lenses of charcoal (L11) (Photograph 23). This could be the remains of another hearth. The lower fill of feature was recorded at *c* 0.46-0.65m thick. If all part of the same feature, it makes the interpretation of the upper fill as a hearth less likely. However, the lower fill could actually be part of accumulation/make-up F15/F25 and not a separate feature.

Photograph 23 Square pit (or hearth) F22 with charcoal lens L11, pre-excavation, looking south.

5.3.4 Photogrammetry

A photogrammetry survey of lime kiln F6 and tile kiln F26 was carried out by Alec Wade of CAT. This survey has helped formed the base of many of the plans and elevations in this report. A low resolution 3D model of the kilns can be found here: https://sketchfab.com/3d-models/gh-tile-kiln-04da5393d3484bd4a2f4576ecf7b4f02

7 Finds

7.1 Pottery and ceramic building material

by Dr Matthew Loughton

Post-excavation analysis was carried out on 116 sherds of pottery weighing 1,767g with an EVE of 0.84, and 1,005 pieces of ceramic building material (CBM) with a weight of 311kg. CBM accounts for approximately 90% of the assemblage by sherd count and 99% of the assemblage by weight (Table 1). A full catalogue of all the pottery and CBM can be found in Appendix 2 and 3.

Ceramic material	No.	%	Weight (g)	%	MSW (g)	EVE
Pottery	116	1.3%	1,767	0.6%	15	0.84
CBM	1,005	89.7%	311,496	99.4%	310	-
All	***1,121***	***-***	***313,263***	***-***	***279***	***0.84***

Table 1 Summary of the pottery and CBM.

7.1.1 Medieval and post-medieval pottery (Fig 16; Appendix 2)

The assemblage of medieval and post-medieval pottery was recorded according to the fabric groups from *CAR* **7** (Cotter 2000) while the number of vessels was determined by rim EVE (estimated vessel equivalent) (Table 2). There was a modest-sized assemblage of pottery at 116 sherds with a weight of 1,767g and an EVE of 0.84 (Tables 3-4). This material was recovered from 12 features and seven layers (Table 5). The majority came from accumulation/made-ground L25 which provided an assemblage of 54 sherds weighing 779g with an EVE of 0.15. More modest-sized assemblages came from ditch F16 (14 sherds, 337g, ?EVE:0.15) and ditch F25 (11 sherds, 77g).

Fabric code	Fabric description	Fabric date range guide
F13	Early Medieval sandy wares	11th-early 13th century
F13T	Early Medieval sandy wares transitional	early 12th-early 13th century
F20	Medieval sandy greywares	*c* 1150-1375/1400
F20D	Hedingham coarseware	*c* 1140-1325/1350
F21	Colchester-type ware	*c* 1200-1550
F22	Hedingham ware	*c* 1140-1325/1350
F40	Post-medieval red earthenwares	*c* 1500-19th/20th century
F42	Border ware	16th-17th century
F45	Stoneware	post-medieval
F98	Miscellaneous unidentified medieval & post-medieval wares, probably English	medieval to post-medieval

Table 2 Medieval and post-medieval pottery fabrics recorded.

Fabric group	Fabric description	No.	Weight (g)	MSW (g)	EVE
F13	Early Medieval sandy wares	10	92	9	0.00
F13T	Early Medieval sandy wares transitional	6	80	13	0.05
F20	Medieval sandy greywares	8	98	12	0.09
F20D	Hedingham coarseware	1	176	176	0.03
F21	Colchester-type ware	82	1,044	13	0.25
F22	Hedingham ware	1	5	5	0.06
F40	Post-medieval red earthenwares	2	122	61	0.00
F42	Border ware	1	2	2	0.00
F45	Stoneware	4	122	31	0.36
F98	Miscellaneous unidentified medieval & post-	1	26	26	0.00

	medieval wares, probably English				
	Total	***116***	***1,767***	***15***	***0.84***

Table 3 Summary of the medieval and post-medieval pottery listed by fabric group.

Fabric group	Form	EVE
F13T	All	0.05
	COOKING POT H1	0.05
F20	All	0.09
	COOKING POT H1	0.09
F20D	All	0.03
	STORAGE JAR LID SEATED	0.03
F21	All	0.25
	COOKING POT	0.07
	FRYING PAN	0.03
	'CHEAM COPY' JUG?	0.15
F22	All	0.06
	JUG	0.06
F45	All	0.36
	TANKARD	0.36
Total		***0.84***

Table 4 Medieval and post-medieval pottery quantification by vessel form.

The assemblage of pottery is dominated by Colchester-type ware (fabric F21), dating to *c* 1200-1550, at 82 sherds with a weight of just over 1kg and EVE of 0.25 (Table 4). Vessel forms include a possible 'Cheam copy' jug (EVE:0.15), dating to *c* 1400-1550 (Cotter 2000, 122, 128), which came from ditch F16 (Fig 16.1), and a possible frying pan (EVE:0.03), perhaps dating to the late 14th-15th century (Cotter 2000, 143, 145 fig. 94 nos. 152-153) from accumulation/ made-ground L25 (Fig 16.3). Finally, there was a Colchester-type ware cooking pot (EVE:0.07) which came from deposit L20 and a thumbed base sherd with a small bung hole from a cistern, dating from *c* 1250/1275-1550 (Cotter 2000, 134), also from L25.

There was a small assemblage of early medieval sandy wares (fabrics F13, F13T) at 15 sherds weighing 162g with an EVE of 0.05 (Table 4). The only identifiable vessel was a cooking pot with a flanged and upright neck (type H1) from pit F5, which dates to *c* 1150/1175-1225.

There was a small quantity of medieval sandy greyware (fabric F20) pottery at eight sherds with a weight of 98g. This includes a cooking pot (EVE:0.09) with a flanged and upright neck (type H1) from L25, dating to *c* 1150/1175-1225 (Fig 16.4).

A large storage jar with a lid-seated rim with thumbed strip (EVE:0.03), which came from L25 (Fig 16.5), could be a Hedingham product (Fabric F20D) dating to the 12th-early 13th century (Cotter 2000, 102-104 fig.60 nos. 22-23). One sherd of Hedingham ware (fabric F22), dating to *c* 1140-1325/1350, from a jug came from lime kiln F6.

Post-medieval pottery is uncommon and limited to seven sherds with a weight of 246g (Table 4). From ditch F17 there was one sherd of post-medieval red earthenware (fabric F40) with a dark purple/black glaze, which could be from a cup or mug dating from the 16th to the 18th century (Cotter 2000, 212-213 fig. 146). A bung hole from a cistern in fabric 40, dating to *c* 1500-1625/1650 came from pit F42. The remaining post-medieval pottery came from an unidentifiable stoneware tankard (EVE:0.36), dating to the 17th-18th century, which also came from F17 (Fig 16.2).

Context	Feature type	No.	Weight(g)	MSW (g)	EVE
F5	Pit	2	19	10	0.05
F6	Lime kiln	5	54	11	0.06
F13	Ditch	2	3	2	0.00
F16	Ditch	14	337	24	0.15
F17	Ditch	5	137	27	0.36
F19	Ditch/pit	1	6	6	0.00
F24	Ditch/pit	1	7	7	0.00
F25	Ditch	11	77	7	0.00
F26	Tile kiln	1	6	6	0.00
F31	Pit	1	2	2	0.00
F33	Part of L25	6	60	10	0.00
F42	Pit	2	117	59	0.00
L6	Backfill	1	6	6	0.00
L12	Accumulation/made-ground	4	88	22	0.00
L13	Charcoal spread	1	23	23	0.00
L15	Accumulation/made-ground	2	19	10	0.00
L20	Deposit	2	21	11	0.07
L23	Deposit in F6 Chamber C	1	6	6	0.00
L25	Accumulation/made-ground	54	779	14	0.15
	Total	***116***	***1,767***	***15***	***0.84***

Table 5 Quantities of medieval and post-medieval pottery from specific contexts.

7.1.2 Ceramic building material (CBM) (Figs 17-30; Appendix 3)
Because of the quantity of CBM (mostly of peg-tile) uncovered during the course of the excavation, it was not possible to retain or record all of this material. Instead only a sample of complete elements and non-peg-tile elements was collected from the site. Therefore the following report only reflects the material retained for post-excavation analysis and not the quantity of material from the site as a whole or any specified context.

The CBM sample consists of 1,005 pieces with a weight of *c* 311 kg and a mean sherd weight of 310g (Table 6). CBM was recovered from 28 features and 10 layers, with the largest assemblage from lime kiln F6 (250 pieces at 111kg), followed by peg-tile spread L8 (168 pieces at 65.6kg). Other notable assemblages came from pit/hearth F22 (111 at 22.3 kg) and ditch F13 (76 at 12.2 kg).

CBM code	CBM type	No.	Weight (g)	MSW (g)
Medieval and post-medieval				
PT	Peg-tile	837	199,615	238
RIDGE	Decorated crested ridge tile	1	1,534	1,534
BON	Bonnet-hip tile	32	22,349	698
BR	Brick	80	66,453	831
Undated				
	Unid. CBM	1	1,448	1,448
	Baked clay	32	9,305	291
	Mortar	19	7,120	375
	Chalk/lime	3	3,668	1,223
	Total	***1,005***	***311,496***	***310***

Table 6 Building material by period and type.

Peg-tile

Peg-tile accounts for a significant proportion of the CBM sample at 837 pieces with a weight of 199.6kg and mean sherd weight of 238g (Table 6). Many sherds are over-fired with bubbles forming on grey surfaces, while there are also some heavily deformed and warped examples sometimes with closed peg-holes indicating that peg-tile was fired on site (Fig 17.1, Fig 18.4, Fig 19.7, Fig 20.9, Fig 22.11, Fig 22.13, Fig 24.17). In rare instances the sanded surfaces have started to melt to give a false glaze. The peg-tile fabrics show some subtle variations in colour, ranging from red to brown, although these reflect the slightly different firing conditions. In some instances, the sanded surfaces contain some slightly coarser-sized sand but again these differences are subtle and form a continuum rather than discrete fabric groups. The most common fabric consists of peg-tile with a heavily reduced grey, slightly fused, core which represent over-fired examples; some may represent wasters or seconds. The Great Hallingbury peg-tile fabric cannot be differentiated in the hand-specimen from the products of other Essex medieval/post-medieval peg-tile kilns.

Fragments of peg-tile were recovered from a large number of contexts although a large proportion of this material came from a small number of contexts (Table 7). The largest assemblage is 216 pieces with a weight of 79.6kg from lime kiln F6, followed by peg-tile spread L8 (129 pieces, 36.3 kg). Other notable assemblages came from pit/hearth F22 (80 pieces, 13.1kg), ditch F13 (70 at 10.5kg) and pit F7 (51 at 1.9kg).

In Essex, most of the peg-tile made before the mid 13th century measured approximately 330mm x 200mm x 15-18mm and had a single nib (Ryan 1999, 10). By 1275 dimensions had reduced to 260mm x 165mm x 13mm, which became the legal standard in 1477, and had two peg-holes (*ibid*). Twenty-seven peg-tiles collected from the development site were intact or could be reconstructed to give dimensions (Fig 20.8). Peg-tile length ranges from 220mm to 280mm, breadth from 150mm to 175mm and thickness from 13mm to 17mm, with a median value of 260mm x 160mm x 15mm. The peg-tiles have two circular peg-holes, which have been pressed through, with diameters of 12-22mm. The peg-holes are positioned either towards the middle of the tile or at either edge. Based on this data, the peg-tiles from the site date from about 1275 onwards and, if manufacture continued after 1477, the legal standard was not scrupulously followed. Peg-tiles from the medieval tile kiln at Danbury, Essex, which has been dated to the late 13th to early 14th century, had dimensions of 270mm x 150-175mm x 12-15mm (Drury & Pratt 1975, 111). The peg-tile from the kiln at Weald View, Noak Hill, Essex, which has been dated from the late 14th until the mid-16th century, had lengths of 260-266mm, widths of 148-175mm and thicknesses of 10-15mm (Meddens *et al*. 2002-2003, 17 table 3).

There was one unusual possible peg-tile (? mm x 165mm x 15mm) from ditch F14 (15) with a short flange (excess clay which has been folded over the edge of the tile?) with a groove along one of the short ends (Fig 22.12) and also two slight ridges (mould marks?) on the sanded underside. Another peg-tile (backfill L6, finds no. 32) has thin three linear grooves (mould marks?) running across the upper surface (Fig 25.19).

Context	Description	No.	Weight (g)	MSW (g)
F1	Tile debris	18	1,831	102
F3	?Ditch	1	43	43
F4	Tile debris	6	498	83
F5	Pit	3	302	101
F6	lime kiln	216	79,644	369
F7	Pit	51	1,922	38
F9	Pit	13	777	60
F10	Ditch	35	7,095	203
F11	Pit	9	2,272	252
F13	Ditch	70	10,544	151
F14	Ditch	10	1,625	163
F16	Ditch	8	14,20	178

Context	Description	No.	Weight (g)	MSW (g)
F17	Ditch	7	586	84
F18	?Surface	1	533	533
F19	Ditch/pit	8	579	72
F20	Drain	41	9,772	238
F22	Pit/hearth	80	13,112	164
F23	Drain	3	2,865	955
F25	Ditch	9	983	109
F26	Tile kiln	6	2,685	448
F27	Beam slot	14	1,750	125
F31	Pit	2	126	63
F35	Hearth	17	3,208	189
F37	Floor	8	2,777	347
F41	Backfill within F42	10	1,548	155
F42	Pit	7	4,287	612
L2	Made-ground	6	724	121
L3	Made-ground	8	213	27
L6	Backfill within F6	11	3,785	344
L8	Peg-tile spread	129	36,347	282
L13	Charcoal spread	6	153	26
L15	Accumulation	1	77	77
L20	Deposit	3	62	21
L21	Lime deposit in F6 Chamber C	17	5,197	306
L25	Accumulation/made-ground	3	273	91
	Total	***837***	***199,615***	***238***

Table 7 Quantities of peg-tile from specific contexts.

Ridge and bonnet hip-tiles

Ridge and bonnet hip-tiles were recovered from 11 contexts, totalling 33 pieces weighing 23.8kg (Table 8). There was one decorated crested ridge tile from hearth F35, perforated with small holes and also covered with a patchy glaze (Fig 23.16), and one possible curved 'hogsback' ridge tile from drain F23 (31) (Fig 23.15). Both examples represent reuse of broken pieces of tile in these contexts. Most of the ridge and related tiles are in a more orange coloured oxidised fabric than the peg-tile although the fabric in the hearth specimen appears to be similar. Thirty-one pieces of bonnet hip-tile (weighing 22.3kg) date from the 13th to the 16th century (McComish 2015, 30). A complete example from tile kiln F26 (70) has a length of *c* 270mm with a round peg-hole (14mm) at the narrow end. A bonnet hip-tile from L6 (43) has a triangular notch cut at the narrow end (Fig 24.18); a hip-tile with a similar notch was noted in the Noak Hill tile assemblage (Meddens *et al*. 2002-2003, 18 fig. 9 no. 3). The production of hip-tiles at Noak Hill appears to be associated with the later use of the kiln (phase 4) and the early 16th century (Meddens *et al*. 2002-2003,18). Production of hip-tiles was also noted at Danbury and these have lengths of *c* 300mm (Drury & Pratt 1975, 112). Given the small quantities involved, it is perhaps unlikely that either ridge or bonnet hip-tiles were being made on site, especially as no wasters were positively identified. However, as only a selection of the most complete or unusual forms of tile were retained for post-excavation analysis, these tiles may have been more representative amongst the fragments that were left on site.

Context	Description	No.	Weight (g)	MSW (g)
F1	Tile debris	1	382	382
F6	lime kiln	6	3,077	513
F10	Ditch	1	435	435
F13	Ditch	1	408	408
F16	Ditch	2	872	436

Context	Description	No.	Weight (g)	MSW (g)
F20	Drain	1	306	306
F23	Drain	2	1,485	743
F26	Tile kiln	2	2,049	1,025
F35	Hearth	1	1,534	1,534
F37	Floor	1	550	550
F41	Backfill within F42	1	1,174	1,174
L6	Backfill within F6	2	1,711	856
L8	Peg-tile spread	7	4,213	602
L21	Lime deposit in F6 Chamber C	5	5,687	1,137
	Total	***33***	***23,883***	***724***

Table 8 Quantities of ridge and bonnet-hip tiles from specific contexts.

Animal prints

Five peg-tiles from lime kiln F6, backfill L6 and peg-tile spread L8 have animal prints from a small two-hooved animal (deer?) impressed on their surfaces (Figs 17.2-3, Figs 26-28). A bonnet-hip tile from L8 is very interesting with a mouse (woodmouse) being tracked by a cat (young cat or female based on the size), with the paw prints of a mustelid (ferret/polecat) also present, which were popular in the medieval and later period for catching rabbits (Julie Curl pers comm) (Figs 29-30). While animal prints are frequently encountered on Roman CBM they appear to be much less commonly on peg-tile and associated CBM. A small number of tiles with footprints of juvenile deer and a possible cat were noted at Noak Hill (Meddens *et al.* 2002-2003, 20).

Brick

There are 80 brick fragments with a weight of just over 66kg which were recovered from nine features and two layers (Table 9). Most of the brick fragments came from lime kiln F6 and peg-tile spread L8. The absence of brick wasters suggests that bricks were not being fired here and while there are some heavily burnt and deformed bricks with glassy deposits on their edges these come from the lime kiln (F6).

All of the brick fragments are un-frogged, creased and sometimes with striations on the upper surfaces. Seven complete bricks from lime kiln F6/L6 measured 240-245mm x 110-115mm x 50-60mm (Fig 18.5). These dimensions suggest that these are 15th century and Tudor 'place' bricks dating from the 15th to the early 17th century (which range from *c* 230-250mm x 100-120mm x 45-65mm) (Ryan 1996, 95). At 220mm, two complete bricks from F26 and F39 are similar in length to the late 17th to early 18th examples (which have dimensions of 210-230mm x 100-110mm x 45-50mm) (Ryan 1996, 95). However, one of these is thicker than usual for these types of bricks, and the shorter length may just be a variation of the earlier form. Where only a complete width or thickness could be measured, most would fit into the range of either of these two brick types, although seven examples were smaller at 32-37mm thick with another at 65mm wide. One unfrogged brick from lime kiln F6 (54) with dimensions of ? mm x 115mm x 48/50mm is in a slightly different fabric with red/orange nodules and is slightly more micaceous (Fig 19.6).

Context	Description	No.	Weight (g)	MSW (g)
F1	Tile debris	1	145	145
F2	?Drain	1	93	93
F6	lime kiln	20	26,918	1346
F7	Pit	4	175	44
F11	Pit	1	609	609
F13	Ditch	5	1,229	246
F26	Tile kiln	11	8,548	777
F27	Beam slot	4	180	45

F39	Part of tilekiln F26	2	2,080	1,040
L6	Backfill within F6	1	2,278	2278
L8	Peg-tile spread	30	24,198	807
	Total	***80***	***66,453***	***831***

Table 9 Quantities of brick from specific contexts.

Baked clay

There was a small assemblage of baked clay at 32 fragments with a weight of 9,305g and a mean sherd weight of 291g (Table 7). One piece of note was was a curved fragment (Fig 16.6) perhaps some form of kiln furniture or support from L25.

Catalogue of CBM illustrations

Fig 17.1 F6 (44) – Peg-tile.
Fig 17.2-3 F6 (49) – Peg-tile fragments with animal prints.
Fig 18.4 F6 (49) – Peg-tile waster with bubble forming.
Fig 18.5 F6 (49) – Complete brick.
Fig 19.6 F6 (54) – Fragment of brick in a different fabric.
Fig 19.7 F6/L6 (54) – Complete warped peg-tile.
Fig 20.8 F6 (55) – Complete peg-tile.
Fig 20.9 F10 (10) – Two waste peg-tiles fused together.
Fig 21.10 F10 (10) – Peg-tile wasters.
Fig 22.11 F11 (11) – Peg-tile waster.
Fig 22.12 F14 (15) – Peg-tile with two ridges and a groove on the edge.
Fig 22.13 F20 (26) – Peg-tile waster with cracked peg-hole.
Fig 22.14 F20 (26) – Bonnet-hip tile with inturned flange and maker's mark.
Fig 23.15 F23 (31) – Hogsback ridge-tile.
Fig 23.16 F35 (59) – Decorated crested ridge tile.
Fig 24.17 F42 (88) – Peg-tile waster, warped and deformed.
Fig 24.18 L6 (43) – Bonnet-hip tile with triangular notch.
Fig 25.19 L6 (32) – Peg-tile with three linear ridges.
Fig 26.20 L6 (89) – Peg-tile with ridges on one side and animal prints on the other.
Fig 27.21 L8 (45) – Peg-tile with animal print.
Fig 28.22 L8 (45) – Peg-tile with animal print.
Fig 29.23 L8 (45) – Peg-tile with animal prints (mouse, cat and ferret/polecat)

7.1.3 Conclusion

Table 10 summarizes the dating evidence for the contexts which contained dateable pottery and CBM. There is evidence for the production of peg-tile, and maybe ridge or bonnet hip-tile, a standard repertoire which is noted at other late medieval/early post-medieval tile kilns in Essex, including Danbury (Drury & Pratt 1975) and Noak Hill (Meddens *et al*. 2002-2003). One notable omission are plain and decorated floor tiles which were manufactured at Danbury (Drury & Pratt 1975, 112-122) and Noak Hill, albeit they appear to have been a minor product on the latter kiln (Meddens 2002-2003, 19-20). There is no evidence for the production and firing of pottery on the site.

Most of the pottery, peg-tile and bricks date from the medieval to the early post-medieval period. Lime kiln F6 possibly dates to the late 15th to the early 17th century, although this dating is heavily dependent upon the bricks recovered from the backfill given the small sample of pottery.

Context	Medieval/post-medieval pottery	CBM	Date Approx.
F1	-	PT, BONNET-HIP TILE, BR	Medieval/post-medieval
F2	-	BR	Medieval/post-medieval
F3	-	PT	Medieval/post-medieval
F4	-	PT	Medieval/post-medieval
F5	F13T (cooking pot H1)	PT	1150/1175-1225
F6	F13, F22 (jug), F98 (late F21 or F40? mug/cup)	BR (un-frogged), PT, BONNET-HIP TILE, LIME/CHALK	1475-1600?
F7	-	PT, BR	Medieval/post-medieval

Context	Medieval/post-medieval pottery	CBM	Date Approx.
F9	-	PT	Medieval/post-medieval
F10	-	PT, BONNET-HIP TILE	Medieval/post-medieval
F11	-	PT, BR	Medieval/post-medieval
F13	F13	PT, BR (un-frogged), BONNET-HIP TILE	Medieval/post-medieval
F14	-	PT	Medieval/post-medieval
F16	F13T, F21 ('Cheam copy' jug?)	PT, BONNET-HIP TILE	1400-1550
F17	F40 (cup/mug), F45 (tankard)	PT	1600-1800
F18	-	PT	Medieval/post-medieval
F19	F21	PT	Medieval/post-medieval
F20	-	PT, BONNET-HIP TILE	Medieval/post-medieval
F22	-	PT	Medieval/post-medieval
F23	-	PT, RIDGE (HOGSBACK?)	Medieval/post-medieval
F24	F21	BONNET-HIP TILE	1200-1550
F25	F13, F20, F21	PT	1200-1550
F26	F13	PT, BONNET-HIP TILE, BR (UN-FROGGED)	Medieval/post-medieval
F27	-	PT, BR	Medieval/post-medieval
F31	F42	PT	1500-1700
F33	F13T, F20, F21	-	1200-1550
F35	-	PT, DECORATED RIDGE TILE	Medieval/post-medieval
F37	-	PT, BONNET-HIP TILE	Medieval/post-medieval
F39	-	BR (UN-FROGGED)	Medieval/post-medieval
F41	-	PT, BONNET-HIP TILE	Medieval/post-medieval
F42	F13, F40 (cistern)	PT	1500-1625/1650
L2	-	PT	Medieval/post-medieval
L3	-	PT	Medieval/post-medieval
L6	F21	PT, BONNET-HIP TILE, BR (UN-FROGGED)	Medieval/post-medieval
L8	-	PT, BONNET-HIP TILE, BRICK (UN-FROGGED)	Medieval/post-medieval
L12	F21	-	1200-1550
L13	F13	PT	Medieval/post-medieval
L15	F21	PT	1200-1550
L20	F21 (cooking pot)	PT	1200-1500
L21	-	PT, BONNET-HIP TILE	Medieval/post-medieval
L23	F21	-	1200-1550
L25	F20 (cooking pot H1), F20D (storage jar lid-seated), F21 (cistern, frying pan)	PT	*c* 1250/1275-1550

Table 10 Approximate dates for the individual contexts.

7.2 **Small finds** (Figs 31-34; Appendix 4)

by Laura Pooley

Twenty-one small finds were recovered during the archaeological evaluation and excavation. They included items of personal adornment or dress, lead weights, woodworking and agricultural tools, and structural fittings. A full catalogue description for each small find, with measurements, can be found in Appendix 4.

Personal adornment or dress

A complete copper-alloy pin (SF1), probably used to hold a women's headdress in place (Egan 2005, 51), came from the backfill (L6) of the lime kiln (F6). The pin is made of two hemispheres, the lower fitted over the long shaft with the two halves of the head fixed together by filling the hollow with solder. Similar pins from London and other sites have suggested a date of *c* AD 1450-1700 (*CAR* **5**, 7-9, ref. 1383; Egan 2005, ref. 221 & 224). However, similar pins from York have been found in contexts dating from the 11th/12th century through to the 16th century and beyond, suggesting a longer-lived form (Ottoway & Rogers 2002, 2917). From ditch F17 was a complete copper-alloy wire dress-fastener or hooked tag (SF2). Of Class A type 1 form, these objects are generally dated from *c* 1445-1600 (Read 2008, 155, ref. 582-6), although the form does continue in use into the early 20th century. Together, a date range from the mid 15th to the 17th century for both items is suggested.

Fig 31.1 SF1, L6, finds no. 38. Complete copper-alloy hair pin. Short, round-section shaft, *c* 1.8mm diameter. The hollow spherical head is made from two hemispheres soldered together; the pin passes though a hole in the underside of the lower hemisphere. The head is very top heavy and plain.

Fig 31.2 SF2, F17 sx2, finds no. 21. A complete copper-alloy wire dress fastener, Class A, type 1 form (Read 2008, p155, 582-6) of late medieval/early post-medieval date, *c* AD 1445-1600. It is made from a single piece of circular sectioned wire, folded in half and flattened at the fold to form the hook, with two out-turned circular attachment loops at the end of each arm (also flattened). Also now bent in half.

Weights

There were three lead weights. The first from L13 (SF3) is circular in plan and domed in cross-section weighing 22g. The second from L25 (SF7) is circular in plan, flat and decorated with a raised wheel-design motif. It weighs 63g. The last was unstratified (SF10). Also circular in plan and domed in cross-section, the flat base has a large and irregular cut-out section across it, possibly to reduced the weight. It weighs 128.6g.

Fig 31.3 SF3, L13, finds no. 73. Complete lead weight. Small, circular in plan, domed in cross-section. The base is recessed leaving a raised lip around the circumference and it has a small circular hole in the centre that is not that deep.

Fig 31.4 SF7, L25, finds no. 76. Complete lead weight. Virtually circular in plan, flat and decorated with a raised design of eight spokes radiating from a central pellet (wheel-design).

Fig 31.5 SF10, U/S, finds no. 77. Complete lead weight. Circular in plan with slightly irregular edges and domed in cross-section. The flat base has a large and irregular cut-out section across it with small shallow central hole.

Woodworking tools

Auger spoon bits were recovered from L8 (SF12) and F41 (SF19). Used to bore and enlarge holes in wood they were an essential woodworking tool. Similar examples have been found in a range of medieval contexts (Egan 2005, 152-3, ref. 802-4; Goodall 2011, 23-25, ref. B41-68; Ottoway & Rogers 2002, 2726-7).

Fig 32.6 SF12, L8, finds no. 29. Complete iron auger spoon bit. It has a lanceolate terminal (*c* 40mm long, 13.8mm wide, tapering from 5.4m thick to 2.2mm at tip) leading to a very short, probably oval-section, shaft (*c* 10mm long, 8.2mm wide, 8.5mm thick). The gouge-shaped blade in long and narrow, tapering to a broken nose (*c* 68mm long, 10.8mm wide tapering to 5.2mm, and 6.8mm thick tapering to 3.6mm).

Fig 32.7 SF19, F41, finds no. 84. Incomplete iron auger spoon bit. The terminal is missing and the long shaft is rectangular in cross-section (*c* 149mm long, 15.7mm wide, 7.6mm thick). The spoon-shaped blade is very short, but may be broken (difficult to tell amongst the corrosion) (*c* 33mm long, 25.2mm wide, 12.9mm thick).

Agricultural tools

An incomplete iron weedhook (SF15) from lime kiln F6 is both tanged and flanged, and may have had a crescent-shaped blade (Goodall Type 2A; Goodall 2011, 81, ref. F57). The tang has a clenched tip and has flanges would have gripped the shaft to the wooden handle. Weeding was an important activity in medieval agriculture between spring and early summer (Goodall

2011, 81). A fragment of curved iron blade from F26 (SF17) could be part of another weedhook or perhaps a reaping hook.

Fig 33.8 SF15, F6, finds no. 56. Incomplete iron weedhook. The weedhook is tanged with a clenched tip and flanges which would have gripped the shaft of the wooden handle. The blade is broken, but the angle suggests that it could have been a crescent-shaped blade.

Household utensils
A fragment of lava quernstone with dressed surface came from ditch F16 (SF20), suggesting that people where living on the site, at least for short periods of time, and grinding grain into flour.

Structural fittings and fasteners
A complete medieval iron hinge with nailed U-shaped eye came from L23 (SF13) in Chamber C of the lime kiln. Hinges were used on doors, gates, window shutters, trapdoors and well covers around buildings, and nailed U-shaped eyes provided a secure way of attaching the hinge as both the strap and rear terminal of the eye were nailed in place (Goodall 2011, 165, ref. 412-448). From L25 was a U-shaped staple (SF14) with straight-sided arms. Used to bind wood together or attach fittings to wood and stone, U-shaped staples in particular must have been used to hold chains and hasps on doors and gates, and to support tethering rings and various types of handle (Goodall 2011, 162). A worked chalk block found in Chamber C of the limekiln (SF21) could have been structural. Thirteen complete, incomplete and fragmentary iron nails were also recovered from L6 (x1), L13 (x6), F7 (x1), F26 (x4) and F31 (x1).

Fig 34.9 SF13, L23, finds no. 69. Iron hinge with nailed U-shaped eye. Flat rectangular strap (*c* 128mm long, 27mm wide) with a plain terminal. Where the strap leads to the U-shaped eye it becomes square in section before being flattened into a lozenge-shaped rear terminal (66mm long, max. 20mm wide). Three *in situ* nails pass through the strap and would have fixed the hinge in place, some mineralised wood is evident around the nails and on the back of the strap. The nail nearest to the eye passes through both the strap and lozenge terminal.

Objects the function or identification of which is unknown or uncertain
A copper-alloy ring was recovered from L25 (SF6) with another fragment found in a spoil heap (SF11). Also from L25 was a large, fairly irregularly-shaped, lead rivet (SF5). The irregular surface has two deliberately scored lines across it. Fragments of iron strip and sheet came from F13 (SF16) and F41 (SF18), with fragments of lead sheet from L25 (SF8) and scrap pieces of lead from L13 (SF4) and unstratified (SF9).

Fig 34.10 SF5, L25, finds no. 72. Lead rivet, roughly oval-shaped with irregular edges. The surface has two scored lines across it, one across the whole length and another on a diagonal from roughly the centre to the outside edge.

7.3 Glass, oyster shell and chalk
by Laura Pooley

Fragments of glass came from five features. Three substantial pieces of 17th- to 18th-century wine bottle from ditch F13, but all the rest of the fragments were very small and, dating from the 19th to 20th century, were intrusive and evidence of modern disturbance.

Eight oyster shells are probably evidence of food consumed on the site. Oyster shells could be burned to make lime, but in such small quantities it is unlikely that was happening here.

Context	Finds no.	Description
Glass		
F13	19	Three fragments of olive green glass, two joining, with thick iridescence, 416.4g. The fragments are from the push-up base of two, probably globular, wine bottles. 17th to 18th century.
L6	90	Tiny fragment of green glass, 0.6g. 19th to 20th century.
L11	41	Fragment of green glass, probably from the base of a wine bottle with embossed ridges around circumference, 8.1g. 19th to early 20th century.
L13	<2>	Fragment of clear glass, 1.4g. 19th to 20th century.
L25	66	Fragment of green glass, 1.7g. From a bottle as there is a partial letter, possibly an N, embossed on the surface. 19th to early 20th century.
Oyster shell		
F5	17	Right valve, 6.5g.
F26	65	Three right valves, 28.7g.
L6	39	Right valve, 10.1g.
L11	30	Right valve, 14.7g.
L25	66	Two right valves, 26.4g.
Chalk		
L6	55	15 fragments of chalk taken as a sample, 2,406g.

Table 11 Glass, oyster shell and chalk listed by context.

7.4 Animal bone

by Alec Wade

Introduction

The excavation produced a small assemblage of 19 pieces of hand collected animal bone weighing a total of 0.604kg from three ditches (F13, F17 and F25), a pit (F42), a charcoal spread (L11), accumulation layer (L25/F33) and other deposits associated with the lime kiln (L6, L8/F6, L21) and tile kiln (F26, F41 and F42). Additionally, environmental samples from two contexts (L13 and F26) provided another 269 very small pieces of animal, bird and amphibian bone weighing 9g. This material is briefly summarised at the end of the results section.

Methodology

The hand collected assemblage was recorded using a system based upon the rapid method devised by S.J.M. Davis (*Ancient Monuments Laboratory Report 19/92*). Briefly, all the bone and teeth fragments are examined but only a restricted suite of skeletal parts are recorded as a matter of course – these being chosen because they are relatively easy to identify and represent most regions of the mammalian body (head, girdles, limbs and feet). When these parts are present in sufficient numbers, they can provide the maximum useful information regarding sex, age, butchery practice and metrical data. These skeletal parts are referred to as the **parts of skeleton always counted** (POSAC). The remaining pieces of bone are referred to as **non-countable specimens** (NCS) and consist largely of undiagnostic fragments. Beyond a basic level of quantification these are of no further interest unless these are found to offer the only evidence for the presence of a species otherwise not represented amongst the POSACs.

Results

The surface condition of the bone ranged from fair to very good, with little or no colour discolouration in a few examples. Five species were identified amongst the hand-collected assemblage including cattle (four pieces), rabbit (three), pig (three), sheep or goat (two, no distinction being possible due to a lack of diagnostic features), and domestic fowl (one). Rabbit and pig[2] were the only species to be represented by POSACs with the remainder being present only amongst the more fragmentary NCS material[3].

2 Three and two POSACs + one NCS respectively.
3 Cattle four pieces; sheep or goat two; domestic fowl one.

Context	Finds no.	POSAC or NCS	Taxon	No. of pieces	POSAC (%)[4]	NCS comments
F13	12	NCS	Ovis/Capra (sheep/goat)	1		Humerus diaphysis fragment.
		NCS	Sheep or goat sized	1		Diaphysis fragment.
F17 sx2	20	NCS	Bos taurus (domestic cattle)	1		Proximal tibia diaphysis fragment with cut or chop marks. Dog gnawed and slightly discoloured.
F25	46	NCS	Cattle or horse sized	1		Vertebrae fragment.
F26	86	Mandible	Sus domesticus (domestic pig)	1	33%	Right mandible (male).
		Mandible	Sus domesticus (domestic pig)	1	33%	Left mandible (male).
		Tibia (distal) F	Oryctolagus cuniculus (European rabbit)	1	100%	
		Ischium	Oryctolagus cuniculus (European rabbit)	1	100%	
F33 sx2	52	NCS	Ovis/Capra (sheep/goat)	1		Metatarsal diaphysis fragment.
F41	91	Femur (distal) F	Oryctolagus cuniculus (European rabbit)	1	100%	
F42	81	NCS	Bos taurus (domestic cattle)	1		Radius diaphysis, heavily dog gnawed. Discoloured with very poor surface condition.
L6	39	NCS	Cattle or horse sized	2		Rib fragments with transverse cut or chop marks.
L8/F6	60	NCS	Bos taurus (domestic cattle)	2		Proximal radius and ulna fragments. May be multiple faint transverse cut marks on anterior face of radius.
L11	30	NCS	Unidentified	1		Dog gnawed unidentified (ulna fragment?) of a cow or horse sized mammal. Poor surface condition and slightly discoloured.
L21	63	NCS	Sus domesticus (domestic pig)	1	80%	Right mandible.
L25	66	NCS	Gallus domesticus (chicken/domestic fowl)	1		Proximal tibio-tarsus.
		NCS	Sheep or goat sized	1		Mandible fragment. Discoloured and in poor condition.

Table 12 Animal bone by context.

Cut or chop marks associated with butchery were found on two cattle bone fragments and one cattle or horse sized piece[5]. Three pieces of bone, all NCS, had been dog-gnawed. Two of these were of cattle (radius and tibia fragments) and the other unidentified[6].

4 Each POSAC is given a percentage value based upon its estimated completeness with 100% representing a complete example of its type. For example, a femur rated 100% represents an entire intact femur, not just the complete distal lateral condyle that qualifies it as a POSAC. An exception to this is the ischium where a rating of 100% represents the complete acetabulum and not a complete pelvis consisting of ischium, pubis, and ilium.

5 From ditch F17 sx2, backfill layer L6 and peg-tile spread L8/F6.

6 Ditch F17, pit F42 and charcoal layer L11.

Measurable data
The only measurable element from the assemblage was provided by the pig mandible from L21 where both the M1 and M2 were both present.

Context	Finds no.	Tooth	L	wl	wll	Notes
L21	63	M1	16.48	10.52	11.35	Measured in jaw.
		M2	21.21	13.61	13.22	Measured in jaw.

Table 13 Measurable data.

Tooth wear stage and mandible wear stage
Tooth wear stage[7] could be recorded for the P4s from both the left and right pig mandible fragments from F26 and the pig mandible from L21.

Context	Finds no.	P4	M1	M2	M3	Notes
F26	86	b				Left mandible.
F26	86	b				Right mandible.
L21	63	c	j	e	M3 not erupted	

Table 14 Tooth wear stage and mandible wear stage.

Animal bone from the environmental samples
Environmental samples from charcoal spread L13 and tile kiln F26 produced 269 very small bone pieces, all less than 14mm in length and weighing a total of 9g.

Fragment size	Total weight (g)	No. of pieces	Comments
<10mm	2	Approximately 240	Microfauna, bird and amphibian fragments. One piece is calcinated.
10 – 22mm	6	12	At least one piece has been burnt. Includes two pig incisor fragments and two sheep or goat maxilla premolars.

Table 15 The animal bone from sample <2> L13.

Fragment size	Total weight (g)	No. of pieces	Comments
<14mm	1	17	Microfauna and frog bone.

Table 16 The animal bone from sample <6> F26.

Conclusion
Given the industrial nature of the site it is not surprising that the hand-collected animal bone assemblage recovered was limited in both quantity and diversity. Five species were identified including both domestic (cattle, pig, sheep/goat and chicken) and wild (rabbit) species.

Peripheral ditches and pits contained very minor amounts of animal bone waste as did contexts more directly associated with the lifetime of the kilns and their eventual disuse. Cut marks associated with butchery were noted on three pieces, all likely to be cattle bone. Evidence of dog-gnawing was also apparent on three fragments (two of which were larger pieces of cattle bone) indicating the residual nature of the deposited waste material.

The only complete bones recovered were all rabbit and represented elements of the pelvis and rear leg. These were recovered from the tile kiln F26 and from the layers of backfill in F42 (F41). Given their excellent condition and the stratigraphical problems associated with small burrowing animals these are potentially intrusive in these deposits.

The large number of pieces provided by the environmental samples included microfauna (mostly rodent), small bird and frog bone. Despite most of these pieces being associated with

7 These are assigned to the eruption and wear-stages of Grant (1982) for cattle, sheep/goat and pig. In the original methodology sheep/goats are assigned to the eruption and wear-stages of Payne (1987).

the charcoal spread L13 only two pieces showed any signs of burning. This would suggest that the presence of this fauna was not related to the creation of the charcoal spread but occurred after its deposition, possibly associated with a period of disuse.

8 Archaeobotanical assessment, charcoal identification & radiocarbon dating

8.1 Archaeobotanical assessment

by Lisa Gray

Introduction, sampling and processing methods

Ten samples were taken during the excavation, ranging in size from 10L to 40L, eight of which produced archaeobotanical remains (see Table 17). Sampling and processing was carried out by Colchester Archaeological Trust using standard flotation equipment with a 500mm mesh for recovery of the flot. The author has been advised of no known biases in recovery, contamination or residuality.

Assessment methodology

Samples were assessed using the standard methodology outlined in the Historic England *Guidelines for Environmental Archaeology* (Campbell *et al*. 2011). Each flot was fully scanned under a stereo-microscope with magnification of 10-45x. At assessment level the abundance of plant macro-remains is estimated unless the number of items is few (less than ten). The diversity of plant taxon types are also estimated. Level of preservation of plant macro-remains is given as identifiable to family, genus or species. Faunal remains are noted in general terms with only abundance noted.

Identifications were made using uncharred reference material (author's own and the Northern European Seed Reference Collection at the Institute of Archaeology, University College London) and reference manuals (such as Beijerinck 1947; Cappers *et al.* 2006; Cappers *et al.* 2023; Charles 1984; Jacomet 2006). At assessment level full identifications are only made of significant plant macro-remains. Where given the nomenclature for the plant macro-remains follows Stace (Stace 2010). Latin names are given once, and the common names used thereafter. Quantities were estimated in the following way:

Abundance
1 = 'Low' = <10
2 ='Moderate' = 10-100
3 = 'Abundant' = >100
Diversity
1 ='Low'= <3 taxon types
2 ='Moderate' = 3 to 10 taxon types
3 ='High' = >10 taxon types
Preservation
1 = Identifiable to family
2 = Identifiable to genus
3 = Identifiable to species

The quantity of identifiable charred wood >4mm in diameter has been noted separately from the quantity of charred wood flecks. Fragments this size are easier to break to reveal the cross-sections and diagnostic features necessary for identification and are less likely to be blown or unintentionally moved around the site (Asouti 2006, 31; Smart & Hoffman 1988, 178-179). Charred wood flecks <4mm diameter have been quantified but not recommended for further analysis unless twigs or roundwood fragments larger than 2mmØ were present.

Abundance, diversity and state of preservation of the archaeobotanical remains

Samples from L11 (sample <1>), L18 (sample <3>), F6 (sample <4>), L23 (sample <5>) and F26 (sample <6>) were all dominated by charcoal fragments. The sample from L31 (sample

<10>) was the least productive containing only modern rootlet fragments, low numbers of terrestrial mollusca and charcoal flecks too small to identify. The sample from L13 (sample <2>) produced a moderately abundant charred assemblage consisting of charcoal, cereal grains of oat (Avena sp.) and free-threshing type wheat (*Triticum aestivum/durum/turgidum*) and a small-seeded legume cotyledon.

Potential of the archaeobotanical remains to contribute to project aims and research issues of wider significance
The samples from F2, F26, L11, L13, L18 and L23 contained charcoal fragments of identifiable size that will be further analysed with the aim to select material suitable for radiocarbon dating. Once dated, the moderate charred grain and seed assemblage from L13 (sample <2>) may be of value.

Recommendations for archaeobotanical remains suitable for scientific dating if requested
The charcoal will be analysed with a view to selection of suitable taxa for radiocarbon dating. The plant macro-remains in L13 (sample <2>) may also be suitable.

Recommendations for future work and resources required for future work
The charcoal will be analysed and further work on the plant macro-remains from L13 may be useful.

8.2 Charcoal identification

by Lisa Gray

Introduction
Charcoal of identifiable size were found in seven samples and one hand collected assemblage.

Methodology
Charcoal identification and analysis followed standard procedures (see Hather 2002; Schoch *et al*. 2004; Pessin 2009). Charcoal fragments larger than 4mm Ø in size were picked out for identification. This is because it is difficult to make identifications of charcoal fragments that are smaller than 4mm Ø in size because the diagnostic features necessary for identification may not be visible in such small fragments (Asouti 2006, 31; Smart & Hoffman 1988, 178-179). A maximum if 100 fragments per sample were selected for analysis. If this number was greater than the fragments in the sample a riffle box was used to make a random selection. Fragments <4mm were scanned to look for twigs.

When fragments were broken to reveal anatomical features, they were wrapped in foil to keep those fragments intact so they could be counted and weighed. Each fragment was weighed and rings counted if intact or partial roundwood with pith present and notes made of ring curvature, presence/absence of radial cracks, presence/absence of tyloses, presence/absence of reaction wood, level of vitrification and evidence of degradation (fungal or insect activity) (analysis based on current guidelines, see Pessin 2009). Charcoal identifications were made under epiluminating microscopy and using modern reference material (author's own) and anatomical guides (Gale & Cutler 2000; Hather 2000; Schoch *et al*. 2004; Wheeler 2011).

Results of identifications and dendrological analysis

Taxa types identified
Fragments of ash (*Fraxinus excelsior* L.), beech (*Fagus sylvatica* L.), birch (*Betula* sp.), cherry / plum/Blackthorn (*Prunus* spp.), elm (*Ulmus* sp.), hazel (*Corylus avellana* L.), hornbeam (*Carpinus Betula* L.) and oak (*Quercus* sp.) were present.

Identification Notes
Fragments of ash were clear from their ring porous vessel arrangement with short radial files in the transverse section (TS), the uni- to tri-sereate ray widths, simple perforation plates and lack

of spiral thickening in radial longitudinal section (RLS) and tangential longitudinal sections (TLS).

The tangential bands of vessels in the TS clearly identified these fragments as elm.

Oak fragments were also identified by the clear flame -like ring porous vessel distribution and the large multiseriate rays seen in all sections. It is not possible to identify oak to species based on microscopic wood anatomy alone (Hather 2000, 35; Schoch *et al.* 2004)

Fragments of cherry/plum/blackthorn wood were identified via the diffuse vessel distribution in TS and simple perforation plates, a 1 to 3 ray width and spiral thickening seen in the RLS and TLS. Wood of plum (*P.domestica* L.) and blackthorn (*P.spinosa* L.) cannot be separated on their microscopic wood anatomy. Neither can the wood of cherry (*P.avium* L.) and sour cherry (*P.cersasus* L.) or bird cherry (*P.padus* L.) and Mahaleb cherry (*P.mahaleb* L. (Schoch *et al.*2004). For this report *Prunus* spp. wood has been identified as cherry/plum/blackthorn species cannot be separated by using microscopic wood anatomy alone (Hather 2000, 35; Schoch *et al.* 2004).

Fragments of beech and cherry/plum/blackthorn both have similar TS anatomy with diffuse distribution of vessels and some species of cherry/plum/blackthorn having wide rays like beech does. Beech can be confused with wild cherry (*Prunus avium* L.) but wild cherry has solely simple perforation plates and widely spaced spiral thickenings (Schoch *et al.* 2004). A significant difference between beech and cherry/plum/blackthorn wood is that beech as no or very feint spiral thickenings and cherry/plum/blackthorn woods have distinct, sometimes very clear spiral thickenings (ibid.). Beech also has multiseriate rays so, for this report, fragments with diffuse vessel distribution in the TS, large rays and no spiral thickening were in RLS and TLS identified as beech.

Birch was identified in fragments with diffuse porous vessel distribution with short radial files in the TS and bi to tri-sereate rays and sclariform plates with more than ten thin bars in the RLS and TLS. The two native birches cannot be distinguished microscopically (Hather 2000, 104; O'Donnell 2007, 29).

Hazel was identified with its diffuse porous distribution of vessels in long radial files in the TS and mostly uniseriate rays in the RLS and TLS. What is distinctive for hazel are its sclariform plates that have ten or less thick bars across them.

Hornbeam was identified after close examination of diffuse porous wood with radial files in the TS. Like hazel, hornbeam has diffuse radially arranged vessels in TS and mostly uniseriate rays but it lacks the sclariform plates of hazel. Hornbeam also has occasional aggregate rays and if spiral thickenings are present they are 'delicate' (Schoch *et al* 2000).

Dendrological Analysis

Wood types and presence/absence of reaction wood

Fragments were first identified as stem/branchwood, roundwood fragment (broken longitudinally) or roundwood (whole). Most of these fragments were too small to see any reaction wood and where larger fragments of roundwood fragment were present, reaction wood was not seen. This means that it was not possible to separate those fragments from main stem or branch wood.

96% of the fragments were of stem/branchwood, 2% were of part-roundwood and roundwood meaning that most of the fragments were stem/branchwood, eight were roundwood and five were roundwood fragment.

Ring curvature

The growth ring curvature for most of these charcoal fragments was weak, with parallel rays and no reaction wood meaning that they came from large branches or tree trunks (Marguerie &

Hunot 2007, 1421-1422). Fragments of roundwood and roundwood fragment has strong growth ring curvature.

Radial Cracks
Radial cracks in charcoal fragment have been interpreted as being evidence that the wood was burnt unseasoned wood. However, research is still ongoing into this assertion and that interpretation is currently in doubt (Théry-Parisot & Henry 2012). For the charcoal from from *Tile Green Kiln* radial cracks are most frequent in oak and ask fragments.

Tyloses
The presence of tyloses in the vessels of the charcoal could also be interpreted as evidence of the use of large logs in fires (Kabuku 2017, 14) because tyloses form in the earlier growing heartwood rather than younger sapwood. At Tile Green Kiln most of the tyloses were seen in the vessels of oak wood meaning that large logs of mature oak could have been used to fuel the kilns.

Level of vitrification
Evidence of burning at high temperatures by examining the level of vitrification of charcoal has been considered but experimental work has concluded that this not always the case and that more work needs to be done (McParland *et al.* 2010). At this site all the fragments had low levels of vitrification meaning that the anatomy was clear and unfused (Marguerie & Hunot 2007, 1421).

Evidence of fungal or insect degradation
Fungal and insect degradation was absent in all fragments apart from one fragment of oak from lime kiln chamber A F6 sample <4> that appeared to have fungal material in it.

Results by feature (see Table 18)

L11 patchy layer of charcoal (sample 1)
Fragments of ash, beech, oak and cherry/plum/blackthorn stem/branchwood and one fragment of cherry/plum/blackthorn roundwood were found in this sample. The distribution of taxa were as follows:

- Ash 45%
- Oak 38%
- Beech 13%
- Cherry/Plum/Blackthorn 5%

L13 Charcoal Spread (sample 2)
Fragments of ash, beech, cherry/plum/blackthorn, hornbeam and oak were found in this sample and all were of stem/branchwood. The distribution of taxa were as follows:

- Oak 35%
- Ash 31%
- Beech 21%
- Cherry/Plum/Blackthorn 11%
- Hornbeam 2%

L18 Charcoal Spread (sample 3)
Fragments of ash, beech, cherry/plum/blackthorn and oak were found in this sample. All were fragments of stem/branchwood. The distribution of taxa were as follows:

- Oak 70%
- Ash 10%
- Beech 10%
- Cherry/Plum/Blackthorn 10%

F6 Lime Kiln chamber A (sample 4)
Fragments of ash, cherry/plum/blackthorn, hazel, hornbeam and oak were found in this sample. All were of stem/branchwood. The distribution of taxa were as follows:

- Oak 94%
- Elm 4%
- Cherry/Plum/Blackthorn 2%

F6 Lime Kiln chamber A, west archway, mid to lower fill, finds no. 67 (hand collected charcoal)
This small hand collected assemblage consisted of two fragments of oak roundwood fragment and six fragments of oak stem/branchwood.

F6 Lime Kiln chamber C, L23 (sample 5)
Fragments of ash, beech, birch, cherry/plum/blackthorn, hazel and oak were present in this sample. All but three fragments were from stem/branchwood. These three fragments consisted of one fragment of cherry/plum/blackthorn roundwood, one fragment of hazel roundwood and one fragment of oak roundwood fragment. The distribution of taxa were as follows:

- Oak 57%
- Ash 28%
- Cherry/Plum/Blackthorn 8%
- Beech 4%
- Hazel 2%
- Birch1%

F6 Lime Kiln chamber C, L30, chalk layer (sample 9)
Four fragments of oak stem/branchwood were found in this sample.

F26 Tile Kiln, southern edge, lower fill (sample 6)
Fragments of ash, beech, cherry/plum/blackthorn, hazel, hornbeam and oak were present in this sample. Most were from stem/branchwood but six were roundwood or roundwood fragment. Roundwood fragments ash, cherry/plum/blackthorn, hazel and hornbeam were recovered. One fragment of cherry/plum/sloe was also present. The distribution of taxa were as follows:

- Hornbeam 33%
- Ash 33%
- Cherry/Plum/Blackthorn 14%
- Oak 8%
- Beech 7%
- Hazel 5%

Key to Table **Abundance** 1 = 'Low' = <10 2 ='Moderate' = 10-100 3 = 'Abundant' = >100 **Diversity** 1 ='Low'= <3 taxon types 2 ='Moderate' = 3 to 10 taxon types 3 ='High' = >10 taxon types **Preservation** 1 = Identifiable to family 2 = Identifiable to genus 3 = Identifiable to species					**Charred grain**			**Charred seeds**			**Charcoal flecks >4mm**	**Charcoal flecks <4mm**	**Modern/intrusive – Rootlets**	**Modern/intrusive – miscellaneous**	**Dessicated – Seeds**			**Fauna – terrestrial mollusca**	**Potential for analysis – Charcoal?**	**Potential for analysis – General Macros?**	**Potential for dating?**	
Sample No.	**Context**	**Context type**	**Initial Volume (Litres)**	**Flot volume (Litres)**	**abundance**	**diversity**	**preservation**	**abundance**	**diversity**	**preservation**	**abundance**	**abundance**	**abundance**	**abundance**	**abundance**	**diversity**	**preservation**	**abundance**	**Yes/ No**	**Yes/ No**	**Yes/ No/ Maybe**	**Comments**
1	L11	patchy layer of charcoal	10	0.01	-	-	-	-	-	-	2	3	1	-	-	-	-	1	Yes	No	Yes	-
2	L13	charcoal spread	40	0.02	1	1	2	1	1	1	2	3	3	-	-	-	-	1	Yes	Yes	Yes	Charred grains – oat (Avena sp.), free-threshing type wheat (Triticum aestivum/durum/turgidum); Charred seeds – small seeded legume.
3	L18	charcoal spread	10	0.03	-	-	-	-	-	-	2	3	3	-	-	-	-	-	Yes	No	Yes	-
4	F6	limekiln chamber A, lower fill, charcoal spread above floor L24	10	0.125	-	-	-	-	-	-	3	3	1	-	-	-	-	1	Yes	No	Yes	-
5	L23	wooden floor within limekiln F6 chamber C	20	0.4	-	-	-	-	-	-	3	3	-	1	-	-	-	1	Yes	No	Yes	-
6	F26	tile kiln, southern edge lower fill	10	0.05	-	-	-	-	-	-	3	3	-	-	-	-	-	1	Yes	No	Yes	-
10	L31	layer of ash in base of tile kiln F26	20	0.005	-	-	-	-	-	-	1	-	3	-	-	-	-	1	No	No	No	-

Table17 Archaeobotanical assessment.

Context	L11	L13	L18	F6	F6 (finds no.67)	L23	F26	L30
Sample no.	1	2	3	4	hand-collected	5	6	9
Feature type	patchy layer of charcoal	charcoal spread	charcoal spread	limekiln chamber A lower fill, above floor L24	from limekiln chamber A, west archway, mid to lower fill	wooden floor wthin limekiln F6 chamber C	tile kiln, southern edge lower fill	chalk layer within lime kiln F6 chamber C
Taxa	Count (weight in grammes in brackets)							
Ash (Fraxinis Excelsior L.) - roundwood fragment	-	-	-	-	-	-	1 (6.12g)	-
Ash (Fraxinus excelsior L.) - roundwood	-	-	-	-	-	-	1 (0.62g)	-
Ash (Fraxinus excelsior L.) - stem/branchwood	19 (1.63g)	15 (0.71g)	3 (1.51g)	-	-	26 (2.09g)	12 (1.47g)	-
Beech (Fagus sylvatica L.) - stem/branchwood	8 (0.38g)	10 (0.59g)	3 (0.25g)	-	-	5 (0.83g)	3 (0.16g)	-
Birch (Betula sp.) - stem/branchwood	-	-	-	-	-	1 (0.05g)	-	-
Cherry/Plum/Blackthorn (Prunus spp.) - roundwood fragment	-	-	-	-	-	-	1 (1.47g)	-
Cherry/Plum/Blackthorn (Prunus spp.) - roundwood	1 (0.08g)	-	-	-	-	1 (0.06g)	1 (0.03g)	-
Cherry/Plum/Blackthorn (Prunus spp.) - stem/branchwood	1 (0.08g)	5 (0.28g)	3 (0.39g)	2 (0.18g)	-	6 (0.32g)	48 (11.47g)	-
Elm (Ulmus sp.) - stem/branchwood	-	-	-	4 (3.34g)	-	-	-	-
Hazel (Corylus avellana L.) - roundwood	-	-	-	-	-	1 (0.01g)	1 (0.03g)	-
Hazel (Corylus avellana L.) - stem/branchwood	-	-	-	-	-	1 (0.16g)	1 (0.06g)	-
Hornbeam (Carpinus betulus L.) - branch/stemwood	-	1 (0.04g)	-	-	-	-	12 (0.43g)	-
Hornbeam (Carpinus betulus L.) - roundwood	-	-	-	-	-	-	2 (0.32g)	-
Oak (Quercus sp.) - roundwood fragment	-	-	-	-	2 (28.46g)	1 (0.06g)	-	-
Oak (Quercus sp.) - stem/branchwood	15 (1.26g)	17 (1.26g)	20 (2.64g)	94 (45.98g)	6 (0.52g)	51 (5.3g)	12 (1.15g)	4 (2.9g)

Table 18 Charcoal identification.

Discussion

Fuelling the Kilns

These samples come from a site that revealed a medieval/early post-medieval lime kiln and a tile kiln. A lime kiln would need to reach temperatures above 900^{0}C (Historic England 2018, 1). The need to gain such high temperatures would need wood that could provide a high calorific value. Ash wood dominated the assemblage of a lime kiln in southeastern Italy and this was interpreted as using this type of wood because it burnt at high temperatures (Stellati & Fiorentino 2011, 162). Finds of branchwood were interpreted as sing bundles of wood which developed flames high enough to reach upper parts of the kiln (ibid).

At *Tile Green Kiln* the most frequently occurring taxon is oak that would have provided long-lasting fuel (Gale & Cutler 2000, 205). The tyloses in many of the fragments means that large mature oak logs were probably used. Beech wood is also a fuel wood that burns at a high heat with little smoke (Taylor 1981, 46). Birch makes good charcoal and is a hot short-lived fuel (Gale & Cutler 2000, 50 [citing Lines 1984]). Ash wood is a good fuel, burning well when green (Taylor 1981, 46, 48). Hornbeam is also a valuable fuel and charcoal (Taylor 1981, 50). It is likely that bundles of wood and woody stems from trees and shrubs, such as hazel and cherry/plum/ blackthorn were gathered to produce extreme heat and high flames over a short time (Hurst *et al* 2010; Marguerie & Hunot 2007, 1425). If blackthorn (*Prunus spinosa* L.) was among the *Prunus* spp. identified here it would have burned slowly, producing good heat and little smoke (Hurst *et al* 2010). The four fragments of elm in sample <4> F6 could simply have entered the furnace as waste wood added to fuel.

These types of wood would have been used to fuel tile and lime kilns. A late 13th and early 14th century tile factory at Danbury in Essex had beech, oak, hornbeam and birch in the charcoal samples and documentary sources note the use of faggots during firing (Drury & Pratt 1975, 148).

Oak charcoal also dominated the charcoal assemblages in early medieval charcoal pits and early post-medieval brick kilns at Nayland Road, Great Horkesley, Essex (Fosberry 2021, 57) and Fosberry suggests that the charcoal is evidence of the exploitation of oak forest that was cleared in the medieval period from Horkesley Heath and that oak charcoal dominated the assemblages from medieval brick kilns at Beaulieu, Essex (ibid, 62 citing Druce in Clarke 2020).

In her review of wood and charcoal analyses of southern Britain (Smith 2002, 35-36), Wendy Smith cites examples of medieval kiln sites where oak was the main fuels source, for example, the pottery kilns at Barnett's Mead, East Sussex (Cartwright 1981), Clacket Lane, Surrey (Robinson 1997, 84), Anslow's Cottages, Berkshire (Gale 1992, 159) and Alsted, Surrey (Western 1976).

Evidence for woodland management?

This is a difficult question to answer with charcoal because the charcoal roundwood often has no bark surviving meaning that ring counts cannot be accurate. At *Tile Green Kiln* (see Table 19, below) one fragment of roundwood had bark but it is clear that, apart from the oak roundwood fragments from F6, the roundwood were narrow calibre wood likely to have been twigs bundled up as faggots. The ring counts, where visible and with the understanding that the lack of surviving bark makes them unreliable, were below the ten years of growth typically seen for medieval coppiced wood (Morgan 1988, 87). This could support the suggestion that these roundwood and roundwood fragments are remnants of bundles of twigs.

Sample (context)	Taxon	Type	Bark?	Pith?	Diameter if roundwood (mm)	Ring count if roundwood
1 (L11)	Cherry/Plum/ Blackthorn	Roundwood	No	Yes	3	6
5 (F6 L23)	Oak	Roundwood fragment	No	Yes	4.1	4
5 (F6 L23)	Hazel	Roundwood	Yes	Yes	1.4	5
5 (F6 L23)	Cherry/Plum/	Roundwood	No	Yes	3.9	2

	Blackthorn					
6 (F26)	Ash	Roundwood fragment	No	No	Unclear <10	no pith
6 (F26)	Cherry/Plum/ Blackthorn	Roundwood fragment	No	No	Unclear <10	no pith
6 (F26)	Hornbeam	Roundwood	No	Yes	6.3	3
6 (F26)	Hornbeam	Roundwood	No	Yes	5.1	3
6 (F26)	Hazel	Roundwood	No	Yes	3.5	6
6 (F26)	Ash	Roundwood	No	Yes	11.5	7
6 (F26)	Cherry/Plum/ Blackthorn	Roundwood	No	Yes	5.9	6
F6 (Finds No. 67)	Oak	Roundwood fragment	No	No	Unclear c40-50	no pith
F6 (Finds No. 67)	Oak	Roundwood fragment	No	No	Unclear c40-50	no pith

Table 19 Roundwood and roundwood fragments.

What can the charcoal reveal about the natural environment?
Before considering this question in much depth it is important to state that charcoal is very durable and could have travelled many miles to arrive in the sampled context. It may be intrusive or imported (Smart & Hoffman 1988.184).

The modern habitat preferences of the taxa in these samples is as follows:

- Ash – damp or base rich soils (Stace 2010, 582) with oak (Gale & Cutler 2000, 34).
- Beech – well-drained soils, on chalk and soft limestone or acid sandstone (Stace 2010, 287).
- Birch – acid soils and heathland (Stace 2010, 293).
- Cherry/Plum/Blackthorn – damp, heavy ground (Taylor 1981, 48).
- Elm – limestone (Stace 2010, 281).
- Hazel - a variety of soil types (Stace 2010,196-197, 298), in wet but not waterlogged conditions in basic to moderately acidic soils (Edlin 1945,28; O'Donnell 207, 29; Tansley 1953, 260), among oak and ash (Gale and Cutler 200, 88).
- Hornbeam – clay soils (Stace 2010, 296)
- Oak – This is a difficult genus to link to one habitat because of the two native oaks, pendunculate oak (*Q.robur*) prefers deep, rich soils (Stace 2010, 52) and sessile oak (*Q.petraea*) prefers shallow, sandy acidic soils (ibid.)

It is difficult to conclude what the charcoal from *Tile Green Kiln* can reveal about the natural environment but it is likely that mixed woodland in damp, acidic ground was the source of some or all or the fuel used in these kilns.

Radiocarbon recommendations
Any fragments of birch, cherry/plum/blackthorn and hazel will be suitable for radiocarbon dating. It is also possible that useable dates can be obtained from roundwood fragments (labelled as 'part roundwood' on the envelopes containing the identified charcoal) of oak and ash. This means that radiocarbon dates can be obtained from the charcoal from samples <1> L11, <2> L13, <3> L18, <4> F6, finds no.67 F6, <5> L23 and <6> F26.

8.3 Radiocarbon dating

Based on the results of the excavation and Lisa Gray's radiocarbon dating recommendations, it was decided that suitable fragments of charcoal from lime kiln F6, tile kiln F26 and charcoal spread L13 should be sent for radiocarbon dating. Although the charcoal from both kilns did not come directly from the hearths, it is assumed that their presence is a good indication of fuel use in the kilns and that they would therefore produce a good representative radiocarbon date. Charcoal spread L13 was associated with a building/workshop to the west of the lime kiln, and was also the only sample to produce a small quantity of charred grain and seed, so a radiocarbon date from this deposit could help date the structure. The results are presented in Table 20 below.

Sample no.	Type of sample	Ref. no.	68.3% probability	95.4% probability
Charcoal spread L13				
<2>	Fragment of cherry/ plum/blackthorn	SUERC-124317	1302 (30.8%) - 1321calAD 1358 (17.6%) - 1370calAD 1378 (19.9%) - 1391calAD	1293 (40.6%) - 1329calAD 1345 (54.9%) - 1396calAD
Lime kiln F6 (including layer L23				
F6 <4>	Fragment of cherry/ plum/blackthorn	SUERC-124318	1446 (68.3%) - 1484calAD	1440 (85.9%) - 1506calAD 1595 (9.5%) - 1618calAD
F6 (67)	Fragment of oak roundwood	SUERC-124319	1483 (28.7%) - 1523calAD 1573 (39.6%) - 1629calAD	1468 (37.8%) - 1530calAD 1538 (57.6%) - 1636calAD
L23 <5a>	Fragment of cherry/ plum/blackthorn	SUERC-124320	1316 (56.5%) - 1360calAD 1388 (11.8%) - 1398calAD	1302 (73.0%) - 1368calAD 1380 (22.5%) - 1406calAD
L23 <5b>	Fragment of oak roundwood	SUERC-124321	1324 (53.4%) - 1354calAD 1393 (14.8%) - 1402calAD	1307 (68.3%) - 1364calAD 1385 (27.1%) - 1412calAD
Tile kiln F26				
<6a>	Fragment of ash roundwood	SUERC-124322	1533 (2.2%) - 1536calAD 1636 (54.8%) - 1665calAD 1784 (11.3%) - 1795calAD	1522 (18.3%) - 1575calAD 1626 (61.6%) - 1673calAD 1777 (15.6%) - 1800calAD
<6b>	Fragment of cherry/ plum/blackthorn	SUERC-124326	1448 (68.3%) - 1479calAD	1441 (87.9%) - 1504calAD 1597 (7.6%) - 1617calAD

Table 20 Radiocarbon dating results.

9 Discussion

Archaeological investigations on land east of Tilekiln Green, Great Hallingbury, Essex revealed a late medieval to early post-medieval lime kiln and tile kiln. The Essex HER hold records of a possible tile kiln existing on the site from as far back as 1950s/60s with discoveries of large quantities of broken and unused tile, baked clay and medieval pottery on the ploughed field (EHER 4661). The name Tilekiln Green also implied the existence of tile kilns in the local area, with the 6-inch OS map of 1876 recording a tile kiln *c* 540m to the south-east of the development site and a Tilekiln Farm *c* 210m east-north-east (EHER 15631). References to brick kilns are also known from around the Great Hallingbury area, with the earliest record of brick and tile making in the parish going back to 1553 when William Naylor owed an annual rent of 1,000 tiles, which his descendant John Naylor was still paying in 1653 (EHER 15631; Powell *et al* 1983).

Both kilns on the development site had been built partially below ground level, which meant that they had survived remarkably intact with only the superstructures lost. Both also proved to be of fairly standard medieval form. The lime kiln consisted of a barrel-shaped combustion chamber (Chamber B) with two opposing draw-holes leading into two ancillary chambers (Chambers A & C) from where the limeburners would have worked. Chambers B and C were clearly built at the same time, but with the draw-hole into Chamber A seemingly punched through the wall of Chamber B this appears to have been a later addition. The intermittent flare kiln was most commonly used in Roman and medieval Britain, but trying to distinguish between flare or draw kilns of intermittent or continuous use is difficult (Johnson 2018, 7), and has not been attempted here. It is the substantial walled chambers of the ancillary structures that make this particular lime kiln stand-out. A substantial quantity of both peg-tile, flint cobbles/pebbles and lime mortar would have been needed to construct the three chambers. The external retaining walls of Chambers A and C were stronger, being built of courses of peg-tile (including some brick) and flint, with both Chamber B and the internal walls of A and C made of peg-tile alone.

The tile kiln was largely built of peg-tile in a lime mortar but included some brick, especially at the front of the structure. The firing chamber had two flues divided by a spine wall, which were connected to the stokepit by two arched stokeholes. The flues were spanned by at least seven tightly packed arched spandrels which would have carried the floor of the kiln. The subterranean tile-lined chamber at the back of the tile kiln is particularly interesting. Connecting both kilns, and like Chambers A and C of the lime kiln, it probably represents a warm working and/or storage

space for both the limeburners and tile makers. The sheer quantity of peg-tile, and importantly peg-tile wasters, from the site shows that this was the primary ceramic form being fired in the kiln. Although brick, ridge tile and bonnet hip-tile were included amongst the finds assemblage, there was no direct evidence that any of these were being made here. They could have been brought onto the site during the construction of the kilns and associated structures, although as only a sample of the ceramic building material from the site was taken for post-excavation analysis, there is a chance that evidence for manufacture was simply not collected. The discovery of the lime kiln and tile kiln side-by-side would indicate that both kilns were making building materials to supply to the local area, and were being produced at the same time by the same group of people.

Unfortunately neither the hearth of the lime kiln nor the stoke-pit of the tile kiln were revealed, but charcoal samples were taken from associated contexts in both kilns. Analysis of these remains revealed evidence for the use of large mature oak logs, along with beech, birch, ash and hornbeam, all of which have different qualities that would make them a good source of fuel. In addition, bundles of wood and wood stems from trees and shrubs like hazel and cherry/plum/ blackthorn would have produced extreme heat and high flames over a short time.

In addition to the two kilns and the tile-lined chamber, the remains of two additional structures were identified, both built at ground level. To the west of the lime kiln, structural remains included a beam slot, post-holes, a hearth and possible peg-tile floor. These remains had been sealed by the layer of slaked lime that covered most of the site, indicating that the building had been demolished while the lime kiln was still in use. To the south of the lime kiln, and built over the backfilled tile-lined chamber, were two beam slots forming a right-angled corner and a tiled surface. Both were probably workshops. There was another possible hearth to the east of the kilns, but no other structural remains were found in association with it. The only other features of note are the ditches surrounding site, which were probably drainage features keeping water away from the kilns and workshops.

Food and food processing remains were small in quantity but included cereal grains from the structure to the east of the lime kiln, animal bone (cattle, pig, sheep/goat and chicken) and a fragment of quernstone. Many of the pottery sherds were also kitchen wares used to prepare and store food. It is highly likely that the limeburners/tile-makers would have lived on site to tend the kilns while they were being fired, and they may have lived in the associated structures/ workshops during these periods. Tools from the site included lead weights, woodworking augers and agricultural implements, giving some indication as to activities carried when the kilns were not being tended.

Dating evidence from both kilns was largely from demolition debris sealing the *in situ* structures, from which large quantities of peg-tile, along with other tile and brick, was recovered. It is difficult to know how much of the material came from the demolished structures themselves and how much was general debris from the site. Where complete peg-tiles were measured, they had a median value close to that seen by 1275 which became the legal standard in 1477 (260mm x 165mm x 13mm) (Ryan 1996, 10). However, ranging from 220-280mm x 150-175mm x 13-17mm, if manufacture continued after 1477, the legal standard was not scrupulously followed. Bonnet hip-tiles date from the 13th to the 16th century (McComish 2015, 30) and, if they were not being manufactured on site, the complete example from F26 probably came from one of the structures. Seven complete bricks from the lime kiln (F6/L6) are 15th century and Tudor 'place' bricks (dating from the 15th to the early 17th century) (Ryan 1996, 95). Two bricks from the tile kiln (F26/F39) are smaller in length resembling bricks of late 17th to early 18th century date (Ryan 1996, 95), although one is thicker than usual for this date. It is not known if the bricks from the lime kiln came from the structure itself or from general debris from the site. Similarly, one of the bricks from the tile kiln came from backfill over the structure. However, the second brick did come from the front wall of the tile kiln. In general, the tile would suggest that the kilns could date from the later 13th century onwards, although if the bricks were structural this date moves to the 15th century onwards. The later bricks from the tile kiln may represent a phase of repair, but there is very little evidence from the rest of the site for continued activity into the late 17th and early 18th century, and the smaller bricks may represent a variety of an earlier form.

The pottery assemblage was of medieval to early post-medieval date and small in quantity as one might expect from a largely industrial site. Colchester-type wares included a jug (*c* 1400-1550), possible frying pan (late 14th-15th), cooking pot (*c* 1200-1550), and the bung hole from a cistern (*c* 1250/1275-1550). There were two cooking pots in an early medieval sandy ware and medieval sandy greyware (*c* 1150/1175-1225). Finally, amongst the identifiable vessels were a Hedingham coarseware jar (12th to early 13th century) and a Hedingham ware jug (*c* 1150/1175-1225). Post-medieval pottery was rare. It included a cup/mug (*c* 16th-18th century) and stoneware tankard (17th-18th century) from ditch F17, and another bung hole (*c* 1500-1625/1650) from pit F42. This is particularly interesting as it would suggest that the replacement structure built over F42 cannot date to before the 16th century. Similarly, a fragment of 16th- to 17th-century pottery from pit F31 would suggest that the lime kiln was still in use in the 16th century as possible slaked lime deposit L7 sealed F31. Bottle glass of 17th to 18th century date was also recovered from the backfill of ditch F13. Few of the small finds could be closely-dated. The exception to this was the two items of personal adornment, the pin and dress-fastener/ hooked tag, which likely range in date from the mid 15th to the 17th century.

The radiocarbon dates largely complemented the dating evidence from the finds. Finds from L23 in Chamber C of the lime kiln dated from 1200-1550, with the radiocarbon dates (all discussed here at 95.4% probability), ranging from 1302-1406calAD and 1307-1412calAD, suggesting a 14th century date for this context. The radiocarbon sample from charcoal spread L13 provided a similar 14th century date of 1293-1396calAD. The finds from the backfill of the lime kiln itself (F6) dated later at 1475-1600, and again the radiocarbon dates were similar at 1440-1618calAD and 1468-1636calAD. All together a date range for the limekiln from the 14th century through to 16th or early 17th century is suggested. As discussed above, finds from tile kiln F26 indicate a date from the 15th century possibly through to the 17th/18th century. The two radiocarbon dates were 1441-1617calAD, and a much wider date range of 1522-1800calAD, also suggesting a date range from the 15th through to the 17th century.

Therefore as a whole, the dating evidence would suggest that the kilns were in use from the 14th century through to the 17th century. However, the discovery of earlier medieval pottery suggests some activity on the site in the 12th-13th centuries.

Question **Med (Rural) 04** of the recent update to the East of England Regional Research Framework (https://researchframeworks.org/eoe/) asks **How can we improve our understanding of medieval rural industries?** This excavation at Tilekiln Green is important given the discovery of both a lime and tile kiln side-by-side, in what must have been a local industry providing building materials to a growing local population who had money to spend on higher status buildings. These excavations have provided information on the form of kilns used in rural Essex at this transitional date from the later medieval to the early post-medieval period.

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Note: all CAT reports, except for DBAs, are available online in PDF format at http://cat.essex.ac.uk

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11 Abbreviations and glossary

CAT	Colchester Archaeological Trust
CIfA	Chartered Institute for Archaeologists
context	a single unit of excavation, which is often referred to numerically, and can be any feature, layer or find
ECC	Essex County Council
ECCHEA	Essex County Council Historic Environment Advisor
ECCPS	Essex County Council Place Services
EHER	Essex Historic Environment Record
feature (F)	an identifiable thing like a pit, a wall, a drain: can contain 'contexts'
Iron Age	period from 700 BC to Roman invasion of AD 43
layer (L)	distinct or distinguishable deposit (layer) of material
medieval	period from AD 1066 to *c* 1500
modern	period from *c* AD 1900 to the present
natural	geological deposit undisturbed by human activity
NGR	National Grid Reference
OASIS	**O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S**, http://oasis.ac.uk/pages/wiki/Main
post-medieval	from *c* AD 1500 to *c* 1899
prehistoric	pre-Roman
residual	something out of its original context, eg a Roman coin in a modern pit
Roman	the period from AD 43 to *c* AD 410
section	(abbreviation sx or Sx) vertical slice through feature/s or layer/s
wsi	written scheme of investigation

12 Contents of archive

Finds: 14 boxes

Digital record

CAT Report 1964
ECC evaluation brief, CAT written scheme of investigation
Site digital photographs and log
Graphic files
Survey data
Site data

13 Archive deposition

The archive is currently held by the Colchester Archaeological Trust at Roman Circus House, Roman Circus Walk, Colchester, Essex CO2 7GZ, but will be permanently deposited with Saffron Walden Museum under project ref. GHTK23 (finds) and with the Archaeology Data Service (digital archive).

Distribution list:
William Mallett, Amherst Homes
ECC Place Services Historic Environment Advisor
Essex Historic Environment Record, Essex County Council

Appendix 1 Context list

Context	Finds no.	Identification	Description	Date
L1	-	Topsoil	Dark grey/brown silty-clay. WB & Evaluation: 0.1-0.4m thick.	Modern
L2	7	Made-ground	Dark grey/brown silty-clay with CBM fragments. WB only: 0.45m thick.	Medieval/ post-medieval
L3	4, 5	Made-ground	Light-medium grey/brown clay. WB & Evaluation: 0.15-1.0m thick.	Medieval/ post-medieval
L4	-	Natural	Light-medium brown clay leading to blue London clay. WB & Evaluation: Identified between 0.6-1.2m below current ground level.	Post-glacial
L5	-	Backfill over F6	Backfill and demolition associated with lime kiln F6, found in all three chambers, sealed by L6. Recorded in the evaluation at 0.18-0.28m thick.	Medieval/ post-medieval
L6	32, 38, 39, 43, 89, 90	Backfill over F6	Backfill and demolition associated with lime kiln F6, found in all three chambers, sealed by L1, seals L5. Soft, moist, medium yellow/orange/ grey/brown sandy silty clay with charcoal flecks, brick flecks. Recorded in the evaluation at 0.28-0.3m thick.	Medieval/ post-medieval
L7	-	Deposit of lime	Horizontal layers of mid yellow/grey & white lime, largely confined and thickest to the area to the west of F6 forming a flat plateau, but also seen to the south towards tile kiln F26. Up to 0.25m thick and peters out gradually to west, north and south. Absent east of F6. Sealed by L8 & F37, seals L9.	Medieval/ post-medieval
L8	29, 42, 45, 60	Peg-tile spread	Spread of peg-tile and occasional brick fragments to south and east of lime kiln F6, and probably associated with demolition of tile kiln F26, up to 0.3m thick. Consisting of large, medium and small pieces of peg-tile with occasional brick fragments (up to 80%) within a loose/soft, moist, medium yellow/grey/ brown sandy silty loam with charcoal flecks. Seals F6, F26, F27/F36, F37, F38, F41, F42, L7, L11.	Medieval/ post-medieval
L9		Peg-tile spread	Spread of peg-tile and occasional brick fragments to north-west of lime kiln F6, up to 0.2m thick. Possibly used as a crude surface. Sealed by L7, seals L10, L12, L25 & L26.	Medieval/ post-medieval
L10		Metalling	Area of metalling on northern edge of site, c 5.8m by >3.8m and 0.10 thick. Sealed by L9, seals F16 and L13. Small, medium and large stones (60%), angular and rounded, with occasional peg-tile fragments (10%) in a loose/soft, wet, medium grey/ brown/black silty clayey loam with charcoal flecks.	Medieval/ post-medieval
L11	30, 41	Charcoal around F22	A patchy layer of charcoal around F22. Sealed by L8, very irregular in shape, at maximum c 2.8m long by 1.2m wide and 0.01m thick. Soft, moist, medium grey/brown silty-clay with dense charcoal.	Medieval/ post-medieval
L12	27	Accumulation/ make-up layer	Up to 0.12m thick, occasional peg-tile, lime and some charcoal in a soft, moist, medium brown silty-clay. Seals L13, sealed by L9.	Medieval/ post-medieval
L13	28, 37, 73, 79	Charcoal spread	Patches of a soft, moist, medium grey/brown silty-clay with frequent charcoal inclusions and some peg-tile fragments, c 0.01m thick. Sealed by L12, seals L14, F24 & F28.	Medieval/ post-medieval
L14	-	Deposit of lime	Deposit of lime sealed by L13. Mixed white, yellow-white lime.	Medieval/ post-medieval
L15	34	Accumulation/ made-ground	Sondage dug on northern edge of F22 revealed a silty-clay with frequent peg-tile/brick fragments. The	Medieval/ post-medieval

			same layer or a similar layer as L25. Soft, moist, medium yellow/grey/brown silty-clay with charcoal flecks, tile flecks.	
L16	-	Stone spread	Discrete stone deposit with occasional peg-tile fragments, seals L17. Located to east of hearth F35 and could be an earlier hearth. Loose/soft, wet, medium/dark yellow/orange/brown sandy-silty-clay with charcoal flecks, tile flecks and inclusions of: stone 30%.	Medieval/ post-medieval
L17	-	Scorching	Area of scorching to north-west of F6, sealed by L16. Soft moist dark orange/brown silty-clay and inclusions of: stone 10%.	Medieval/ post-medieval
L18	-	Charcoal spread	Charcoal spread to west of F6 with patches of dark reddish-brown scorched clay, sealed by L12, seals F28-F31. Soft, moist, medium/dark grey/black sandy-silty-clay with charcoal.	Medieval/ post-medieval
L19	-	VOID	-	-
L20	53, 68	Deposit between F6 and F37	Layer of very mixed and mottled sandy-clay between F6 and F37. Seen at level of site strip, not excavated. Could be associated with F41. Soft, moist, light/medium/dark yellow/orange/grey/brown sandy-clay with charcoal flecks and CBM fragments.	Medieval/ post-medieval
L21	63	Deposit in F6 Chamber C	Deposit of silty-clay mixed with lime in F6 Chamber C, sealed by L6, seals L23. Includes charcoal and peg-tile in fill.	Medieval/ post-medieval
L22a	-	Deposit in F6 Chambers A/B	Black charcoal and ash layer within the arched draw hole of F6 Chambers A/B, sealed by L29, seals L30. Found at a depth of *c* 1m from top of chamber wall, 0.02m thick. Probably associated with L22b.	Medieval/ post-medieval
L22b	-	Deposit in F6 Chamber B	Mixed deposit within F6 Chamber B consisting of a layer of peg-tile fragments overlaid with a mixed layer of charcoal/ash and lime overlying. Sealed by L6. Found at a depth of *c* 1m from top of chamber wall, not excavated to determine depth. Probably associated with L22a.	Medieval/ post-medieval
L23	64, 69	Deposit in F6 Chamber C	Deposit of silty-clay mixed with lime in F6 Chamber C, sealed by L21, seals L27. Includes charcoal and peg-tile in fill. On the surface of the layer, in the north-east corner of the chamber, was a patch of soft decayed wooden planks.	Medieval/ post-medieval
L24	-	Deposit of lime in F6 Chamber A	Deposit of lime in F6 Chamber A, sealed by L6. Found in depth of 1.60m from top of chamber wall, 0.07m thick.	Medieval/ post-medieval
L25	66, 72, 76, 78	Accumulation/ made-ground	Accumulation layer, sealed by L9, 0.30m thick. Includes pottery, peg-tile, bone. Appears to cover most of site, sealing some contexts, cut by some features. The same layer or a similar layer as L15. Soft moist medium/dark orange/grey/brown silty clay with charcoal flecks, brick flecks, tile flecks.	Medieval/ post-medieval
L26	-	Scorching	Area of scorching around perimeter of F35, dark reddish-brown to black. Sealed by L9. Soft moist very dark orange/brown/black silty clay with charcoal flecks.	Medieval/ post-medieval
L27	-	Deposit of lime in F6 Chamber C	Deposit of lime in F6 Chamber C, sealed by L23, seals L28. Found in depth of 1.60m from top of chamber wall, 0.06m thick.	Medieval/ post-medieval
L28	-	Crushed peg-tile in F6 Chamber C	Layer of crushed peg-tile, sealed by L27.	Medieval/ post-medieval
L29	-	Deposits within F6	Layer of lime within the arched draw hole of F6	Medieval/

		Chambers A/B	Chambers A/B. Sealed by L6, seals L22. Creamy-white lime, common lime pieces, 0.12m thick.	post-medieval
L30	-	Deposits within F6 Chambers A/B	Layers of lime within the arched draw hole of F6 Chambers A/B. Sealed by L22. 0.52m thick. Fill A – creamy-white lime, common lime pieces. Fill B – mid yellow/brown sandy-silt with common pea gravels and occasional charcoal. Fill C – creamy-white lime, occasional lime pieces. Fill D – white lime. Fill E – as Fill D. Fill F – as Fill A.	Medieval/ post-medieval
L31	-	Charcoal/ash in tile kiln F26	Charcoal/ash layer in base of tile kiln F26, sealing L32. An in situ kiln firing deposit.	Medieval/ post-medieval
L32	-	Base of tile kiln F26	Base of tile kiln F26, sealed by L31. Firm, dark, reddish-brown clay.	Medieval/ post-medieval
F1 (WB)	1	Tile debris	Assigned during the WB. Thin layer of tile and ?pipe fragments at base of L2. may actually be part of L2, hard to tell.	Medieval/ post-medieval
F2	2	?Drain	Assigned during the WB. Dark, wet fill, *c* 1m deep going across TH3. Circular in shape so possibly backfilled former drain? Between 0.1-0.2m thick.	Medieval/ post-medieval
F3	3	?Ditch	Assigned during the WB. Possible ditch – at least 0.95m deep (base not seen in test hole). Orientation unclear. Clear differentiation between layer above.	Medieval/ post-medieval
F4	6	Tile debris	Assigned during the WB. Same as F1.	Medieval/ post-medieval
F5 (T2)	17	Pit	Oval, steep sided, flat bottomed, pit. Large amount of broken peg-tile present in the backfill. Darker upper fill, occasional charcoal/ash inclusions. >1.48m x 1.41m wide x 0.6m deep. Dark grey/brown silty clay and inclusions of: tile/brick 40%	Medieval/ post-medieval
F6 (T1)	8, 16, 44, 48, 49, 54, 55, 56, 57, 61, 67, 82	Lime kiln	Chamber A – Two L-shaped walls. East facing wall constructed from peg-tile in lime mortar, partially collapsed at the south end, with an arched stokehole connecting to chamber B. The south facing wall consists of courses of flint cobbles and peg-tile with rare bricks. Beneath backfill L6 was lime layer L24 at base of chamber. Chamber B – The firing chamber. D-shaped in plan, barrel-shaped in section, constructed from peg-tile which has been reddened by firing and is accessed from chamber c to the west and chamber a to the east. Beneath backfill L6 are deposits of lime and lenses of charcoal (L29, sealing L22, sealing L30). Chamber C – Rectangular in plan, two external walls constructed of courses of peg-tile and flint cobbles, two internal walls constructed of peg-tile. A collapsed arched stokehole connects to chamber B and there is a small arched shaft in the west facing wall. The west facing wall has partially collapsed at south end. Access to the chamber is on the south side. Beneath backfill L6 was wooden floor L23, chalk layers L21/L27 and a layer of crushed peg-tiles L28.	Medieval/ post-medieval
F7 (T1)	9	Pit	Circular pit, steep edges with a moderate break of slop to a flat base. Single fill, occasional rooting. 0.55m by 0.46m and 0.22m deep. Firm moist dark grey/brown silty clay with charcoal flecks and	Medieval/ post-medieval

			inclusions of: stone 2%	
F8 (T5)	-	Pond/pit	Possibly a backfilled pond or large pit. Large area of infill, mixture of clay and chalk. 13.6m across, >0.5m deep.	Medieval/ post-medieval
F9 (T2)	14	Pit	>1.6m x 0.81m wide and 0.12m deep, with dark grey/almost black silty clay fill. Peg-tiles on surface, in fill and embedded in base. Sloping edges meeting mostly flat, slightly concave base. Firm dark grey silty clay and inclusions of: tile/brick 10%	Medieval/ post-medieval
F10 (T4)	10	Ditch	Continues into Trench 3 as F15, NNW/SSE aligned, >4.7m long, 0.98m wide and 0.22m deep. Dark grey/brown clay with charcoal flecks and inclusions of: tile/brick 30%.	Medieval/ post-medieval
F11 (T2)	11	Pit	2.2m x >1.8m and 0.6m deep. Large amount of tile wasters throughout fill, including some vitrified. Upper fill – Soft, moist mid grey/brown clayey-silt with some CBM and charcoal. Lower fill – Firm, moist mid brown silty-clay with occasional CBM and charcoal.	Medieval/ post-medieval
F12 (T2)	-	Pit	Full extent of feature (length, width and depth) not established (>3.2m x >1.8m x >0.48m deep). Soil description not recorded.	Medieval/ post-medieval
F13 (T1)	12, 13, 25	Ditch	NNW/SSE aligned, 12.2m long by 2.9m wide and 0.56m deep, U-shaped. Cut by F16, sealed by L7. Sx1 (evaluation) – Upper fill of dark brown clay with frequent chalk inclusions. Lower fill of dark grey brown clay with rare chalk inclusions. Sx2 (excavation) – Upper fill a mid brown silt clay with occasional small stones and CBM fragments. Lower fill a light brown silty-clay with occasional small stones.	Medieval/ post-medieval
F14 (T3)	15	Ditch	East/west aligned, 1.64m wide, 0.62m deep, U-shaped in profile with relatively steep edges and a narrow flat base. At surface of ditch there is a concentration of tiles running along the northern edge. Medium grey/brown silty clay and inclusions of: tile/brick 20%.	Medieval/ post-medieval
F15 (T2)	-	Ditch	Continues into Trench 4 as F10, NNW/SSE aligned, 0.92m wide and 0.4m deep. Cut by F11. Upper fill – Firm, moist, mid grey/brown silty clay with some CBM & charcoal. Lower fill – Friable, moist dark grey/brown clayey-silt with occasional CBM & charcoal. Finds not retained for post-excavation analysis.	Medieval/ post-medieval
F16	18, 24	Ditch	ENE/WSW aligned, >11.5m long, c 1.35m wide, 0.22-0.39m deep, U-shaped profile. Common chalk and charcoal flecking, cut by F23 and probably F25, sealed by L10, cuts F13. Soft, wet, medium/dark orange/grey/brown sandy silty clay with charcoal flecks, tile flecks and inclusions of: stone 1%.	Medieval/ post-medieval
F17	19, 2, 21	Ditch	Curved ditch, roughly east/west aligned, 4.1m long, 0.67-0.76m wide, 0.13-0.26m deep, wide U-shaped base. Firm, moist/wet, dark grey/brown clay and inclusions of: tile/brick 50%	Medieval/ post-medieval
F18	23	?Surface	Small section of possible peg-tile surface, roughly north/south aligned, 1.18m long by 0.35m wide and one tile thick, constructed from whole and part pieces of tile with compression breaks. Tile size – 0.30m x 0.17m x 0.12m thick.	Medieval/ post-medieval
F19	22	Ditch or pit	Shallow feature, >4.2m long by 2m wide and 0.13m deep. Either a ditch terminus or elongated pit. If a	Medieval/ post-medieval

			ditch NNW/SSE aligned. Soft, moist, medium orange/brown clay with charcoal flecks and inclusions of: stone 1%	
F20	26	Drain	T-shaped gully, 6m & 2.2m long by 0.4m wide and 0.2m deep. Filled with fragments of waster peg-tiles, layered in stacks, and likely forming a drain. Probably associated with F13 and F17. Firm, moist, medium orange/brown clay and inclusions of: tile/brick 80%.	Medieval/ post-medieval
F21	-	VOID	-	-
F22	33, 40	Pit/hearth	Sub-rectangular in plan, 1.7m by 1.45m. Upper fill – c 0.25m thick, mid grey silty-clay with abundant crushed peg tile. Lower fill – c 0.46-0.65m thick, mid grey/yellow/orange/brown clay, occasional peg-tile fragments, kiln waste and brick fragments. Possibly two separate contexts. The upper fill the remains of a hearth. The lower fill could be part of accumulation layer L15/L25.	Medieval/ post-medieval
F23	31, 58	Drain	East/west aligned, cut through upper fill of backfilled ditch F16, possibly cut by F25. Constructed from ridge tile forming a central drainage channel and capped with flat peg-tile. >3.4m long, 0.6m wide, 0.07m deep. Soil around the tile is soft, moist, medium orange/grey sandy silty clay with charcoal flecks, tile flecks and inclusions of: stone 20%	Medieval/ post-medieval
F24	35	Ditch/pit	Possible ditch, but length and alignment not established so could be a pit, over 0.89m by 1.54m wide and 0.36m deep. Sealed by L13. Steep sided on the west, but gradual side on the eastern edge. Slightly round base. Single fill, firm/hard, light grey silty clayey loam with lime/chalk and occasional CBM (20%).	Medieval/ post-medieval
F25	36, 46	Ditch	North/south aligned, >5.3m long, 1.10m wide and 0.07m deep with gently slopping sides and a flat base. Sealed by L9, cuts L15/L25. Possibly cuts F16/F23, either cut by or contemporary with F6. Soft, moist, medium/dark orange/grey/ brown sandy silty clay with charcoal flecks, brick flecks and inclusions of: stone 1%.	Medieval/ post-medieval
F26	65, 70, 71, 75, 85, 86	Tile kiln	Large tile kiln which continues under southern limit of excavation, over 4.8m long, 3m wide and surviving to a depth of 1.09m. Aligned NNW/SSE and constructed mainly from peg-tile in a lime mortar but including brick around the stokeholes to the front of the kiln. Kiln includes a firing chamber with central spine defining two flues with at least seven cross-supports which would have held the floor. Twin arched stokeholes to the front of the kiln are also made of peg-tile. Backfilled with a dark grey brown sandy-loam with frequent CBM throughout.	Medieval/ post-medieval
F27	47	Beam slot	At a 90 degree angle to F36, NNW-SSE aligned, vertical sides, flat base. Sealed by L8. >5.7m long, 0.25-0.35m wide, 0.13m deep. Peg-tile found throughout with chalky silt lens running through. Soft/friable, dry, dark brown sandy/chalky silt with charcoal and tile flecks, and inclusions of: tile/brick 60%.	Medieval/ post-medieval
F28	-	Post-hole	Circular, 0.29m diameter by 0.04m deep, bowl-shaped in profile, sealed by L13. Hard, dry, light yellow/grey chalky-clay with rare charcoal flecks.	Medieval/ post-medieval
F29	-	Post-hole	Circular, 0.29m diameter by 0.09m deep, bowl-	Medieval/

			shaped in profile, sealed by L18. Hard, dry, light yellow/grey chalky-clay with rare charcoal and tile flecks.	post-medieval
F30	-	Pit	Shallow and sub-rectangular, 0.65m x 0.37m and 0.04m deep, gently slopping sides and a flat base, sealed by L18. Hard, dry, mottled light yellow/grey and mid reddish-brown chalky-clay with rare charcoal and tile flecks.	Medieval/ post-medieval
F31	51	Pit	Shallow, irregularly shaped, 0.95m x 0.4m and 0.07m deep, gently slopping sides with a flat base. Sealed by L18. Soft, moist, medium/ dark grey sandy silt with common charcoal flecking, and some tile flecks.	Medieval/ post-medieval
F32	-	Beam slot	ENE/WSW aligned, vertical sides, flat base, 5.3m long, 0.33m wide and 0.06-0.15m deep. Either cut by or contemporary with F6, sealed or cut by L13. Hard, dry, light yellow/grey chalky/lime clay with charcoal flecks and occasional peg-tile.	Medieval/ post-medieval
F33	50, 52	Part of L25	Part of L25 (finds should be reassigned to L25).	Medieval/ post-medieval
F34	-	Construction cut	Construction cut for F6, backfilled between the edges of F34 and the walls of F6 with a compact dry, light/medium yellow/grey/brown clay with charcoal flecks and with frequent peg-tile. Not excavated.	Medieval/ post-medieval
F35	59	Hearth	Square hearth, 0.85m x 0.85m and 0.08-0.13m deep, formed from vertically stacked peg-tiles, with some flat peg-tiles on the base. Surrounded by a scorched silty-clay (L26). Sealed by L9.	Medieval/ post-medieval
F36	-	Beam slot	At a 90 degree angle to F27, ENE-WSW aligned, vertical sides, flat base. Sealed by L8, appears to cut F37. >2.8m long, 0.25-0.35m wide, 0.13m deep. Soft, moist, medium yellow/brown sandy silt with charcoal flecks and frequent peg-tile.	Medieval/ post-medieval
F37	62	Floor	Probable floor surface laid between lime kiln F6 and tile kiln F26. Seals F41 and F42, appears to be cut by beam slots F27 & F36, sealed by L8. Made of part pieces of peg-tile laid flat and bedded on a yellow brown sand. Irregular in plan, c 5m long and 1.1-2.3m wide, depth not recorded.	Medieval/ post-medieval
F38	-	Wall	Small length of wall aligned ENE/WSW and at a right-angle to tile kiln F26, >1m long, 0.4m wide, >0.35m high, made of peg-tile and flint cobbles/ pebbles in a lime mortar. Associated with tile kiln F26 but it is uncertain what this wall represents.	Medieval/ post-medieval
F39	83	Part of tile kiln F26	Part of the eastern wall of tile kiln F26, this should not have been given a separate context number. NNW/SSE, 1.4m long, 0.35-0.65m wide, made of brick and peg-tile in a lime mortar.	Medieval/ post-medieval
F40	-	Wall	Wall made of peg-tile in a lime mortar, NNW/SSE, 1.5m long, 0.4m wide, probably associated with tile kiln F26.	Medieval/ post-medieval
F41	80, 84, 87, 91	Layers of backfill within F42	Four layers of backfill, Fill 1 being the latest, Fill 4 the earliest. Fill 1 – thick layer of lime with occasional peg-tile fragments, possibly part of L7. Fill 2 – mid yellow brown sandy-silty clay. Fill 3 – light yellow brown greenish white sandy-silt. Fill 4 – light grey mid yellow brown silty-clay, common chalk & charcoal flecking, occasional peg-tile.	Medieval/ post-medieval

F42	81, 88	Pit	Tile-lined pit between tile kiln F26 and lime kiln F6. Backfilled layers within this feature was numbered F41 (see above). Only a small section was excavated in the north-east corner of the pit. It was vertical sided and lined with whole peg-tiles pushed into the natural clay edges of the feature. The peg-tiles were wasters that were warped and curved in firing, and they were arranged in an overlapping fish-scale pattern. Although the rest of the feature was not excavated, it was thought that tile lining could be seen on the surface of the feature on both sides of the pit. 5.6m wide, c 1.54m deep. Moist medium yellow/grey/brown sandy silty clay with charcoal flecks	Medieval/ post-medieval

Appendix 2 Pottery list

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Rim	Handle	Base	Sooting (ext.)	Sooting location	Charing (int.)	Charing location	Burning	Overfired	Mortar encrustation	Fabric Grp	Typology	Function	EVE	Diam.	Comments	Date
F5	PIT	17	2	19	*10*		1	0	0								F13T	COOKING POT H1	COOKING POT	0.05	260		1150/1175-1225
F6	LIME KILN	8	3	23	*8*		0	0	3	X							F13						c.1000-1225
F6	LIME KILN	8	1	5	*5*		1	0	0								F22	JUG	JUG	0.06	100	GREEN GLAZE	c.1140-1325/1350
F6	LIME KILN	57	1	26	*26*		0	0	1						X		F98	CUP/MUG?				DARK BR GLAZE BR, MICA & S, OF/BURNT VESICULATED, GLAZE INT & EXT, LATE F21T OR F40? POSS F40 65 MM DIAM BASE CUP/DRINKING VESSEL EG F99.188-190. OR F40 CUP/MUG P212 F146	1475-1600
F13	DITCH	12	2	3	*2*												F13						1000-1225
F16	DITCH	18	1	121	*121*		0	1	0								F21	CISTERN				GLAZE EXT	c.1200-1550
F16	DITCH	18	1	9	*9*												F21					GLAZE EXT	c.1200-1550
F16	DITCH	18	2	38	*19*		0	0	1								F13T						1125-1225
F16	DITCH	24	1	83	*83*		0	0	1								F21					GLAZE	c.1200-1550
F16	DITCH	24	2	33	*17*		1	0	0								F21	'CHEAM COPY' JUG		0.15	110	SPLASHES GLAZE EXT, WHITE SLIP	c.1400-1550
F16	DITCH	24	2	34	*17*					X							F21						c.1200-1550
F16	DITCH	24	5	19	*4*												F21						c.1200-1550
F17	DITCH	20	1	15	*15*												F40	CUP/MUG?				BLACK/PURPLE GLAZE	16TH-18TH CENTURY
F17	DITCH	20	2	50	*25*		2	0	0								F45	TANKARD		0.36	90	BROWN FRECKLED	17TH-18TH CENTURY
F17	DITCH	20	2	72	*36*												F45	TANKARD				PALE CLEAR SLIP	17TH-18TH CENTURY
F19	DITCH/PIT	22	1	6	*6*	X											F21						c.1200-1550
F24	DITCH/PIT	35	1	7	*7*					X				X			F21						c.1200-1550
F25	DITCH	36	2	14	*7*												F21						c.1200-1550
F25	DITCH	36	1	8	*8*												F13						1000-1225
F25	DITCH	46	1	9	*9*					X							F20						c.1150-1375/1400
F25	DITCH	46	2	8	*4*												F21					SPLASHES GLAZE EXT	c.1200-1550
F25	DITCH	46	1	6	*6*					X							F21						c.1200-1550
F25	DITCH	46	2	10	*5*												F21					GLAZED EXT	c.1200-1550
F25	DITCH	46	1	19	*19*		0	0	1	X							F13						c.1000-1225
F25	DITCH	46	1	3	*3*		0	0	1					X	X		F21						c.1200-1550
F26	TILE KILN	65	1	6	*6*					X							F13						1000-1225

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Rim	Handle	Base	Sooting (ext.)	Sooting location	Charing (int.)	Charing location	Burning	Overifred	Mortar encrustation	Fabric Grp	Typology	Function	EVE	Diam.	Comments	Date
F31	PIT	51	1	2	*2*							X					F42					GREEN CLAZE	16TH-17TH CENTURY
F33	PART OF L25	50	1	21	*21*												F21						c.1200-1550
F33	PART OF L25	50	1	14	*14*		0	0	1								F13T						1125-1225
F33	PART OF L25	52	1	3	*3*												F21					GREEN GLAZE	c.1200-1550
F33	PART OF L25	52	1	9	*9*												F13T						1125-1225
F33	PART OF L25	52	2	13	*7*									X			F20						c.1150-1375/1400
F42	TILE-LINED PIT	81	1	10	*10*												F13						1000-1225
F42	TILE-LINED PIT	81	1	107	*107*												F40	CISTERN				FINE CENTRAL ESSEX FABRIC, UNGLAZED, BUNG HOLE	1500-1625/1650
L6	BACKFILL OVER F6	39	1	6	*6*												F21					GLAZE	c.1200-1550
L12	ACCUMULATION	27	3	70	*23*											?	F21					MORTAR?	c.1200-1550
L12	ACCUMULATION	27	1	18	*18*					X							F21						c.1200-1550
L13	CHARCOAL SPREAD	28	1	23	*23*		0	0	1								F13						1000-1225
L15	ACCUMULATION	34	1	12	*12*												F21					GREEN GLAZE, WHITE SLIP	c.1200-1550
L15	ACCUMULATION	34	1	7	*7*					X				X			F21						c.1200-1550
L20	DEPOSIT BETWEEN F6 AND F37	68	2	21	*11*		2	0	0								F21	COOKING POT		0.07	260		c.1200-1550
L23	DEPOSIT IN F6 CHAMBER C	69	1	6	*6*												F21					GLAZE	c.1200-1550
L25	ACCUMULATION	66	2	15	*8*					X							F20						c.1150-1375/1400
L25	ACCUMULATION	66	1	21	*21*												F21					WHITE SLIP	c.1200-1550
L25	ACCUMULATION	66	1	14	*14*												F20						c.1150-1375/1400
L25	ACCUMULATION	66	1	9	*9*												F21					GREEN COPPER FL GLAZE	c.1200-1550
L25	ACCUMULATION	66	1	4	*4*												F21					GREEN GLAZE	c.1200-1550
L25	ACCUMULATION	66	6	42	*7*												F21					GLAZE SPLASHES	c.1200-1550
L25	ACCUMULATION	66	16	119	*7*		0	0	3	X							F21						c.1200-1550
L25	ACCUMULATION	66	5	24	*5*												F21						c.1200-1550
L25	ACCUMULATION	66	1	8	*8*		0	0	1								F21						c.1200-1550
L25	ACCUMULATION	66	2	47	*24*		2	0	0						X		F20	COOKING POT H1		0.09	300		c.1150-1375/1400
L25	ACCUMULATION	66	5	50	*10*		0	0	3	X							F21					TRACE GLAZE	c.1200-1550
L25	ACCUMULATION	66	8	126	*16*		0	0	7					X			F21					F13/21	c.1200-1550
L25	ACCUMULATION	66	1	8	*8*									X			F21					GLAZE INT	c.1200-1550

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Rim	Handle	Base	Sooting (ext.)	Sooting location	Charing (int.)	Charing location	Burning	Overfired	Mortar encrustation	Fabric Grp	Typology	Function	EVE	Diam.	Comments	Date
L25	ACCUMULATION	66	1	35	*35*		1	0	0					X			F21	FRYING PAN		0.03	280		c.1200-1550
L25	ACCUMULATION	66	2	81	*41*		0	0	2						X		F21	CISTERN				SMALL HOLE 10 MM DIAM ABOVE THUMBED BASE	c.1250/1275-1550
L25	ACCUMULATION	66	1	176	*176*		1	0	0								F20D	STORAGE JAR LID SEATED		0.03	?	V HAARD GREY, THUMBED BELOW RIM, AB SAND	1100-1225

Appendix 3 CBM list

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L.	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F1	TILE DEBRIS	1	11	901	*82*	X	PT			X			17							X					MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	1	145	*145*	X	BR								?	?	47		X						MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	2	283	*142*	X	PT																		MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	1	95	*95*	X	PT																		MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	1	22	*22*	X	PT																		MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	1	382	*382*		BON																		MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	2	262	*131*	X	PT			X			13,15												MEDIEVAL-POST MEDIEVAL
F1	TILE DEBRIS	1	1	268	*268*	X	PT			X		X	13,15												MEDIEVAL-POST MEDIEVAL
F2	?DRAIN	2	1	93	*93*	X	BR																		MEDIEVAL-POST MEDIEVAL
F3	?DITCH	3	1	43	*43*	X	PT																		MEDIEVAL-POST MEDIEVAL
F4	TILE DEBRIS	6	1	228	*228*	X	PT																		MEDIEVAL-POST MEDIEVAL
F4	TILE DEBRIS	6	5	270	*54*	X	PT																		MEDIEVAL-POST MEDIEVAL
F5	PIT	17	1	42	*42*	X	PT														X				MEDIEVAL-POST MEDIEVAL
F5	PIT	17	2	260	*130*	X	PT			X			14												MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	8	11	355	*32*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	8	8	352	*44*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	16	3	1935	*645*		BR	UN-FROGGED							?	115	45		X	X				CRACKED SURFACE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	16					BR	UN-FROGGED							?	115/110	45							CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	16	7	2221	*317*		PT			X		X	14		?	160	11								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	16					PT			X		X	14		?	160	15								MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F6	LIME KILN	16					PT			X		X	15		?	160	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	16	1	274	*274*	X	PT			X			14		?	?	12			X					MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	375	*375*	X	PT			X		X	13		?	160	15							2 PH NEAR CENTRE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	664	*664*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	662	*662*	X	BR	UN-FROGGED							?	110/115	45/48							OR, OR/RED NODS	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	734	*734*	X	BR	UN-FROGGED							?	?	45			X					MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	818	*818*		PT								?	155	?			X	X			WARPED CURVED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	533	*533*		PT			X		X												WARPED CURVED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	3	1168	*389*	X	PT			X		X	15,17		?	160	12							NR BLIND PH	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44				X	PT			X		X	16	X	?	160	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	1	434	*434*	X	PT			X		X	16,17		?	160	13								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	3	1766	*589*	X	PT			X		X	15,16		?	150/160	15/16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	44	4	2050	*513*	X	PT			X		X	15		?	160/165	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	48	1	1014	*1014*	X	PT												X					7 LAYERS OF PEG TILE WITH MORTAR, DEFORMED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	48	1	3040	*3040*	X	PT												X					DEFORMED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	680	*680*	X	PT								?	150	13								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	919	*919*	X	PT													X	X			3 FUSED PT	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	1457	*1457*	X	PT																	8 LAYERS OF FUSED PT, CRACKED, VESICULATED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2228	*2228*	X	BR	UN-FROGGED							?	110	52/50							CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	1322	*1322*	X	PT											X							MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	371	*371*	X	PT													X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	472	*472*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2258	*2258*	X	BR	UN-FROGGED							240	115	50							CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	2	930	*465*	X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49				X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	747	*747*	X	PT								?	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	449	*449*		PT													X	X			WARPED, BUBLE FORMING	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	81	*81*		PT		X															2 HOOVED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	68	*68*		PT		X															2 HOOVED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	271	*271*	X	BR	UN-FROGGED							240	115/110	50							BR CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2337	*2337*		BR	UN-FROGGED							240	115	50/55							CREASED	MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F6	LIME KILN	49	1	911	*911*	X	PT			X		X	15		250	165	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2157	*2157*		BR	UN-FROGGED							240	110	50							OR, CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	308	*308*	X	BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	610	*610*	X	PT			X		X	15		?	160	13								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	444	*444*	X	PT			X		X	15		?	155	13								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	761	*761*	X	PT								?	165	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2144	*2144*		BR	UN-FROGGED							240	115	50							BR CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	1915	*1915*	X	BR	UN-FROGGED							?	115	50							BR OR/RED NODS, SOME MICA, CREASED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	2505	*2505*		BR	UN-FROGGED							245	115	50/55	X						BR CREASED, THICK MORTAR	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	49	1	1072	*1072*	X	BR	UN-FROGGED							?	110/105	45							CREASED, MELTED SANDED SUR-FACE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	307	*307*	X	BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	1083	*1083*		PT			X			X	16	245	150	16			X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	284	*284*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	174	*174*	X	PT											X	X	X					MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	950	*950*	X	PT			X				15	?	170	15		X						MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	5	1698	*340*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	683	*683*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	1173	*1173*		BR	UN-FROGGED							?	115	48/50							BR/OR, RED/OR NODULES, MORE MICA	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	965	*965*		PT			X										X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	718	*718*		BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	5	1871	*374*	X	PT			X		X	14,18		?	155	13			X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	271	*271*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	655	*655*	X	PT			X		X	15		?	160	17	X							MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	378	*378*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	2	500	*250*	X	PT			X		X	15		?	165	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	449	*449*	X	BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	3	1621	*540*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	205	*205*	X	BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	2	1048	*524*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	54	1	786	*786*	X	PT								?	160	14								MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F6	LIME KILN	54	1	717	*717*	X	PT								?	180	15							WIDER EX	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	55	2	101	*51*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	55	6	662	*110*		MORTAR																	1 KEPT	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	55	1	24	*24*		PT													X	X			V OF VESICULATED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	2	949	*475*	X	PT			X		X	16		250	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	2	1043	*522*	X	PT			X		X	15,16		255	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	722	*722*	X	PT			X		X	15-18		?	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	4	1311	*328*	X	PT								?	160	16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61				X	PT								?	160	16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	136	*136*	X	PT			X			13												MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	6	1221	*204*	X	PT			X			15		260	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	50	*50*	X	PT			X			15												MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	3	1128	*376*		PT			X		X	13,15		250	160	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	5	1095	*219*	X	PT								260	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	623	*623*	X	PT								?	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	2	714	*357*	X	PT			X		X	15,16		260	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	3	814	*271*	X	PT			X		X	15		?	155	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	9	4715	*524*	X	PT			X		X	15		255	160	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61				X	PT			X		X	15,16		?	155	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61				X	PT			X		X	15		260	160	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61				X	PT			X		X	15,16		?	150	16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	265	*265*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	312	*312*	X	PT								?	155	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	7	2414	*345*	X	PT			X		X	16		?	155	16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61				X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	3	1156	*385*	X	PT			X		X	17,18		260	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	838	*838*	X	PT			X		X	15,16		?	160	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	2	677	*339*	X	PT			X		X		15,17	?	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	5	915	*183*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	3	1007	*336*	X	PT			X		X		19,20	260	160	14								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	1019	*1019*		PT			X		X		13,15	260	160	15								MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F6	LIME KILN	61	2	905	*453*		PT			X		X		15	255	160	13								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	4	1143	*286*		PT			X		X		15	260	160	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	27	2997	*111*	X	PT			X		X	14		?	155	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	83	*83*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	2	116	*58*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	149	*149*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	61	1	60	*60*	X	PT																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67	6	938	*156*	X	PT											X	X		X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67	1	6	*6*	X	LIME/CHALK																		?
F6	LIME KILN	67	3	1590	*530*	X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67				X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67	1	128	*128*	X	PT											X							MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67	1	487	*487*	X	PT												X						MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	67	1	748	*748*	X	PT			X		X	15		270	170	13		X						MEDIEVAL-POST MEDIEVAL
F6	LIME KILN	82	1	1072	*1072*	X	PT			X		X	12		280	175	15	X						PH FILLED WITH MORTAR, MORTAR ON SURFACE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1244	*1244*		BR	UN-FROGGED							?	110	50/55		X					OR VLARGE FL PEBBLE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1260	*1260*		BR	UN-FROGGED							?	115	60							OR, STRIATED UPPER SURFACE	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1248	*1248*		BR	UN-FROGGED							?	110	65		X					OR	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	799	*799*	X	PT			X		X	15		?	170	17								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		3	1834	*611*	X	PT			X		X	15		?	180	16								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN					X	PT			X		X	13		?	170	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN					X	PT								?	175	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1090	*1090*	X	BON																		MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	720	*720*		BR	UN-FROGGED							?	120	45/50							BR/OR, OR/RED INC, MORE MICA	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1111	*1111*		PT			X		X	14		260	165	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	459	*459*	X	PT			X		X	15		?	150	12								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	658	*658*	X	PT			X		X	17		?	170	15								MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	615	*615*	X	PT			X		X	13		?	165	15		X						MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	506	*506*	X	PT												X	X				4 LAYERS OF FUSED PT FROM KILN STR	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	1055	*1055*		BR	UN-FROGGED							?	115	50							BUFF OR/RED NODS, MICA	MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F6	LIME KILN		1	1027	*1027*		PT								220	160	15			X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F6	LIME KILN		1	940	*940*		LIME/CHALK																		?
F7	PIT	9	12	526	*44*	X	PT			X															MEDIEVAL-POST MEDIEVAL
F7	PIT	9	1	78	*78*	X	PT																		MEDIEVAL-POST MEDIEVAL
F7	PIT	9	5	210	*42*	X	PT																		MEDIEVAL-POST MEDIEVAL
F7	PIT	9	27	865	*32*	X	PT																		MEDIEVAL-POST MEDIEVAL
F7	PIT	9	4	208	*52*	X	PT			X			15,20								X				MEDIEVAL-POST MEDIEVAL
F7	PIT	9	3	120	*40*	X	BR																		MEDIEVAL-POST MEDIEVAL
F7	PIT	9	1	55	*55*	X	BR													X					MEDIEVAL-POST MEDIEVAL
F7	PIT	9	2	35	*18*	X	PT																		MEDIEVAL-POST MEDIEVAL
F9	PIT	14	2	127	*64*	X	PT			X			12							X					MEDIEVAL-POST MEDIEVAL
F9	PIT	14	1	105	*105*	X	PT																		MEDIEVAL-POST MEDIEVAL
F9	PIT	14	4	93	*23*	X	PT																		MEDIEVAL-POST MEDIEVAL
F9	PIT	14	3	189	*63*	X	PT			X															MEDIEVAL-POST MEDIEVAL
F9	PIT	14	3	263	*88*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	2	173	*87*	X	PT													X					MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	2	122	*61*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	3	423	*141*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	7	1349	*193*	X	PT			X			14							X	X				MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	14	*14*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	79	*79*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	131	*131*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	9	2060	*229*		PT			X		X	15		?	155	?			X	X			WASTERS BUBBLING GLASSY SURFACE	MEDIEVAL-POST MEDIEVAL
F10	DITCH	10					PT			X		X	13	X											MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	5	290	*58*	X	PT													X					MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	2	140	*70*	X	PT													X					MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	60	*60*	X	PT																		MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	2254	*2254*	X	PT												X	X				2 FUSED PEG-TILES	MEDIEVAL-POST MEDIEVAL
F10	DITCH	10	1	435	*435*		BON																		MEDIEVAL-POST MEDIEVAL
F11	PIT	11	6	1475	*246*	X	PT			X		X	13,15-16							X	X				MEDIEVAL-POST MEDIEVAL
F11	PIT	11	1	279	*279*	X	PT																		MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F11	PIT	11	1	282	*282*	X	PT								?	165	15								MEDIEVAL-POST MEDIEVAL
F11	PIT	11	1	236	*236*	X	PT			X		X			?	?	16								MEDIEVAL-POST MEDIEVAL
F11	PIT	11	1	609	*609*	X	BR								?	115	33/35			X				CRACKED, HARD	MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	8	831	*104*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	2	248	*124*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	2	230	*115*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	5	362	*72*	X	PT																	F-TIP IMP ALONG EDGE (KEPT)	MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	4	409	*102*	X	PT																		MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	2	374	*187*	X	PT																		MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	2	373	*187*	X	PT																		MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	385	*385*	X	BR	UN-FROGGED							?	?	45								MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	252	*252*		PT			X		X	12,16	X	?	?	15								MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	190	*190*		PT																		MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	111	*111*	X	PT			X			15												MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	129	*129*	X	PT								?	?	21							THICKER	MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	125	*125*		BR																	MORE MICACEOUS	MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	2	644	*322*		BR								?	?	47		X						MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	1	75	*75*		BR								?	?	37								MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	7	531	*76*	X	PT			X			15	X						X					MEDIEVAL-POST MEDIEVAL
F13	DITCH	12	6	786	*131*	X	PT			X			15												MEDIEVAL-POST MEDIEVAL
F13	DITCH	25	1	408	*408*		BON																		MEDIEVAL-POST MEDIEVAL
F13	DITCH	25	9	1412	*157*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F13	DITCH	25	8	1693	*212*	X	PT								?	160	15								MEDIEVAL-POST MEDIEVAL
F13	DITCH	25	10	2289	*229*	X	PT			X		X	15		?	160	15								MEDIEVAL-POST MEDIEVAL
F13	DITCH	25	1	324	*324*	X	PT																	SLIGHTLY COARSER SANDED SURFACE SOME FLINT & PEBBLES	MEDIEVAL-POST MEDIEVAL
F14	DITCH	15	1	50	*50*	X	PT																		MEDIEVAL-POST MEDIEVAL
F14	DITCH	15	6	763	*127*	X	PT			X			18		?	170	15								MEDIEVAL-POST MEDIEVAL
F14	DITCH	15	2	658	*329*		PT			X			17		?	165	?							RIDGE CUT AT END, 2 SLIGHT RIDGE ON SANDED SURFACE	MEDIEVAL-POST MEDIEVAL
F14	DITCH	15	1	154	*154*	X	PT			X				X											MEDIEVAL-POST MEDIEVAL
F16	DITCH	18	1	172	*172*	X	PT			X			12							X					MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F16	DITCH	18	1	287	*287*		PT																	SLIGHT CURVE (RIDGE?)	MEDIEVAL-POST MEDIEVAL
F16	DITCH	18	1	320	*320*	X	PT			X		X	20												MEDIEVAL-POST MEDIEVAL
F16	DITCH	18	2	872	*436*		BON																		MEDIEVAL-POST MEDIEVAL
F16	DITCH	18	1	180	*180*		PT													X	X			WARPED	MEDIEVAL-POST MEDIEVAL
F16	DITCH	24	1	156	*156*	X	PT																		MEDIEVAL-POST MEDIEVAL
F16	DITCH	24	1	188	*188*	X	PT			X			18												MEDIEVAL-POST MEDIEVAL
F16	DITCH	24	2	117	*59*	X	PT																		MEDIEVAL-POST MEDIEVAL
F17	DITCH	20	2	289	*145*	X	PT																		MEDIEVAL-POST MEDIEVAL
F17	DITCH	20	1	27	*27*	X	PT																		MEDIEVAL-POST MEDIEVAL
F17	DITCH	20	4	270	*68*	X	PT																		MEDIEVAL-POST MEDIEVAL
F18	?SURFACE	23	1	533	*533*	X	PT								?	135	13								MEDIEVAL-POST MEDIEVAL
F19	DITCH/PIT	22	3	140	*47*	X	PT																		MEDIEVAL-POST MEDIEVAL
F19	DITCH/PIT	22	3	232	*77*	X	PT													X					MEDIEVAL-POST MEDIEVAL
F19	DITCH/PIT	22	1	93	*93*	X	PT																		MEDIEVAL-POST MEDIEVAL
F19	DITCH/PIT	22	1	114	*114*	X	PT			X			12												MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	5	1075	*215*	X	PT			X		X	15		?	165	16			X	X			WARPED BUBBLES	MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	1	181	*181*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	4	2079	*520*	X	PT			X		X	15		?	160	15			X	X			WARPED, WASTER	MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	2	230	*115*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	14	2631	*188*	X	PT													X	X			WARPED, SANDED SURFACE MELTING	MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	6	1987	*331*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	3	863	*288*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	3	335	*112*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	2	228	*114*	X	PT																		MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	1	163	*163*		PT			X										X	X			FIRING CRACK THROUGH PH	MEDIEVAL-POST MEDIEVAL
F20	DRAIN	26	1	306	*306*		BON																		MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	33	1	75	*75*	X	PT																		MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	33	1	33	*33*	X	PT												X					LUMP OF HEAVILY BURNT/FUSED PT FROM KILN WALL	MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	33	5	63	*13*	X	Baked clay																		?
F22	PIT/HEARTH	33	1	2118	*2118*	X	Baked clay																		?
F22	PIT/HEARTH	33	1	4642	*4642*	X	Baked clay																		?

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F22	PIT/HEARTH	33	23	1033	*45*	X	Baked clay																		?
F22	PIT/HEARTH	33	1	1284	*1284*	X	Baked clay																		?
F22	PIT/HEARTH	40	20	2137	*107*	X	PT												X					CRACKED, INTENSE HEAT	MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	2	464	*232*	X	PT																		MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	4	692	*173*	X	PT			X			15		?	165	15								MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	33	1257	*38*	X	PT												X	X	X			FUSED 5 LAYERS OF PT, KILN STR	MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	4	2578	*645*	X	PT												X	X	X			FUSED LAYERS OF PT, KILN STR	MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	3	2078	*693*	X	PT												X	X	X			FUSED LAYERS OF PT, KILN STR	MEDIEVAL-POST MEDIEVAL
F22	PIT/HEARTH	40	12	3798	*317*		PT												X	X				MASS OF FUSSED PT (4 LAYERS)/KILN STR. VESICULATED EDGE	MEDIEVAL-POST MEDIEVAL
F23	DRAIN	31	1	1120	*1120*	X	PT			X		X	20		?	180	20							SLIGHTLY WIDER EX.	MEDIEVAL-POST MEDIEVAL
F23	DRAIN	31	2	1485	*743*		RIDGE																	HOGSBACK RIDGE TILE? CHECK	MEDIEVAL-POST MEDIEVAL
F23	DRAIN	58	1	814	*814*		PT			X		X	20		?	175	25			X	X				MEDIEVAL-POST MEDIEVAL
F23	DRAIN	58	1	931	*931*	X	PT								?	?	20							THICKER	MEDIEVAL-POST MEDIEVAL
F25	DITCH	36	1	49	*49*	X	PT																		MEDIEVAL-POST MEDIEVAL
F25	DITCH	36	5	686	*137*	X	PT			X				X											MEDIEVAL-POST MEDIEVAL
F25	DITCH	36	2	150	*75*	X	PT																		MEDIEVAL-POST MEDIEVAL
F25	DITCH	46	1	98	*98*	X	PT			X			18												MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	65	2	437	*219*		PT			X		X								X	X				MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	65	1	121	*121*		PT												X					LIME DEP?	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	306	*306*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	644	*644*	X	PT			X		X	20		?	160	13								MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	515	*515*	X	BON																		MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	1177	*1177*		PT			X		X	14		260	170	15	X							MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	1534	*1534*		BON			X			10		270		16							1 CIRCL PH, 30 CM HIGH	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	3	1618	*539*	X	BR	UN-FROGGED							?	?	50							OR	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70				X	BR	UN-FROGGED							?	?	45							OR	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70				X	BR	UN-FROGGED							?	?	45							OR	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	622	*622*	X	BR	UN-FROGGED							?	?	50	X							MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	468	*468*	X	BR	UN-FROGGED							?	?	35							THINNER,?	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	2	886	*443*		BR	UN-FROGGED							?	?	50							OR/BR CREASED, STRIATED UP-PER SURFACE	MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F26	TILE KILN	70					BR	UN-FROGGED							?	?	45							OR/BR CREASED, STRIATED UP-PER SURFACE	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	1880	*1880*		BR	UN-FROGGED							220	105	55/60							OR CREASED	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	70	1	1091	*1091*	X	BR	UN-FROGGED							?	100	50							CREASED, SPLODGE MARK	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	85	1	963	*963*		BR	UN-FROGGED							?	110	45/47							OR/RED CREASED, FL PEBBLES	MEDIEVAL-POST MEDIEVAL
F26	TILE KILN	85	1	1020	*1020*		BR	UN-FROGGED							?	115	50/55							BR, CREASED, STRIATED UPPER SURFACE	MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	1	80	*80*	X	PT																		MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	2	157	*79*	X	PT			X			12												MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	6	580	*97*	X	PT			X			18												MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	3	315	*105*	X	PT			X			16						X						MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	2	127	*64*	X	BR																	OR	MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	2	53	*27*	X	BR																	MARBLED FAB, CHALK NODS	MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	1	448	*448*	X	PT											X							MEDIEVAL-POST MEDIEVAL
F27	BEAM SLOT	47	1	170	*170*	X	PT			X			15												MEDIEVAL-POST MEDIEVAL
F31	PIT	51	2	126	*63*	X	PT																		MEDIEVAL-POST MEDIEVAL
F35	HEARTH	59	7	1553	*222*	X	PT																		MEDIEVAL-POST MEDIEVAL
F35	HEARTH	59	1	71	*71*	X	PT																		MEDIEVAL-POST MEDIEVAL
F35	HEARTH	59	6	922	*154*	X	PT																		MEDIEVAL-POST MEDIEVAL
F35	HEARTH	59	3	662	*221*	X	PT			X			X						X	X					MEDIEVAL-POST MEDIEVAL
F35	HEARTH	59	1	1534	*1534*		RIDGE																	DECORATED, CRESTED, PIERCED SMALL HOLES, TRACES GLAZE	MEDIEVAL-POST MEDIEVAL
F37	FLOOR	62	1	550	*550*		BON																		MEDIEVAL-POST MEDIEVAL
F37	FLOOR	62	6	1724	*287*		PT			X		X	15		260	155	15								MEDIEVAL-POST MEDIEVAL
F37	FLOOR	62				X	PT								?	150	15								MEDIEVAL-POST MEDIEVAL
F37	FLOOR	62	2	1053	*527*		PT			X		X	15/14		?	155	17								MEDIEVAL-POST MEDIEVAL
F37	FLOOR	62					PT								?	150	15								MEDIEVAL-POST MEDIEVAL
F39	PART OF TILE KILN F6	83	2	2080	*1040*		BR	UN-FROGGED							220	105	50							OR SANDED SURFACE MELTED IN PLACES	MEDIEVAL-POST MEDIEVAL
F41	BACKFILL IN F42	80	1	421	*421*	X	PT			X		X	13		?	160	13		X	X	X			WARPED DEFORMED, WASTER	MEDIEVAL-POST MEDIEVAL
F41	BACKFILL IN F42	80	1	372	*372*	X	PT												X		X			WARPED DEFORMED, WASTER	MEDIEVAL-POST MEDIEVAL
F41	BACKFILL IN F42	80	7	349	*50*	X	PT												X					MASS OF FUSED PT/KILN STR	MEDIEVAL-POST MEDIEVAL
F41	BACKFILL IN F42	91	1	406	*406*		PT			X										X	X			WARPED, BUBBLE, DEFORMED/ CLOSED PEG-HOLE	MEDIEVAL-POST MEDIEVAL
F41	BACKFILL IN F42	91	1	1174	*1174*		BON																		MEDIEVAL-POST MEDIEVAL
F42	TILE-LINED PIT	81	5	1995	*399*		PT													X	X				MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
F42	TILE-LINED PIT	88	1	1157	*1157*		PT			X		X	13/15		245	160	15							WARPED	MEDIEVAL-POST MEDIEVAL
F42	TILE-LINED PIT	88	1	1135	*1135*		PT			X		X			?	?	15			X	X			V DEFORMED	MEDIEVAL-POST MEDIEVAL
L2	MADE-GROUND	7	4	237	*59*	X	PT								?	?	13/14								MEDIEVAL-POST MEDIEVAL
L2	MADE-GROUND	7	1	32	*32*	X	PT																		MEDIEVAL-POST MEDIEVAL
L2	MADE-GROUND	7	1	455	*455*	X	PT			X		X	15,19		?	165	15								MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	4	1	7	*7*	X	PT												X	X					MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	4	1	17	*17*	X	PT																		MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	4	1	39	*39*	X	PT																		MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	4	2	95	*48*	X	PT								?	?	21		X					THICKER	MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	5	1	27	*27*	X	PT													X	X				MEDIEVAL-POST MEDIEVAL
L3	MADE-GROUND	5	2	28	*14*	X	PT																		MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	32	1	463	*463*		BON																		MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	32	1	602	*602*		PT			X		X	13		?	170	15							3 LINEAR THIN RAISED LINES ON UP SURF	MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	32	1	2278	*2278*		BR	UN-FROGGED							245	115/110	55							ONE EDGE V BUNRT, CREASED	MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	32	2	923	*462*	X	PT			X		X	15		?	170	15								MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	32	1	163	*163*		PT													X	X			WASTER BUBBLES ON SURFACE	MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	39	1	25	*25*	X	PT												X					BURNT GREY	MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	43	1	1248	*1248*		BON			X															MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	43	2	1097	*549*		PT			X		X	10,15		260	150	15			X	X				MEDIEVAL-POST MEDIEVAL
L6	BACKFILL OF F6	89	4	975	*244*		PT		X	X		X	20,22		?	175	14							ANIMAL PRINT ON UNDERSIDE	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	1	131	*131*	X	PT																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	3	864	*288*	X	PT																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	5	1511	*302*	X	PT																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	3	1504	*501*		BON								280	?	17								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	1	149	*149*	X	PT																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	1	685	*685*		PT								?	?	25/27							? THICKER, WIRE CUT EDGE	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	42	2	857	*429*		MORTAR																	CURVED EDGE, COARSE PEBBLE	?
L8	PEG-TILE SPREAD	45	1	220	*220*		PT		X															ANIMAL PRINT ON UP SURF, SMALL COW?	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	8	3017	*377*		PT								?	155	15/17								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	2	859	*430*		PT			X		X	15		?	155	15								MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
L8	PEG-TILE SPREAD	45					PT			X		X	15		?	155	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	127	*127*	X	BR								?	?	42								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	950	*950*	X	BR	UN-FROGGED							?	110	45								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	17	2913	*171*	X	PT			X		X	15		?	155	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT			X		X	16		?	165	14							2 PH NEAR CENTRE	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT			X		X	13		?	160	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	358	*358*	X	PT								?	165	13				X			SLIGHTLY WARPED WASTER?	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	472	*472*	X	BR	UN-FROGGED							?	?	50							OR, OR/RED NODS	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	25	1487	*59*	X	PT																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	11	3356	*305*	X	PT			X		X	16		?	160	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT								?	150	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT			X		X	14,16		?	155	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	760	*760*	X	PT								?	165	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	527	*527*	X	PT			X		X	14,15		?	155	16								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	19	3173	*167*	X	PT			X		X	18,19		?	156	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT			X		X	14,16		?	155	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	2	719	*360*	X	BR	UN-FROGGED							?	?	40							OR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	BR	UN-FROGGED							?	?	50							OR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	415	*415*	X	BR	UN-FROGGED							?	?	45							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	2	2188	*1094*	X	BR	UN-FROGGED							?	110	50							OR SLIGHTLY CREASED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	803	*803*	X	BR	UN-FROGGED							?	?	35		X						MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	1023	*1023*	X	BR	UN-FROGGED							?	120/115	55							V OR, FL PEBBLES, RED/OR NODS	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	12	2579	*215*	X	PT			X		X	12		?	150	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	PT								?	150	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	539	*539*		PT		X															ANIMAL PRINT ON UP SURFACE	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	505	*505*	X	PT								?	150	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	2	1042	*521*		BON																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	1165	*1165*		BON		X															? LIGHT ANIMAL PRINT CAT ON UP SURF?	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	3	2205	*735*	X	BR	UN-FROGGED							?	110	45							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	BR	UN-FROGGED							?	110	45							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	BR	UN-FROGGED							?	110	45							OR/RED	MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
L8	PEG-TILE SPREAD	45	3	2399	*800*	X	BR	UN-FROGGED							?	110	43							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45				X	BR	UN-FROGGED							?	110	48							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45					BR	UN-FROGGED							?	115	45							OR/RED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	850	*850*		BR	UN-FROGGED							?	110	45							BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	1185	*1185*		BR	UN-FROGGED							?	110	50							BR CREASED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	45	1	854	*854*		BR	UN-FROGGED							?	?	35							THINNER BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	570	*570*	X	PT								?	170	14								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	872	*872*	X	BR	UN-FROGGED							?	110	45							CREASED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1106	*1106*	X	PT			X		X	15		?	180	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	965	*965*	X	PT			X		?	15		260	160	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	998	*998*		PT			X		X	12		255	150	15				X			SLIGHTLY WARPED WASTER?	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	486	*486*		BR	UN-FROGGED							?	120	32		X					SIM TO PT FABRICS, THINNER BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	796	*796*		BR	UN-FROGGED							?	?	40								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	540	*540*		PT												X	X	X			MASS OF FUSED PT/KILN STR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1082	*1082*		PT												X	X	X			MASS OF FUSED PT/KILN STR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1203	*1203*		BR	UN-FROGGED							?	65	55								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1308	*1308*		BR	UN-FROGGED							?	115	50								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	531	*531*		PT													X	X			WARPED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	2	1109	*555*	X	PT			X		X	13		?	160	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60				X	PT			X		X	16		?	160	13								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	635	*635*	X	PT			X		X	15		?	155	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	446	*446*	X	PT								?	180	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	502	*502*	X	BON																		MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	902	*902*	X	BR	UN-FROGGED							?	110	45/47								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1016	*1016*	X	PT								?	170	17								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	731	*731*	X	PT			X		X	16		260	150	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	619	*619*	X	PT			X		X	12,13		?	150	15				X			WARPED	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	2	1016	*508*	X	PT			X		X	15,17		?	150	13								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60				X	PT								?	160	15								MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	497	*497*	X	BR	UN-FROGGED							?	?	35							THINNER BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	2	1350	*675*		PT			X		X		14,15	?	160	15								MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
L8	PEG-TILE SPREAD	60					PT			X		X		15	?	160	15							NARROW RIDGE ON UPPER SUR-FACE-2 PIECE WOODEN MOLD?	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	2	1955	*978*		BR	UN-FROGGED							?	115	53			X				CREASED UNDERSIDE, BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	977	*977*	X	BR	UN-FROGGED							?	110	55							BR	MEDIEVAL-POST MEDIEVAL
L8	PEG-TILE SPREAD	60	1	1012	*1012*		BR								?	115	53							OR/RED, CREASED UNDERSIDE, F-MARKS UP SURFACE	MEDIEVAL-POST MEDIEVAL
L13	CHARCOAL SPREAD	28	1	3	*3*	X	PT												X	X					MEDIEVAL-POST MEDIEVAL
L13	CHARCOAL SPREAD	37	2	53	*27*	X	PT																		MEDIEVAL-POST MEDIEVAL
L13	CHARCOAL SPREAD	37	1	72	*72*	X	PT												X						MEDIEVAL-POST MEDIEVAL
L13	CHARCOAL SPREAD	37	1	12	*12*	X	PT																		MEDIEVAL-POST MEDIEVAL
L13	CHARCOAL SPREAD	37	1	13	*13*	X	PT																		MEDIEVAL-POST MEDIEVAL
L15	ACCUMULATION	34	1	77	*77*	X	PT																		MEDIEVAL-POST MEDIEVAL
L20	DEPOSIT BETWEEN F6 AND F37	53	3	62	*21*	X	PT												X						MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1473	*1473*		BON								280	?	20								MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1299	*1299*		BON											X						?	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	275	*275*	X	PT													X	X			WARPED	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	2	214	*107*		PT													X	X			VESICULATED, BUBBLES	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1448	*1448*		?								235+	220+	25							? TOO WIDE FOR PT OR BR	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	300	*300*		PT										30	X						THICKER PT?	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1368	*1368*		BON								?	280	15								MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	2	156	*78*	X	PT													X	X			VB, VESICULATED	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	997	*997*	X	PT			X		X	15		240	150	14			X	X			WARPED	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	3	790	*263*	X	PT																	3 FUSED PT	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	864	*864*		BON																		MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1255	*1255*	X	PT																	4 FUSED LAYERS OF PT	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	1068	*1068*	X	PT																	3 FUSED PT	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	683	*683*		BON																		MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	2	64	*32*	X	PT													X	X			VBURNT, VESICULATED	MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	3	78	*26*	X	PT																		MEDIEVAL-POST MEDIEVAL
L21	DEPOSIT WITHIN F6 CHAMBER C	63	1	2722	*2722*	X	CHALK/LIME																		?
L23	DEPOSIT WITHIN F6 CHAMBER C	64	3	594	*198*		MORTAR																	MORTAR & WOOD	MEDIEVAL-POST MEDIEVAL
L23	DEPOSIT WITHIN F6 CHAMBER C	64	1	1779	*1779*		MORTAR																	MORTAR & WOOD	MEDIEVAL-POST MEDIEVAL
L23	DEPOSIT WITHIN F6 CHAMBER C	64	1	2107	*2107*		MORTAR																	MORTAR & WOOD	MEDIEVAL-POST MEDIEVAL

Cxt	Feature type	Find no.	NR	GR.	*MSW*	Discard	Typology	Sub-type	Animal	PH R	PH SQ	2 Phs	PH diam.	Blind	L.	BR.	TH.	Mortar	Burnt	Overfired	WASTER	Abraded	Modif.	Comments	Date
L23	DEPOSIT WITHIN F6 CHAMBER C	64	6	1121	*187*		MORTAR																	MORTAR & WOOD	MEDIEVAL-POST MEDIEVAL
L25	ACCUMULATION	66	1	24	*24*	X	PT												X						MEDIEVAL-POST MEDIEVAL
L25	ACCUMULATION	66	2	249	*125*	X	PT																		MEDIEVAL-POST MEDIEVAL
L25	ACCUMULATION	66	1	165	*165*		Baked clay																	OBJ, ROUND (OR/RED LIKE F21)	MEDIEVAL-POST MEDIEVAL

Appendix 4 Small finds list

SF	Context	Find no.	Object type	Description	Qt.	Wt. g	Length mm	Width mm	Thickness mm	Diameter mm	Date
1	L6	38	Hair pin	**Fig 31.1** Complete copper-alloy hair pin. Short, round-section shaft, *c* 1.8mm diameter. The hollow spherical head is made from two hemispheres soldered together; the pin passes though a hole in the underside of the lower hemisphere. The head is very top heavy and plain. Head 10.8mm diameter, 7mm high.	1	3.4	61.7	-	-	10.8 (head)	Medieval/early post-medieval, *c* 1450-1700
2	F17 sx2	21	Hooked tag	**Fig 31.2** A complete copper alloy wire dress fastener, Class A, type 1 form (Read 2008, p155, 582-6) of late medieval/early post-medieval date, *c* AD 1445-1600. It is made from a single piece of circular sectioned wire, folded in half and flattened at the fold to form the hook, with two out-turned circular attachment loops at the end of each arm (also flattened). Also now bent in half.	1	2.1	42.2	15.2 (max.)	2.0	2.0	Late medieval/ early post-medieval, *c* 1445-1600
3	L13	73	Weight	**Fig 31.3** Complete lead weight. Small, circular in plan, domed in cross-section. The base is recessed leaving a raised lip around the circumference and it has a small circular hole in the centre that is not that deep.	1	22.0	14.5 (height)	-	-	15.2	Medieval/ post-medieval
4	L13	79	Fragments	Two small fragments of lead.	2	0.6	-	-	-	-	-
5	L25	72	Rivet	**Fig 34.10** Lead rivet, roughly oval-shaped with irregular edges. The surface has two scored lines across it, one across the whole length and another on a diagonal from roughly the centre to the outside edge.	1	41.6	32.3	30.3	9.3	-	Medieval/ post-medieval
6	L25	72	Ring	Copper-alloy ring, complete but broken. Made of circular-sectioned wire 3.9mm diameter. Ring would have been approximately 42mm in diameter.	1	12.1	-	-	-	-	Medieval/ post-medieval
7	L25	76	Weight	**Fig 31.4** Complete lead weight. Virtually circular in plan, flat and decorated with a raised design of eight spokes radiating from a central pellet (wheel-design).	1	63.0	42.5	41.4	9.2	-	Medieval/ post-medieval
8	L25	78	Sheet	Two fragments of lead sheet. The largest tapers to a rounded end with a small bent projection, possibly a hook, the other end is folded over and torn.	2	10.4	30.9	18.2-23.6	1.2	-	-
9	U/S	74	Waste	Casting waste or waste fragment. Roughly square-sectioned lead strip (1.4mm x 1.4mm) with irregular central section of lead sheet adjoining.	1	1.7	44.4	9.8	2.5	-	-
10	U/S spoil	77	Weight	**Fig 31.5** Complete, round (with slightly irregular edges), domed lead weight. The flat underside has a cut-out section with small central hole.	1	128.6	46.5	45.3	11.0	-	Medieval/ post-medieval
11	U/S spoil	77	Ring	Approximately 40% of a copper-alloy ring. The ring in cross-section	1	3.7	34.8	16.4	3.3	-	Medieval/

SF	Context	Find no.	Object type	Description	Qt.	Wt. g	Length mm	Width mm	Thickness mm	Diameter mm	Date
				has five faces (3.3mm x 4.5mm), and most of the five have file marks across the surface.							post-medieval
12	L8	29	Auger spoon bit	**Fig 32.6** Complete iron auger spoon bit. It has a lanceolate terminal (*c* 40mm long, 13.8mm wide, tapering from 5.4m thick to 2.2mm at tip) leading to a very short, probably oval-section, shaft (*c* 10mm long, 8.2mm wide, 8.5mm thick). The gouge-shaped blade is long and narrow, tapering to a broken nose (*c* 68mm long, 10.8mm wide tapering to 5.2mm, and 6.8mm thick tapering to 3.6mm).	1	24.3	120.0	13.8	8.5	-	Medieval/ post-medieval
13	L23	69	Hinge	**Fig 34.9** Iron hinge with nailed U-shaped eye. Flat rectangular strap (*c* 128mm long, 27mm wide) with a plain terminal. Where the strap leads to the U-shaped eye it becomes square in section before being flattened into a lozenge-shaped rear terminal (66mm long, max. 20mm wide). Three *in situ* nails pass through the strap and would have fixed the hinge in place, some mineralised wood is evident around the nails and on the back of the strap. The nail nearest to the eye passes through both the strap and lozenge terminal.	1	132.1	149.9	27.0 (plus corrosion)	40.7	-	Medieval
14	L25	66	Staple	Almost complete iron staple. U-shaped with straight arms (one incomplete).	1	38.4	72.1	34.2	9.3	-	Medieval
15	F6	56	Weedhook	**Fig 33.8** Incomplete iron weedhook. The weedhook is tanged with a clenched tip and flanges which would have gripped the shaft of the wooden handle. The blade is broken, but the angle suggests that it could have been a crescent-shaped blade.	1	139.5	195.0	44.2	8.5	-	Medieval
16	F13	13	Strips & sheet	a) Fragment of iron strip, rectangular in plan and in section, broken at both ends. The strip both flares out slightly (to a width of 40.1mm) and folds just before one of the breaks. b) Fragment of iron strip, rectangular in plan and in section, broken at one end, other end appears to have a rounded terminal. c) Fragment of iron sheet, slightly curved. d) Fragment of iron sheet, slightly curved.	1 1 1 1	89.1 32.4 43.4 40.5	91.7 89.5 54.5 50.8	33.4 25.2 52.7 48.6	10.3 5.3 3.5 5.3	-	-
17	F26	75	Curved blade	Fragment of curved iron blade. Could be from a weedhook or a reaping hook, probably too small to be part of a sickle.	1	39.4	87.5	30.1	6.3	-	Medieval/ post-medieval
18	F41	87	Strip	Fragment of iron strip, rectangular but does flare out slightly, broken at one end, slightly triangular in cross-section.	1	13.9	67.6	16.7-18.4	4.9	-	-
19	F41	84	Auger spoon bit	**Fig 32.7** Incomplete iron auger spoon bit. The terminal is missing and the long shaft is rectangular in cross-section (*c* 149mm long, 15.7mm wide, 7.6mm thick). The spoon-shaped blade is very short, but may be broken (difficult to tell amongst the corrosion) (*c* 33mm long, 25.2mm wide, 12.9mm thick).	1	83.4	179.0	25.2	12.9	-	Medieval/ post-medieval

SF	Context	Find no.	Object type	Description	Qt.	Wt. g	Length mm	Width mm	Thickness mm	Diameter mm	Date
20	F16	18	Quern	Fragment of lava quernstone, no original edges surviving, one surface dressed with random pecking.	1	1175	142.0	130.6	47.9	-	?Medieval
21	L6 chamber A	55	Chalk block	Worked chalk block, with two straight opposing sides, other sides irregular. One surface appears to have been worked, it also has a channel-shaped groove cut deep from one side and shallowing out as it continues across the surface.	1	939	123.4	110.0	78.7	-	Undated
-	L6	39	Nail	Incomplete with tip missing, head damaged but appears flat and square (14.6mm across), square-sectioned shank.	1	8.8	52.6	-	-	-	Undated
-	L13	<2>	Nails	a) Complete, square-sectioned shank, flat and square head (13.7mm x 13.7mm), head at a tilted angle. b) Incomplete, tip missing and head damaged, rectangular-sectioned shank, head flat but shape impossible to determine. c) Complete?, shank flattens out at one end forming the head? d) Shank fragments.	1 1 1 2	7.0 3.5 2.6 4.1	48.4 43.6 38.5 -	-	-	-	Undated
-	L13	<5>	Nails	Complete, shank flattens out at one end forming the head?	1	5.7	50.2	-	-	-	Undated
-	F7	9	Nail	Complete, square-sectioned shank clenched at 45°, flat and round head.	1	12.1	69.1	-	-	-	Undated
-	F26	65	Nails	a) Incomplete, tip missing, square-sectioned shank, head damaged but is flat and square (17.4mm), head tilted at an angle. b) Square-sectioned shank, head missing.	1 1	11.3 1.1	63.3 30.6	-	-	-	Undated
-	F26	71	Nails	a) Incomplete, tip missing, square-sectioned shank, small round head (11.8mm diameter) b) Incomplete with head missing, rectangular-sectioned shank.	1 1	5.5 8.5	40.6 51.6	-	-	-	Undated
-	F31	51	Nail	Incomplete with head missing, shank clenched at 90°, shape of shank uncertain.	1	8.7	80.0	-	-	-	Undated

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124317 (GU66960)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	L13
Sample Reference	2
Material	Charcoal : Prunus spp. (cherry/plum/blackthorn)
$\delta^{13}C$ relative to VPDB	-25.3 ‰
Radiocarbon Age BP	634 ± 21

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

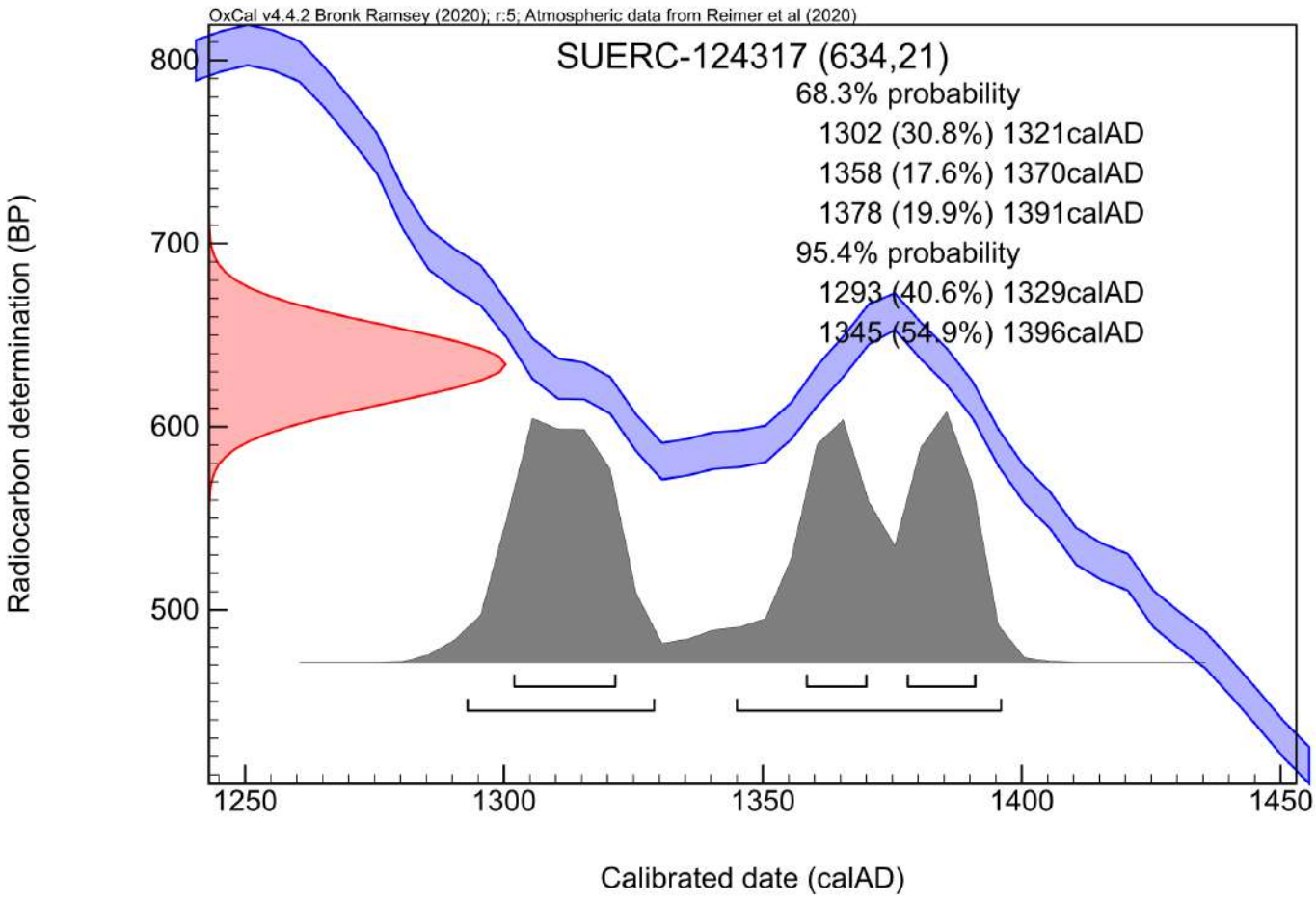
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124318 (GU66961)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	F6
Sample Reference	4
Material	Charcoal : Prunus spp. (cherry/plum/blackthorn)
$\delta^{13}C$ relative to VPDB	-26.4 ‰
Radiocarbon Age BP	406 ± 23

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

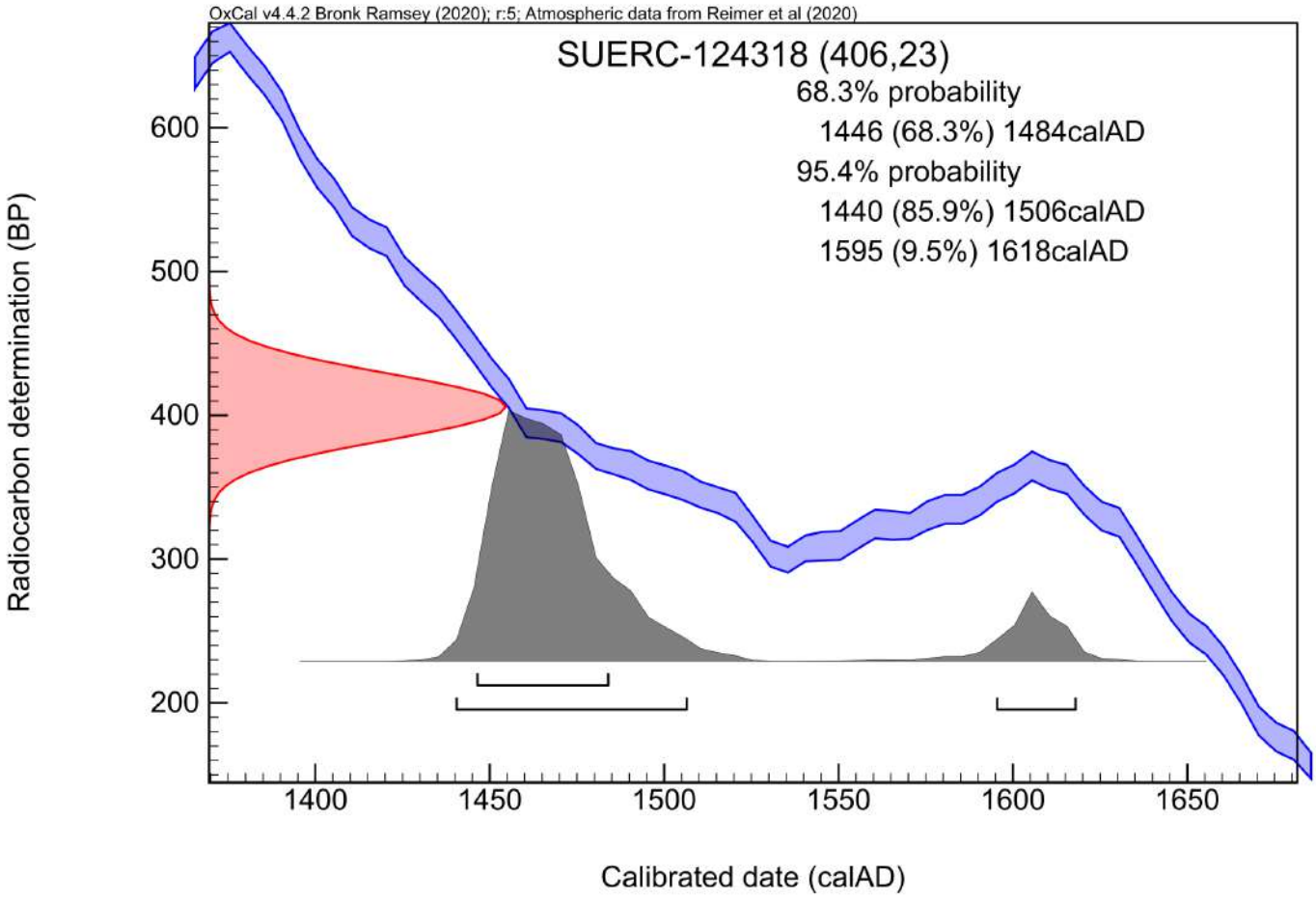
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124319 (GU66962)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	F6
Sample Reference	67
Material	Charcoal : Quercus sp. (oak)
$\delta^{13}C$ relative to VPDB	-25.2 ‰
Radiocarbon Age BP	348 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

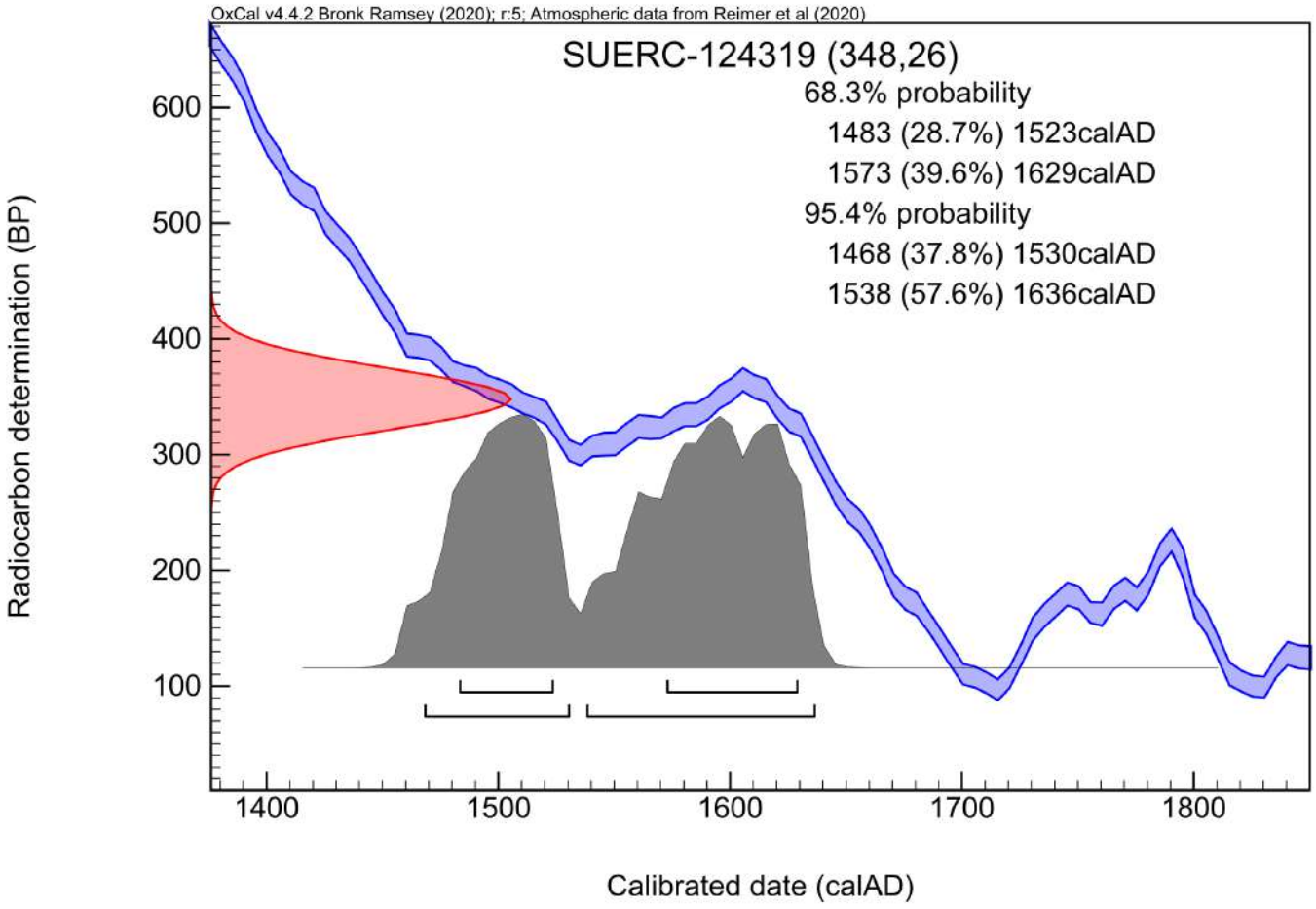
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124320 (GU66963)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	L23
Sample Reference	5a
Material	Charcoal : Prunus spp. (cherry/plum/blackthorn)
$\delta^{13}C$ relative to VPDB	-25.5 ‰
Radiocarbon Age BP	600 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

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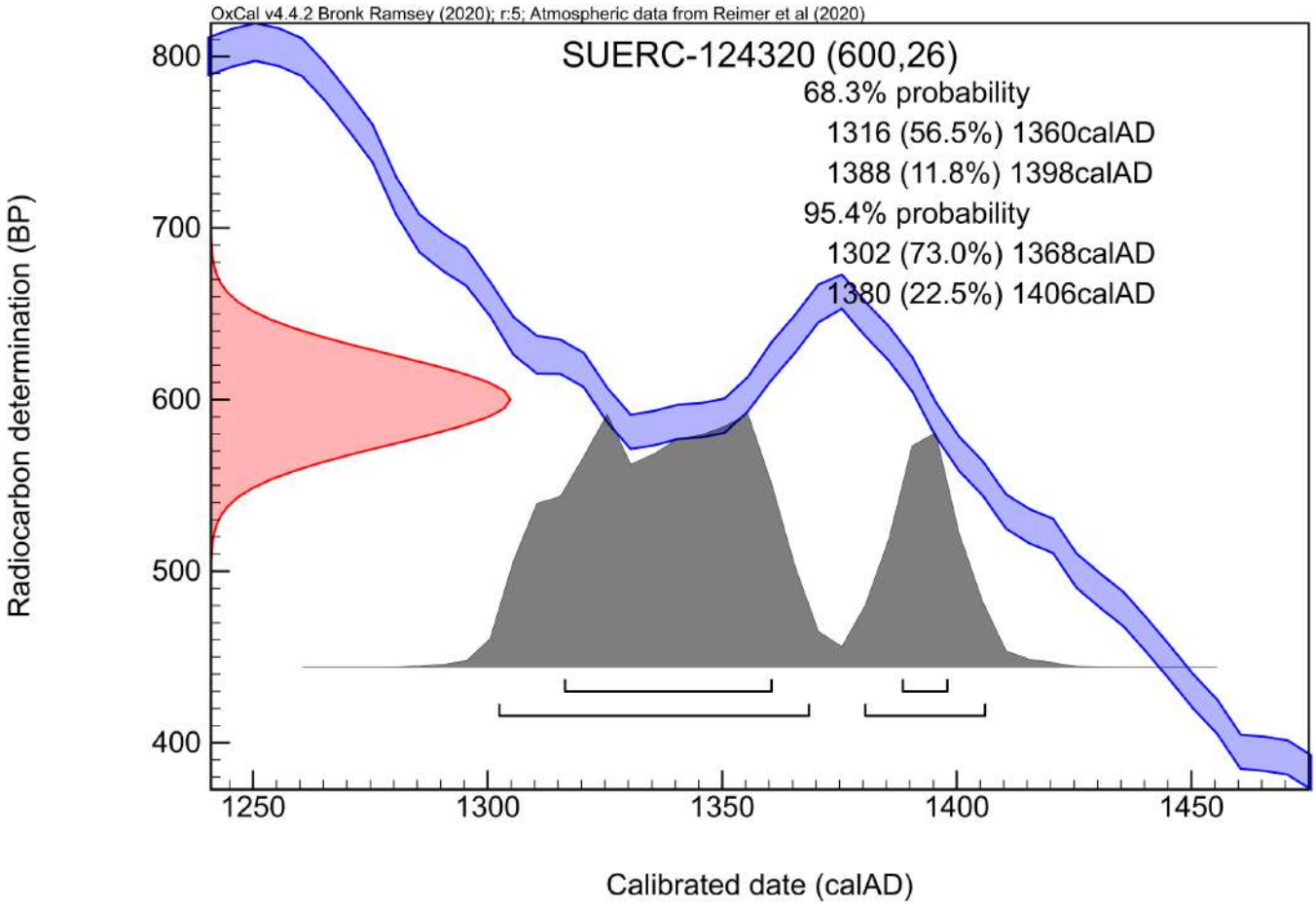

The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124321 (GU66964)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	L23
Sample Reference	5b
Material	Charcoal : Quercus sp. (oak)
$\delta^{13}C$ relative to VPDB	-25.3 ‰
Radiocarbon Age BP	582 ± 23

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

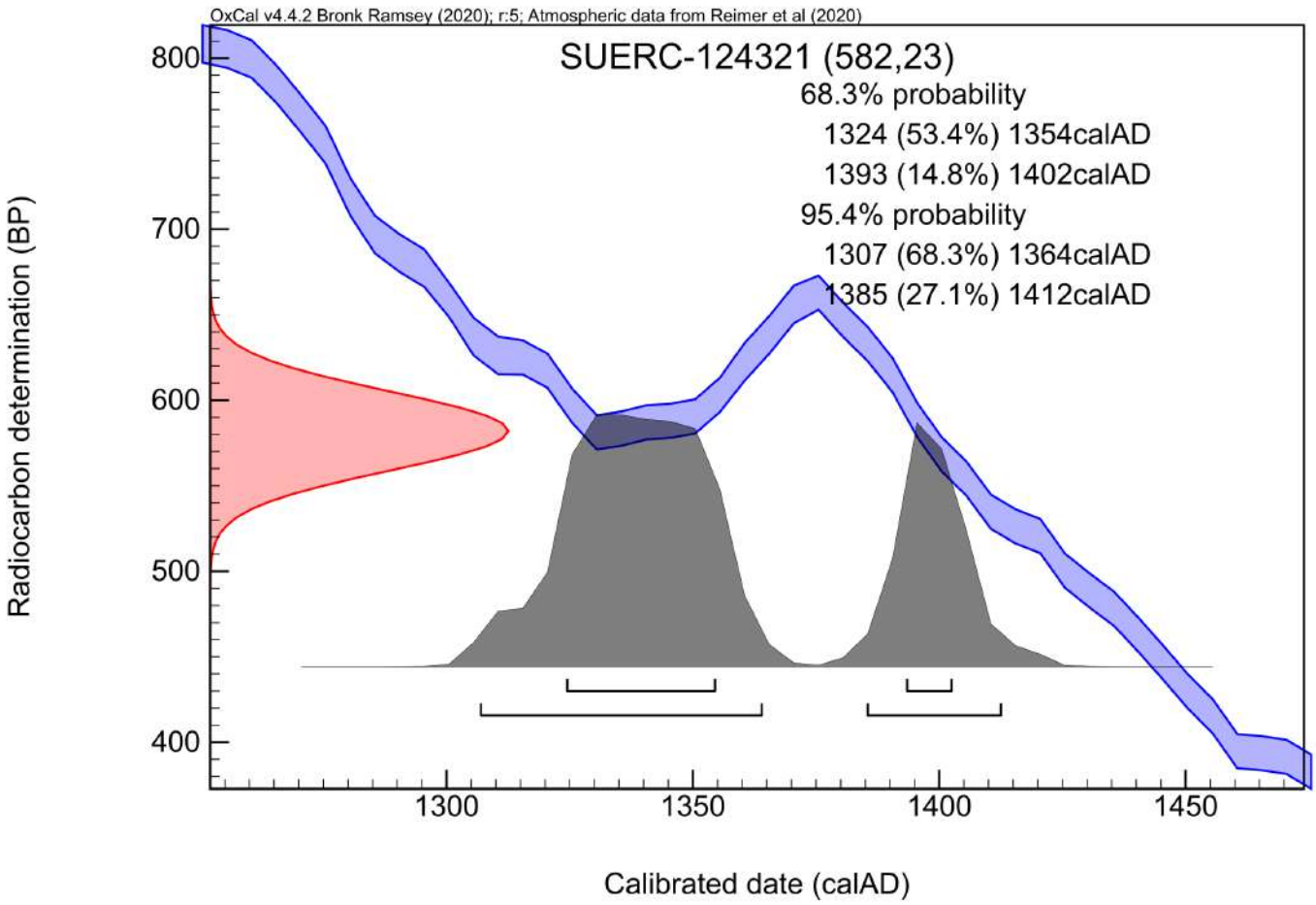
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124322 (GU66965)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	F26
Sample Reference	6a
Material	Charcoal : Fraxinus excelsior L. (ash)
$\delta^{13}C$ relative to VPDB	-25.3 ‰
Radiocarbon Age BP	256 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

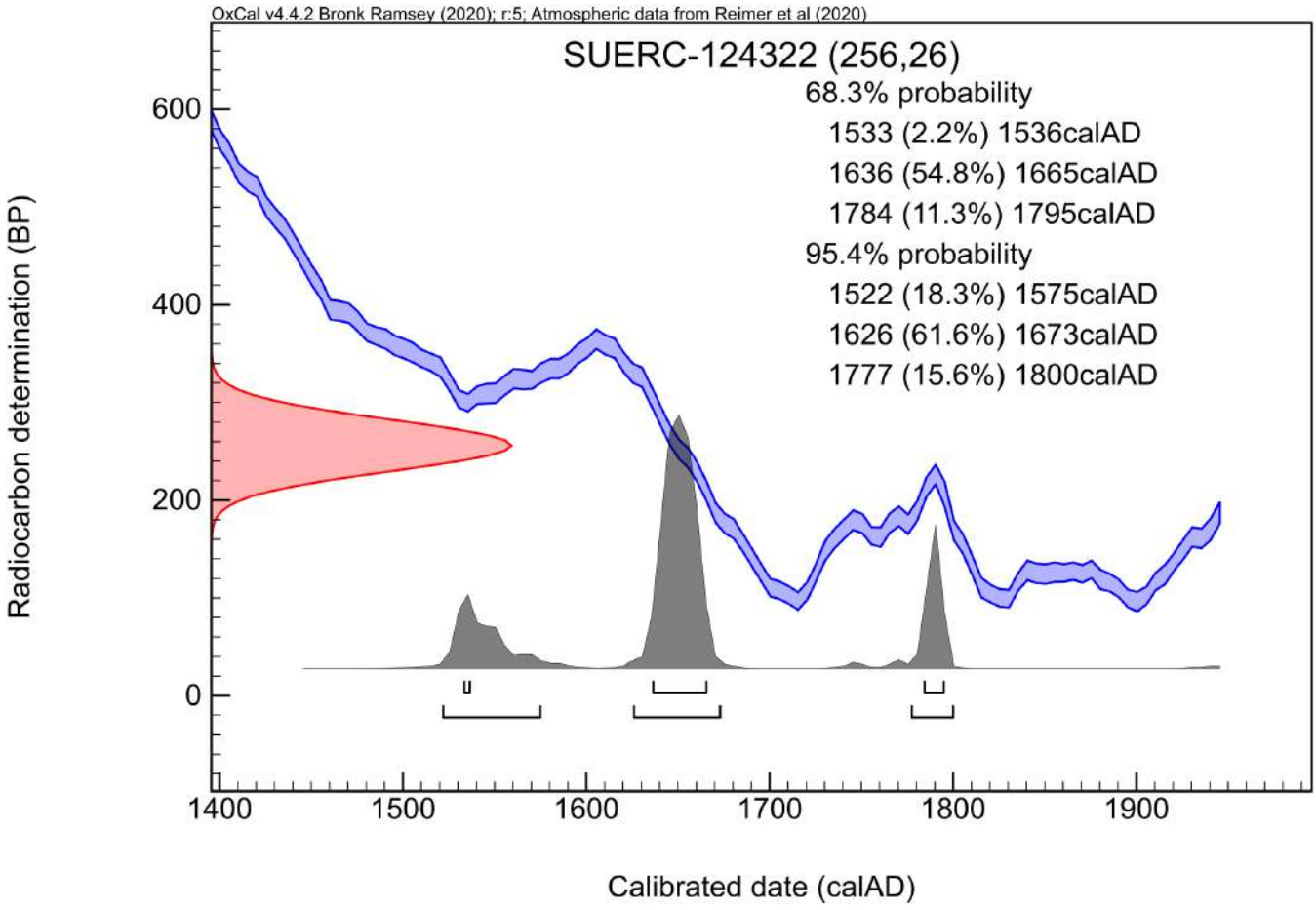
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

SUERC | RADIOCARBON LABORATORY

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

07 February 2024

Laboratory Code	SUERC-124326 (GU66966)
Submitter	Laura Pooley Colchester Archaeological Trust Roman Circus House Roman Circus Walk Colchester Essex CO2 7GZ
Site Reference	Tilekiln Green, Great Hallingbury
Context Reference	F26
Sample Reference	6b
Material	Charcoal : Prunus spp. (cherry/plum/blackthorn)
$\delta^{13}C$ relative to VPDB	-28.1 ‰
Radiocarbon Age BP	406 ± 21

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

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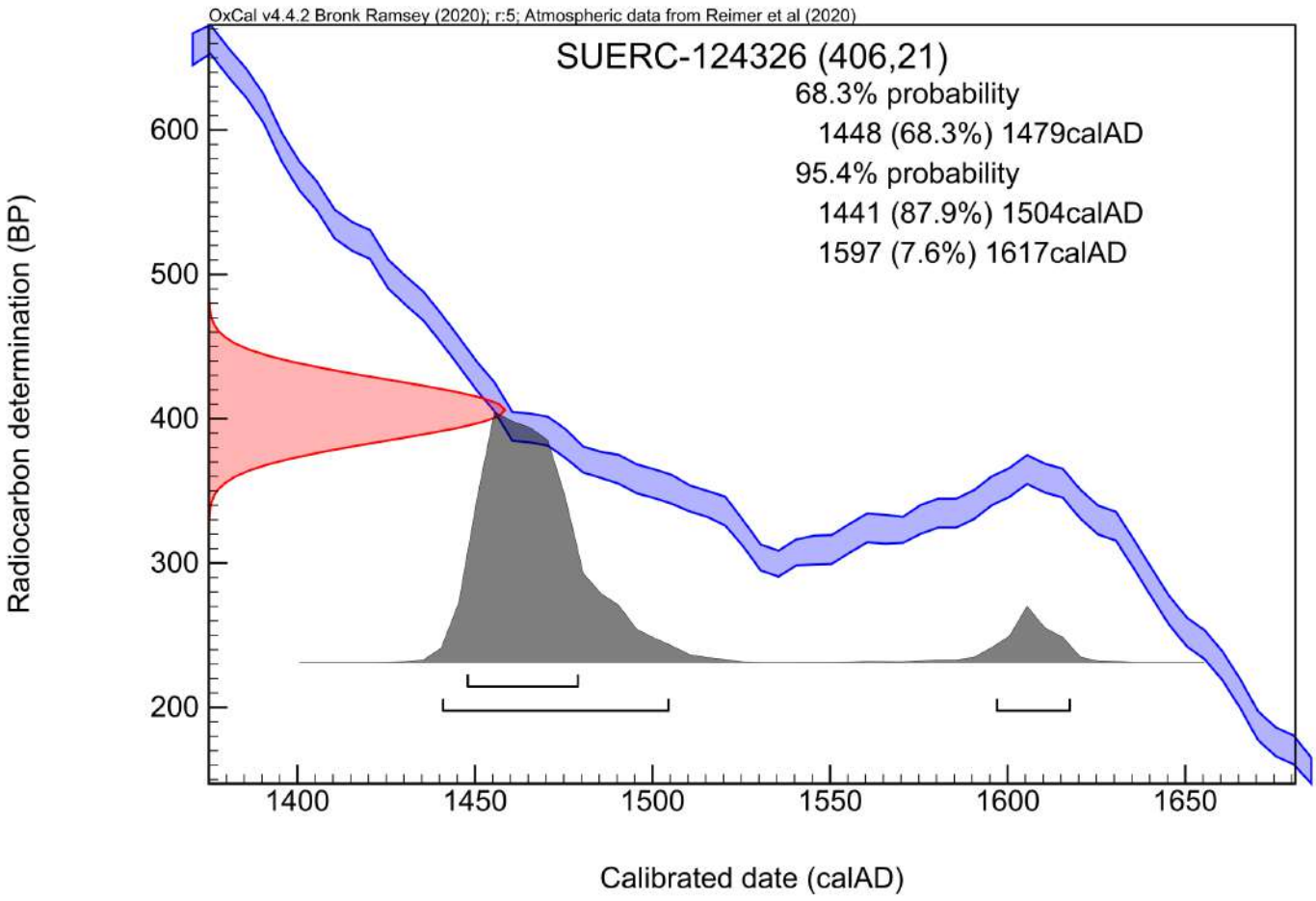
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

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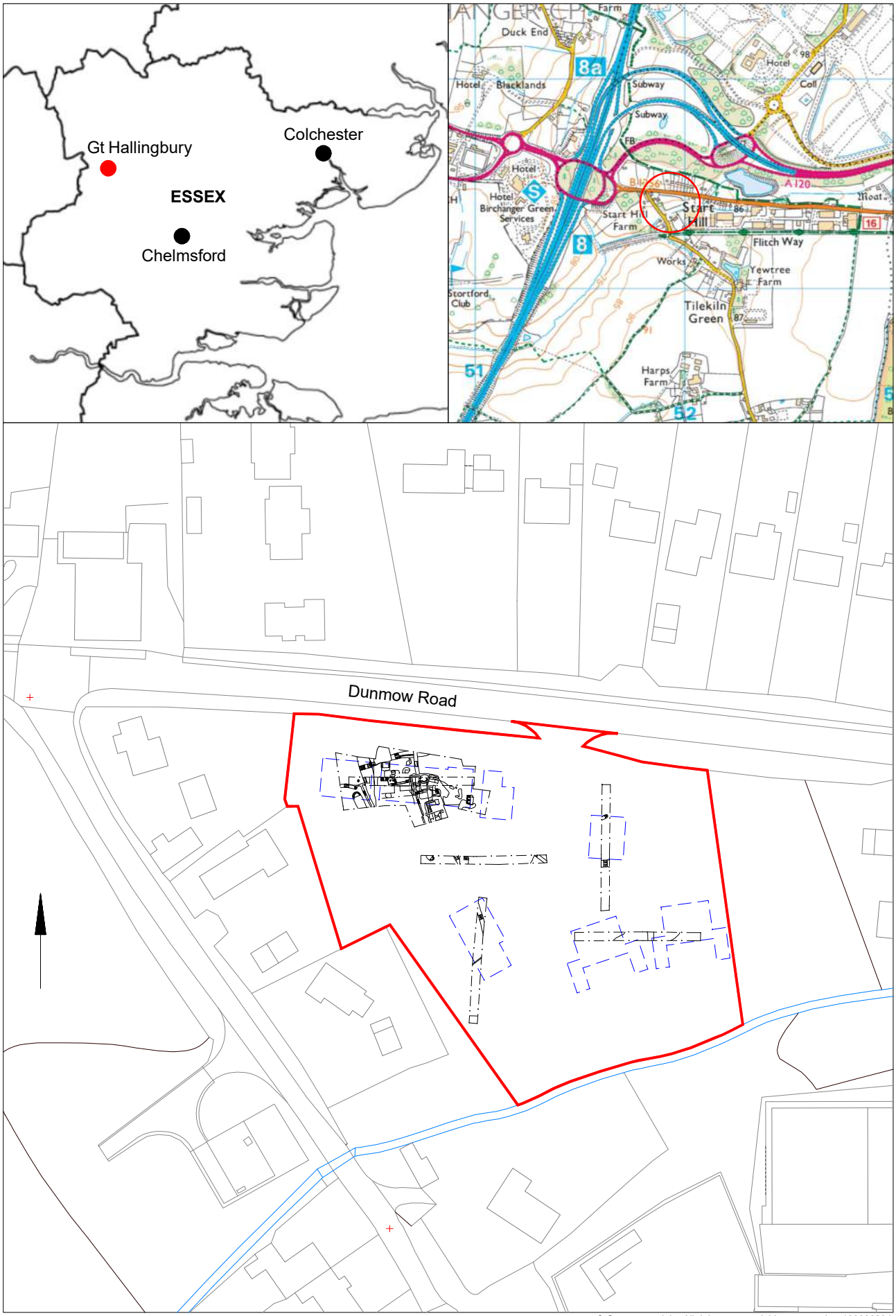


0 50 m

Fig 1 Site location in relation to proposed development (dashed blue lines).

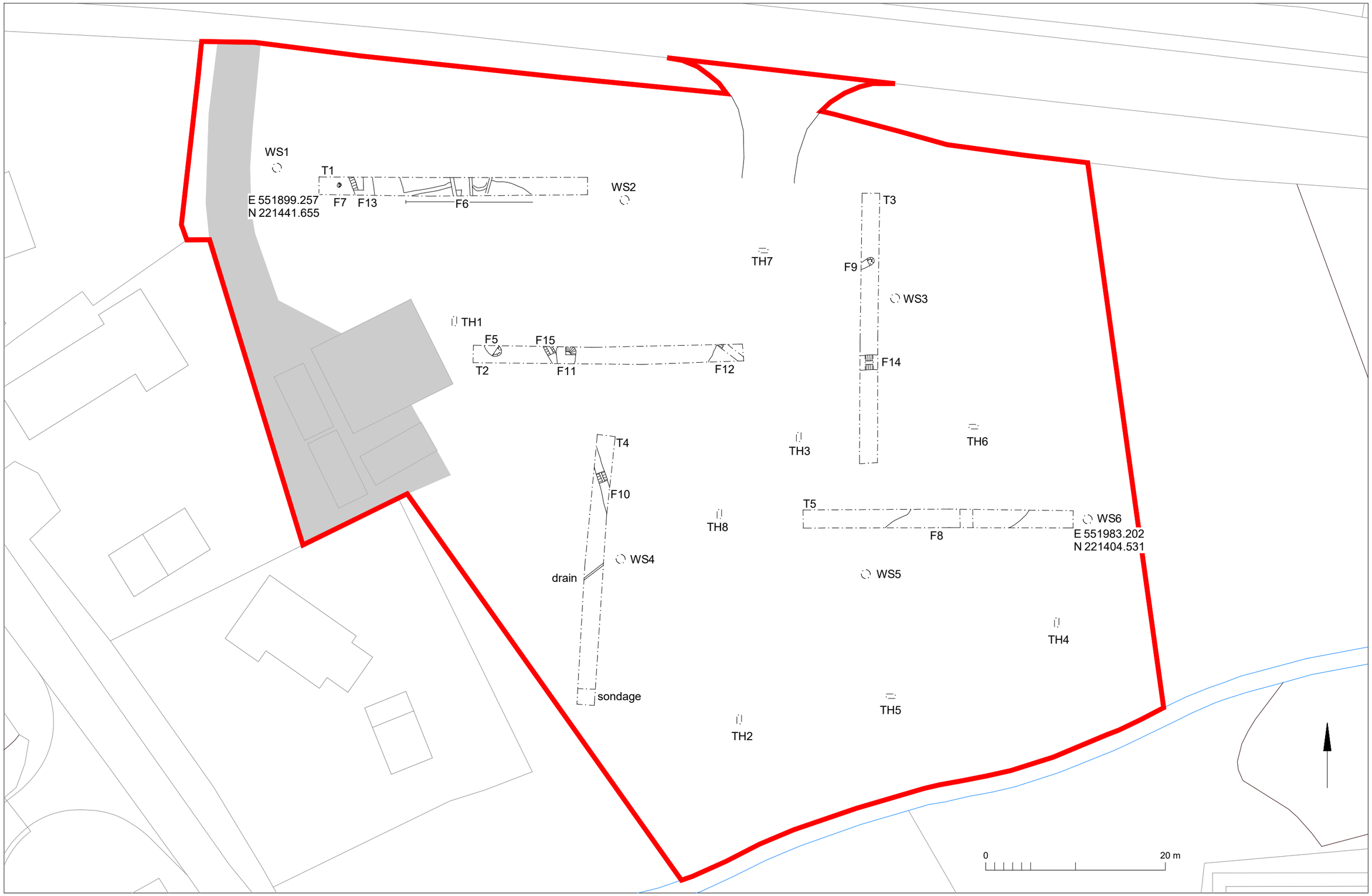


Fig 2 Evaluation results including location plans for the trial-holes (TH1-TH8) and window samples (WS1-WS3 monitored, WS4-WS6 not monitored).

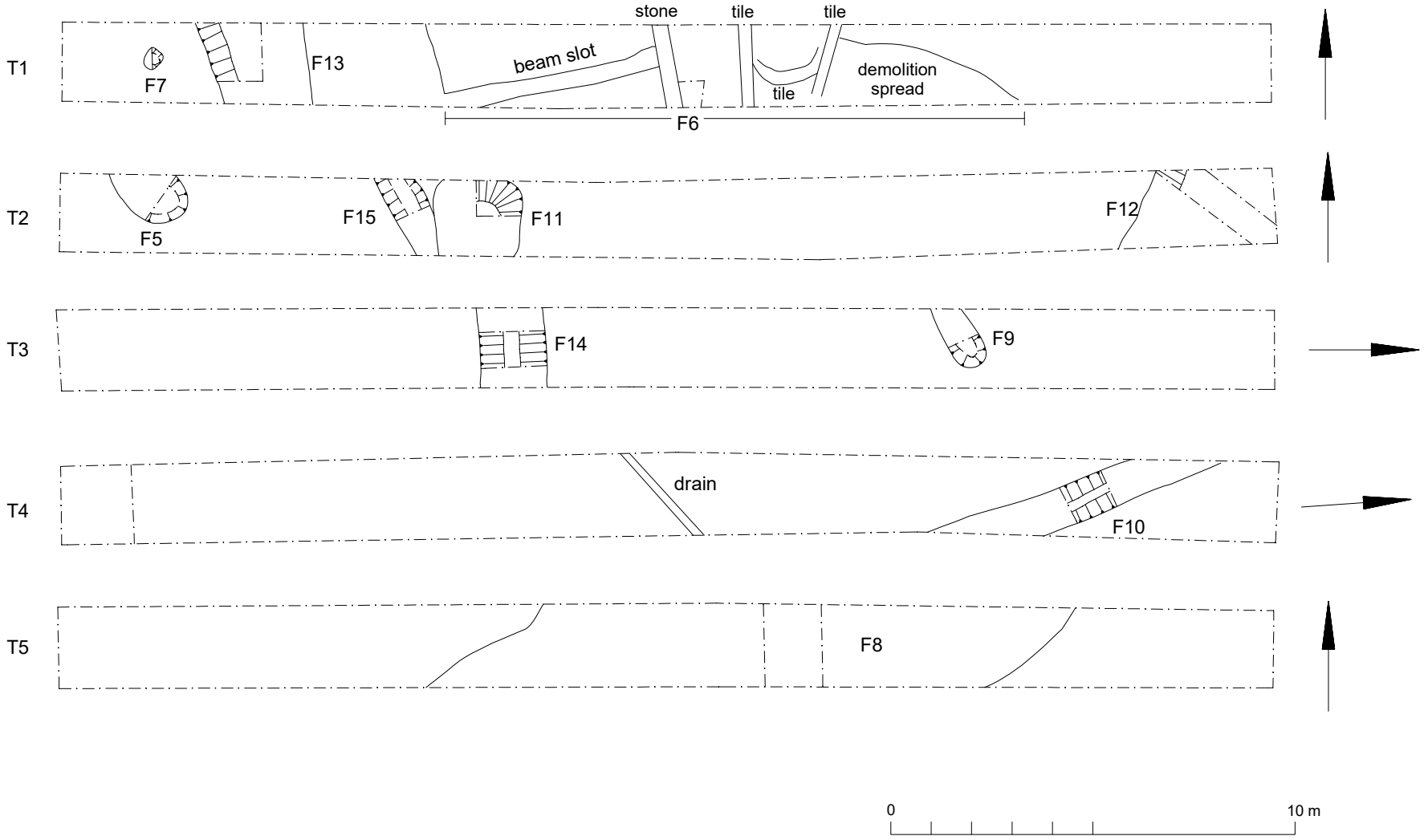


Fig 3 Close-up trench plans.

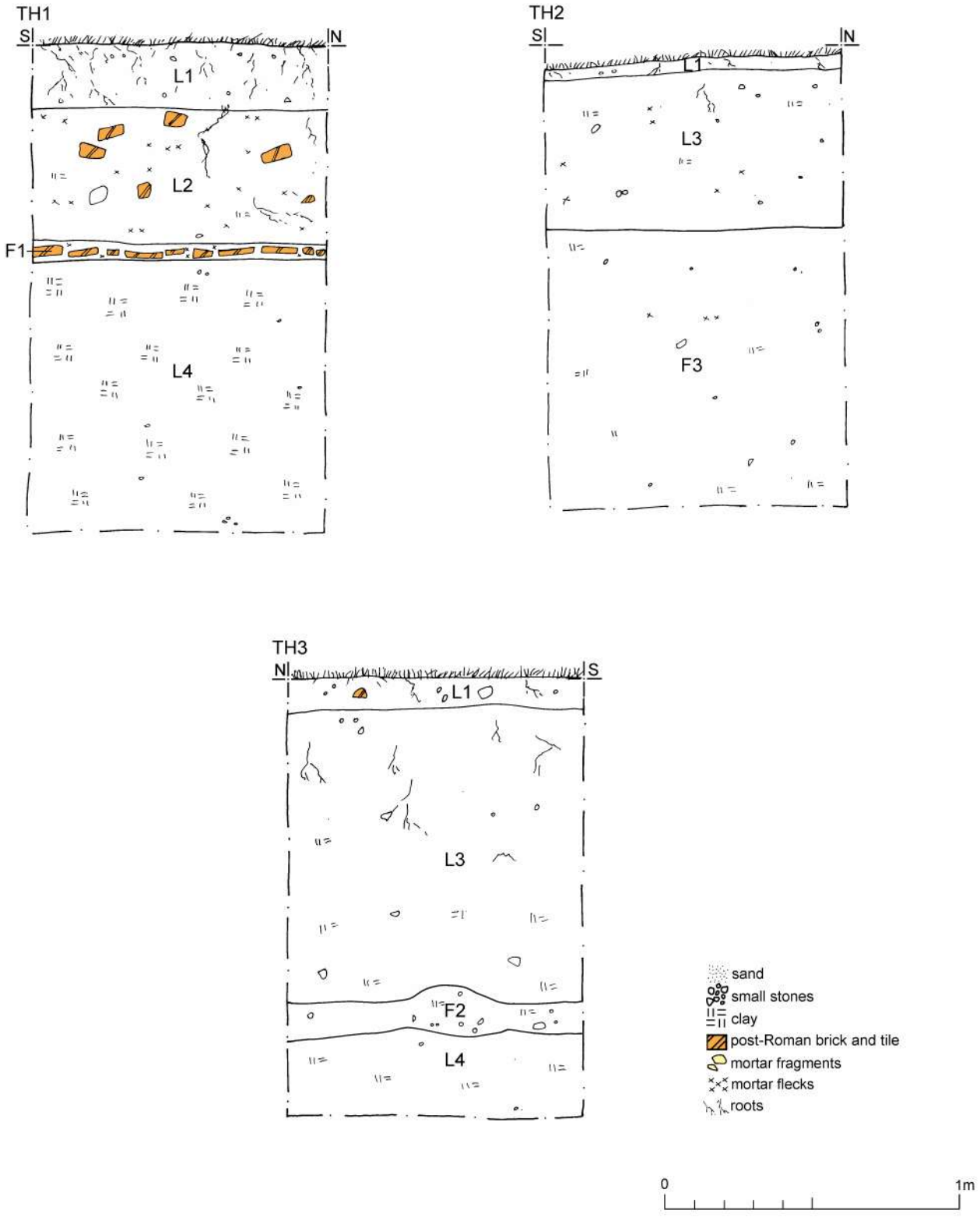


Fig 4 Monitoring representative sections.

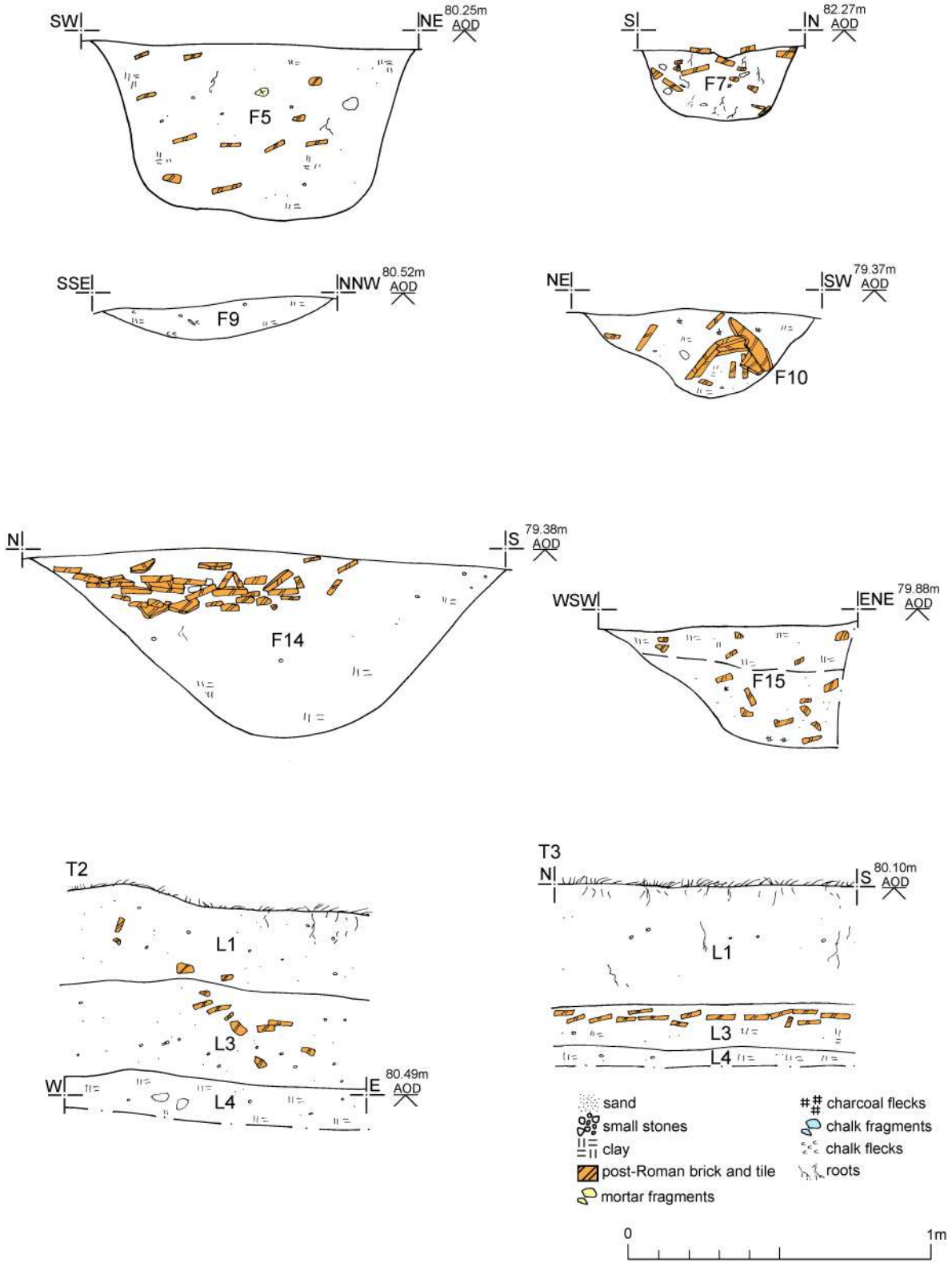


Fig 5 Evaluation feature and representative sections.

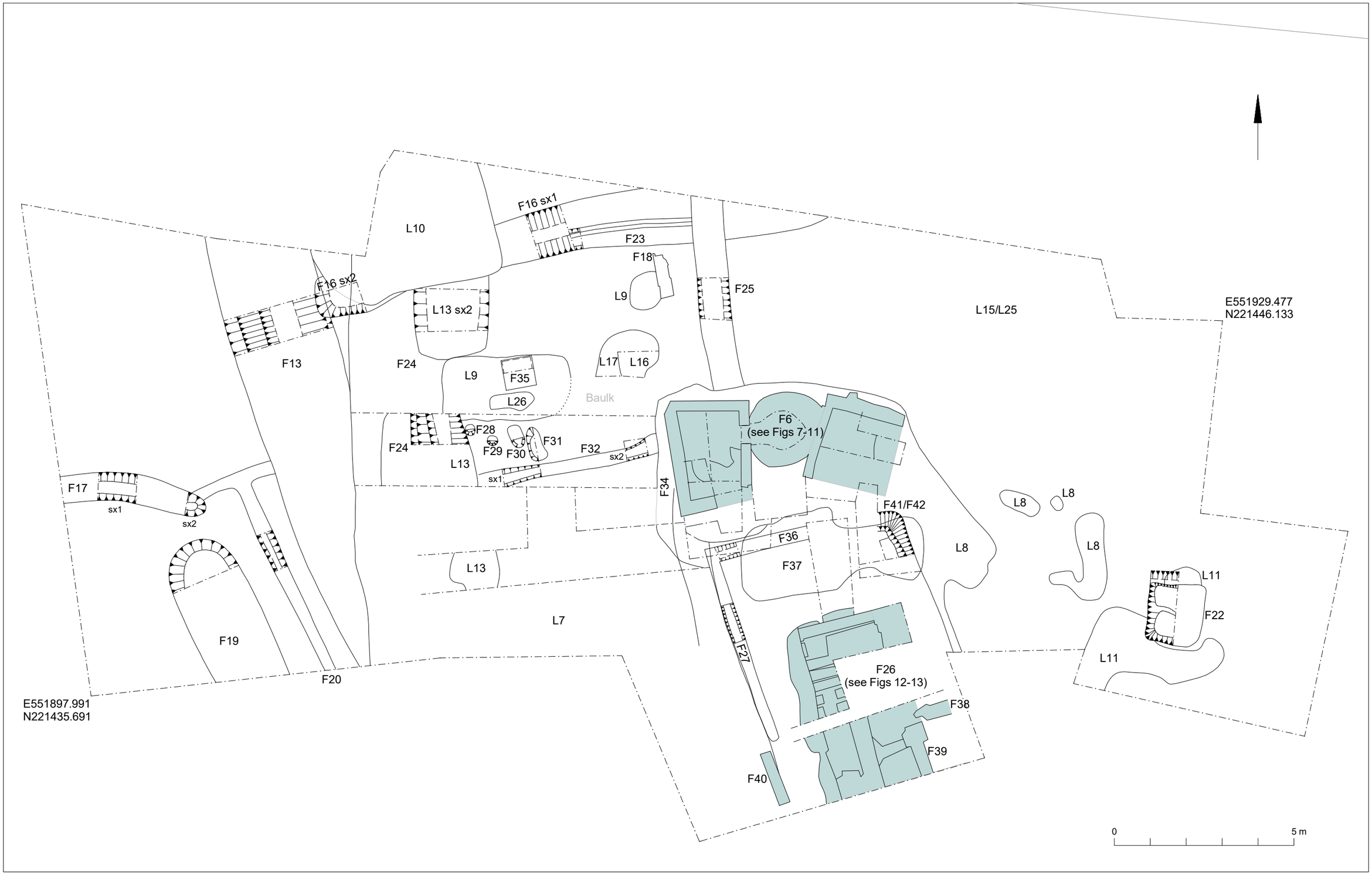
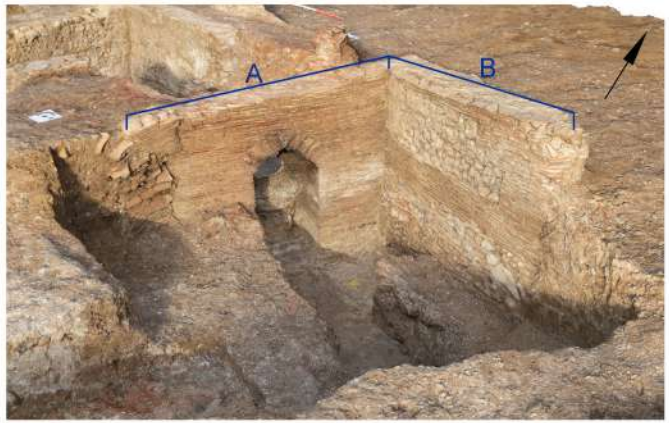


Fig 6 Excavation results.

Fig 7 Lime kiln F6 detailed plan.

Fig 8 Lime kiln F6 detailed wall plans.



F6 chamber A ortho
(not to scale)

Fig 9 F6 Chamber A: elevations.

not to scale

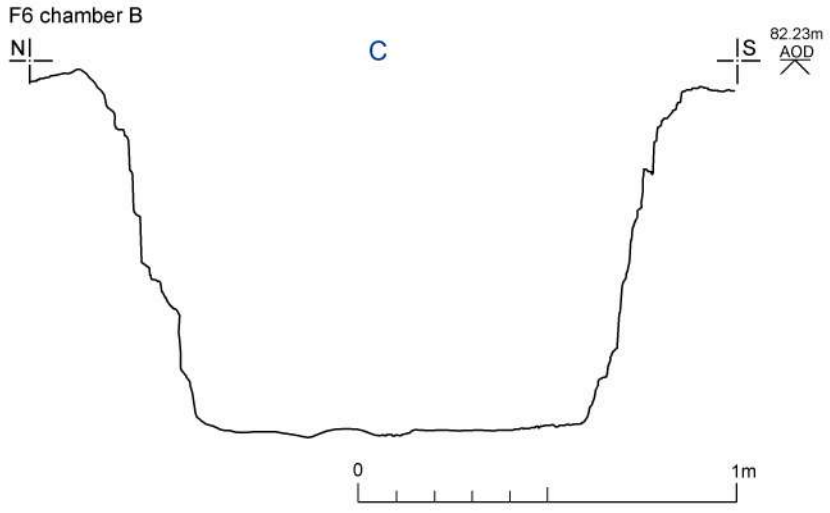


Fig 10 F6 Chamber B: ortho and profile.

F6 chamber C ortho
(not to scale)

Fig 11 F6 Chamber C: elevations.

Fig 12 Tile kiln F26 detailed plan.

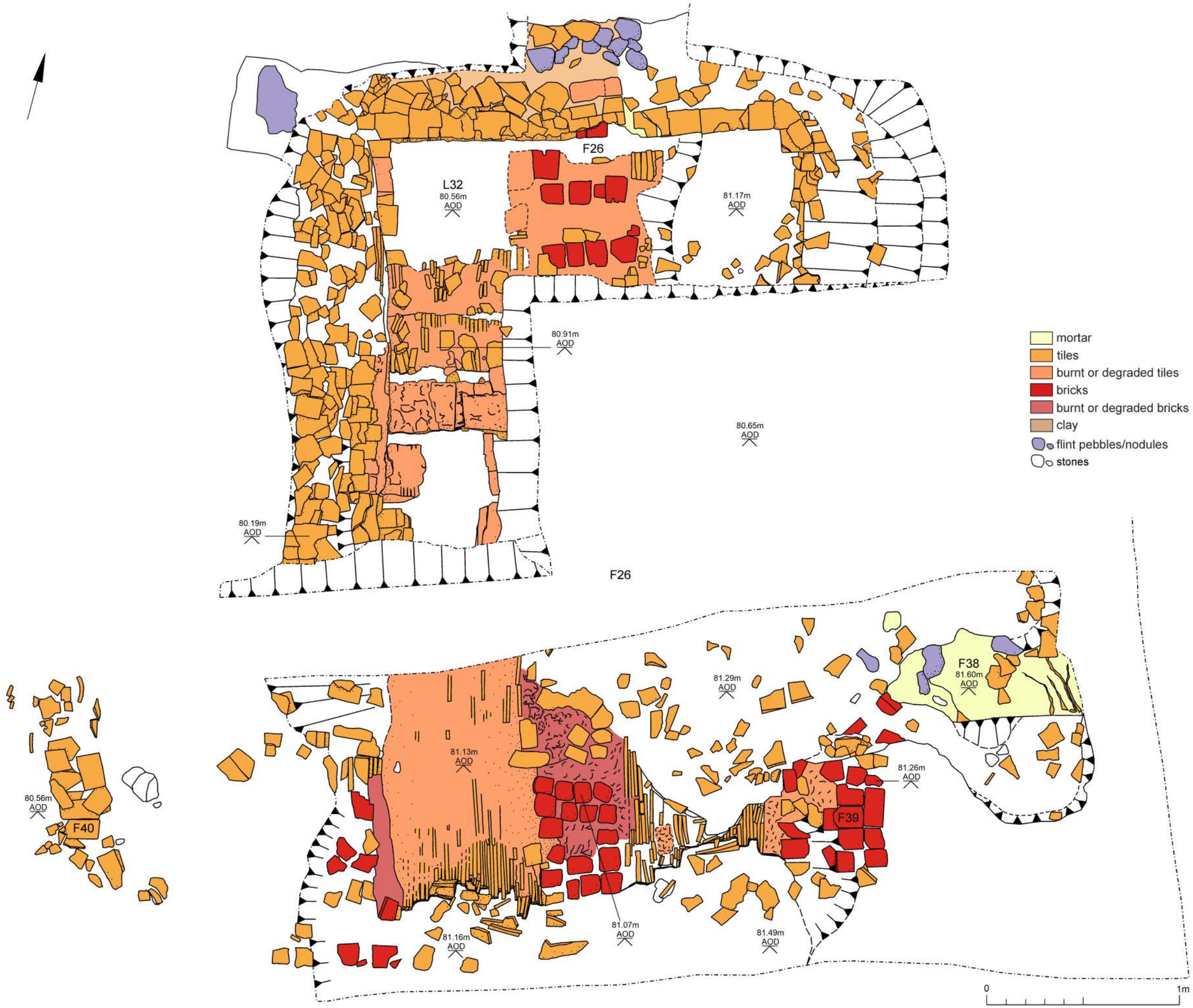


Fig 13 Tile kiln F26 detailed wall plans.

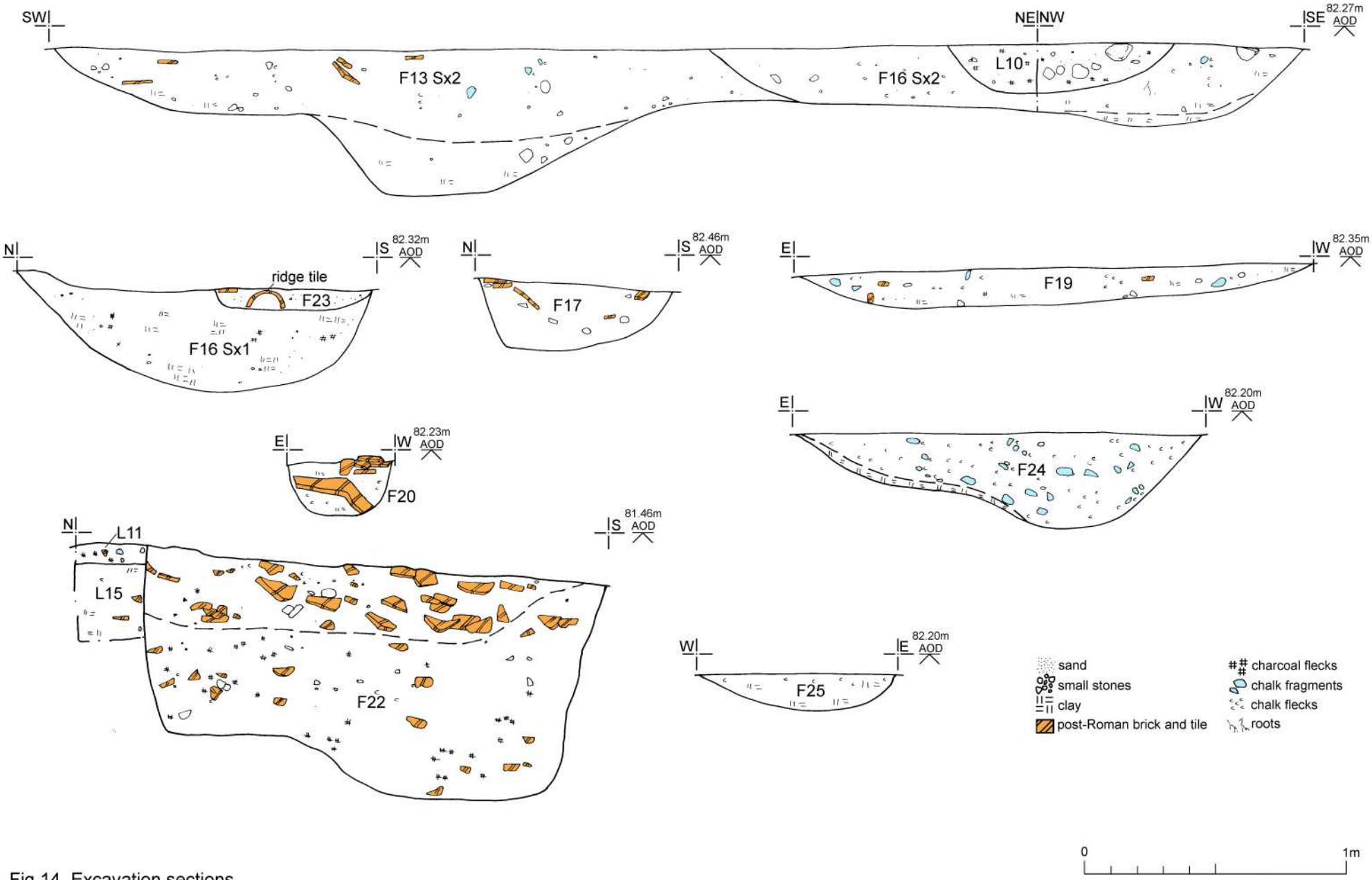
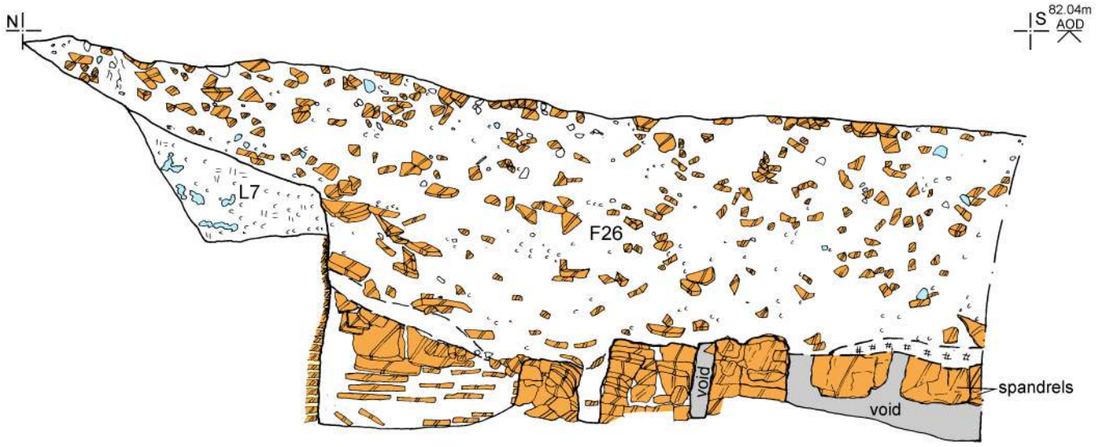
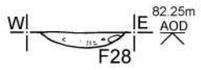
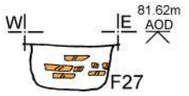
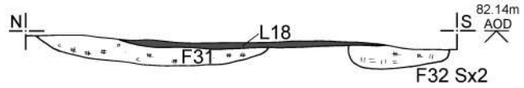


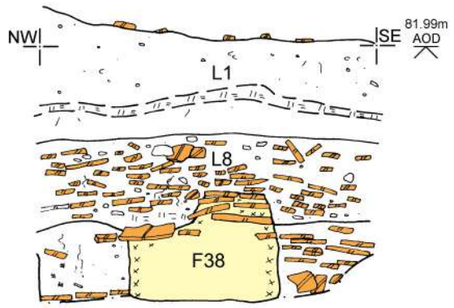
Fig 14 Excavation sections.

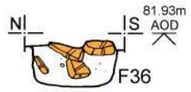


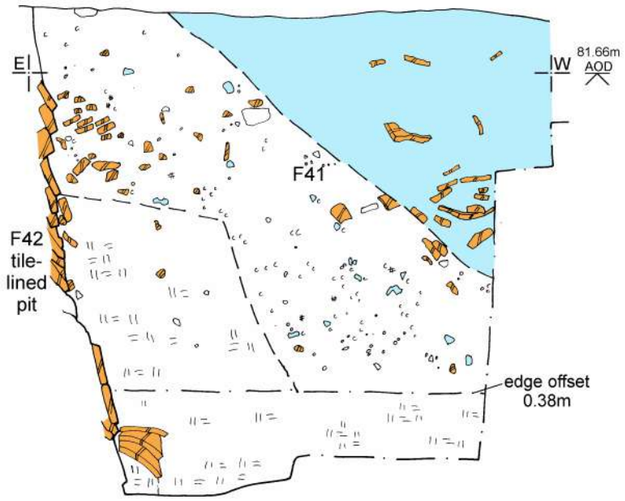


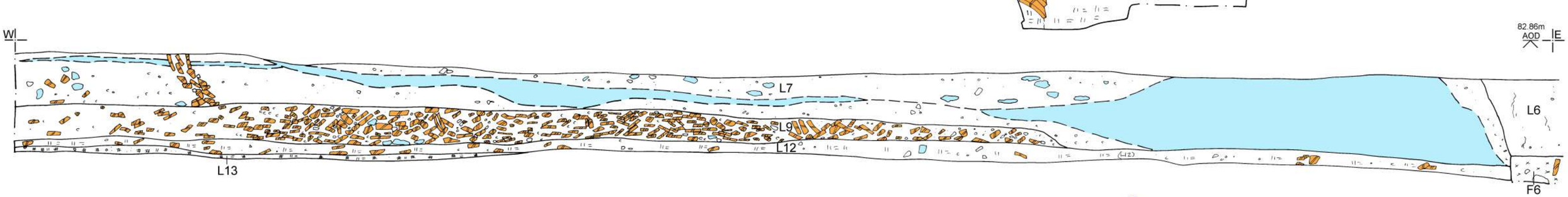


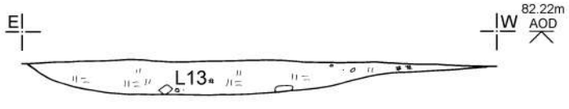


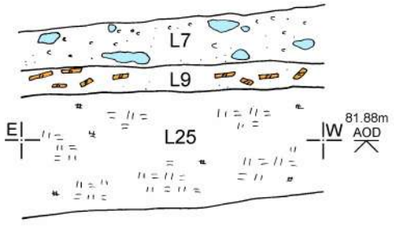


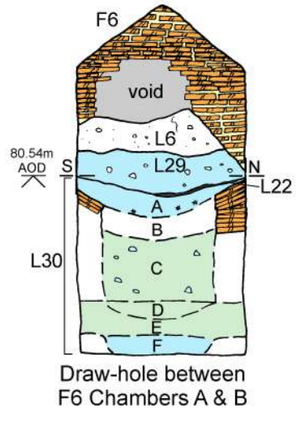












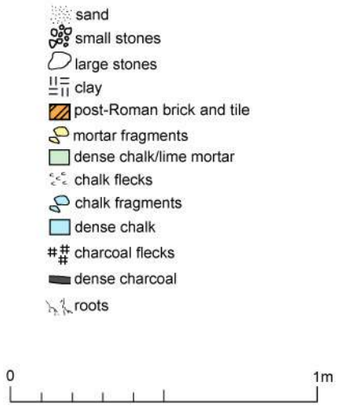


Fig 15 Excavation sections.

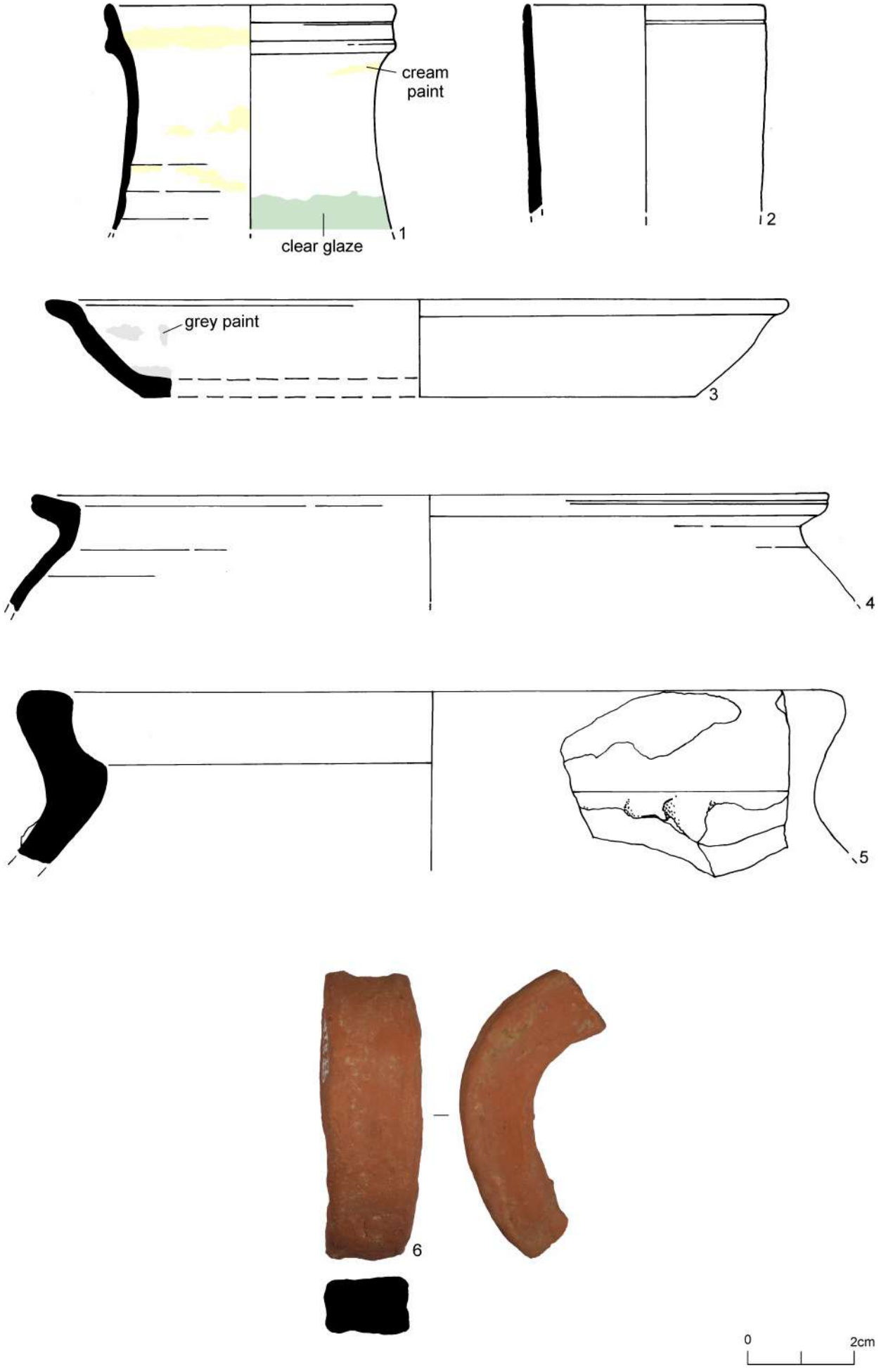


Fig 16 Post-Roman pottery from F16 (1), F17 (2), L25 (3-5) and kiln support? from L25 (6).

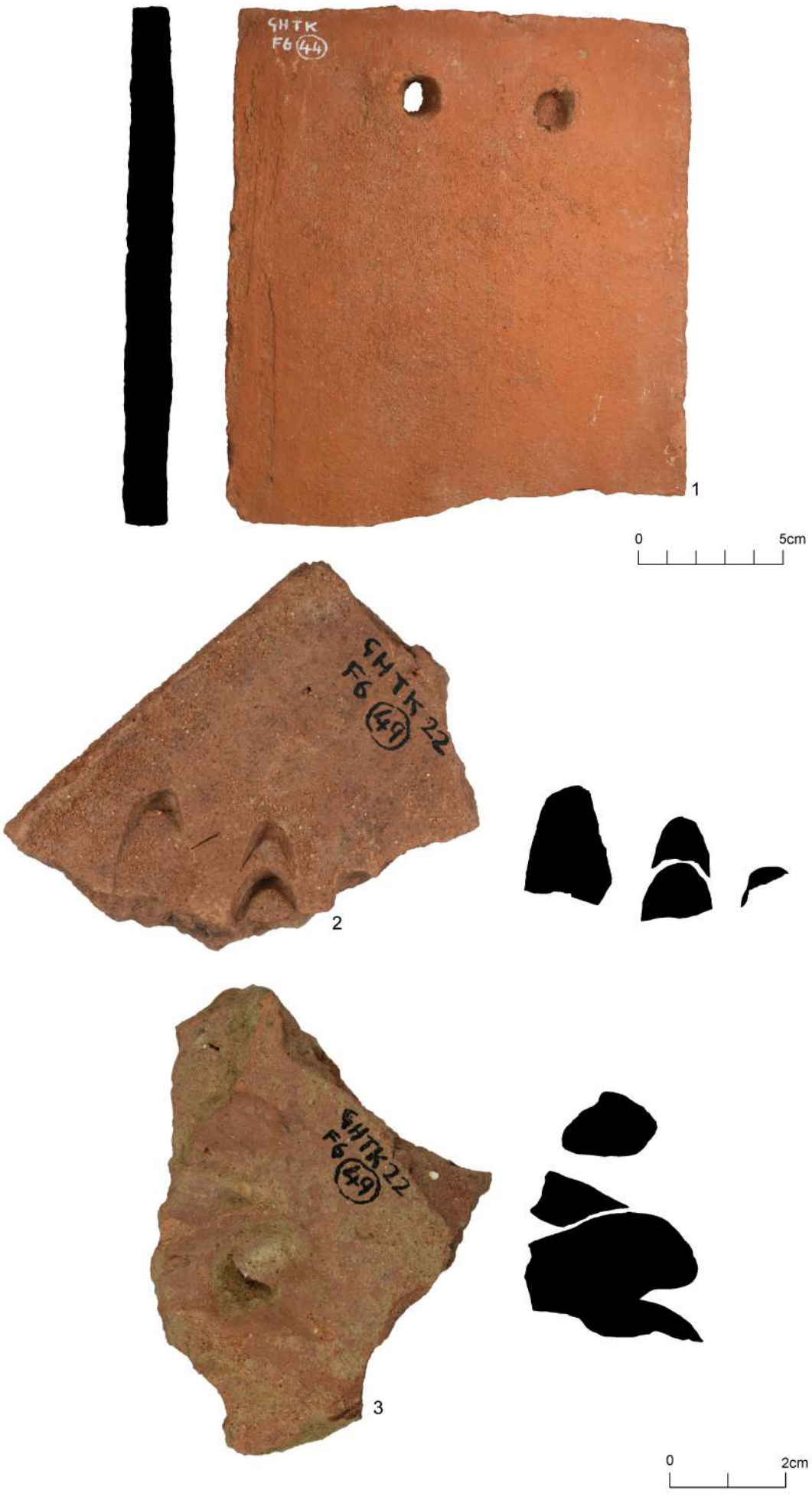


Fig 17 Ceramic building material from F6.

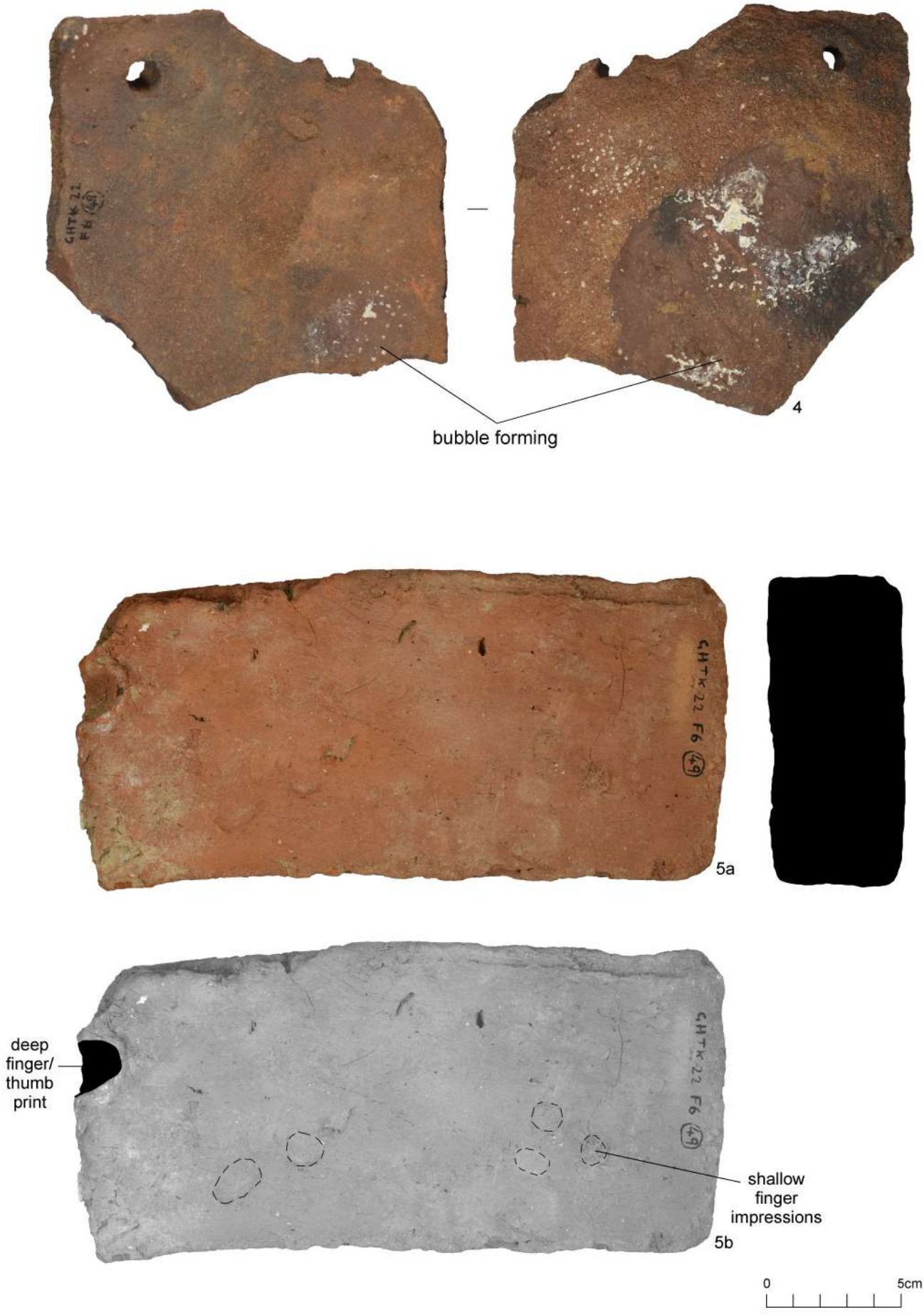


Fig 18 Ceramic building material from F6.

Fig 19 Ceramic building material from F6.

Fig 20 Ceramic building material from F6 (8) and F10 (9).

close up of vesticulated bubbles (not to scale)

close up of vesticulated creases (not to scale)

A sample of wasters

Fig 21 Ceramic building material from F10.

Fig 22 Ceramic building material from F11 (11), F14 (12) and F20 (13-14).

Fig 23 Ceramic building material from F23 (15) and F35 (16).

Fig 24 Ceramic building material from F42 (17) and L6 (18).

Fig 25 Ceramic building material from L6.

20b

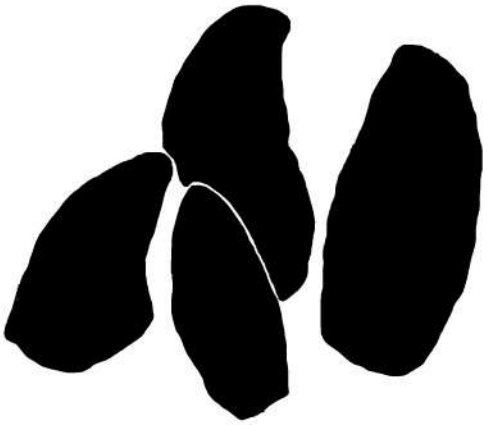


Fig 26 Ceramic building material from L6.

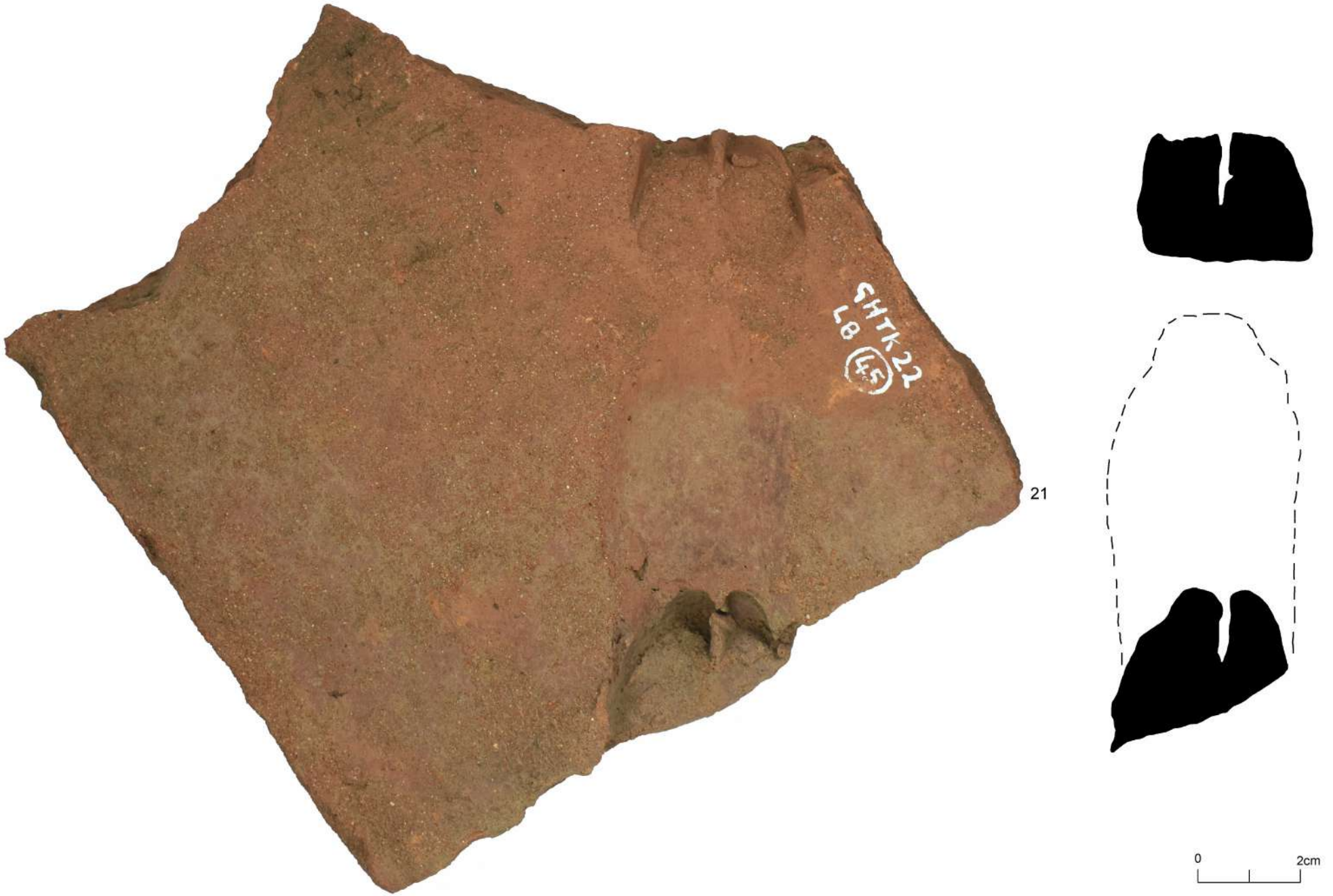


Fig 27 Ceramic building material from L8.

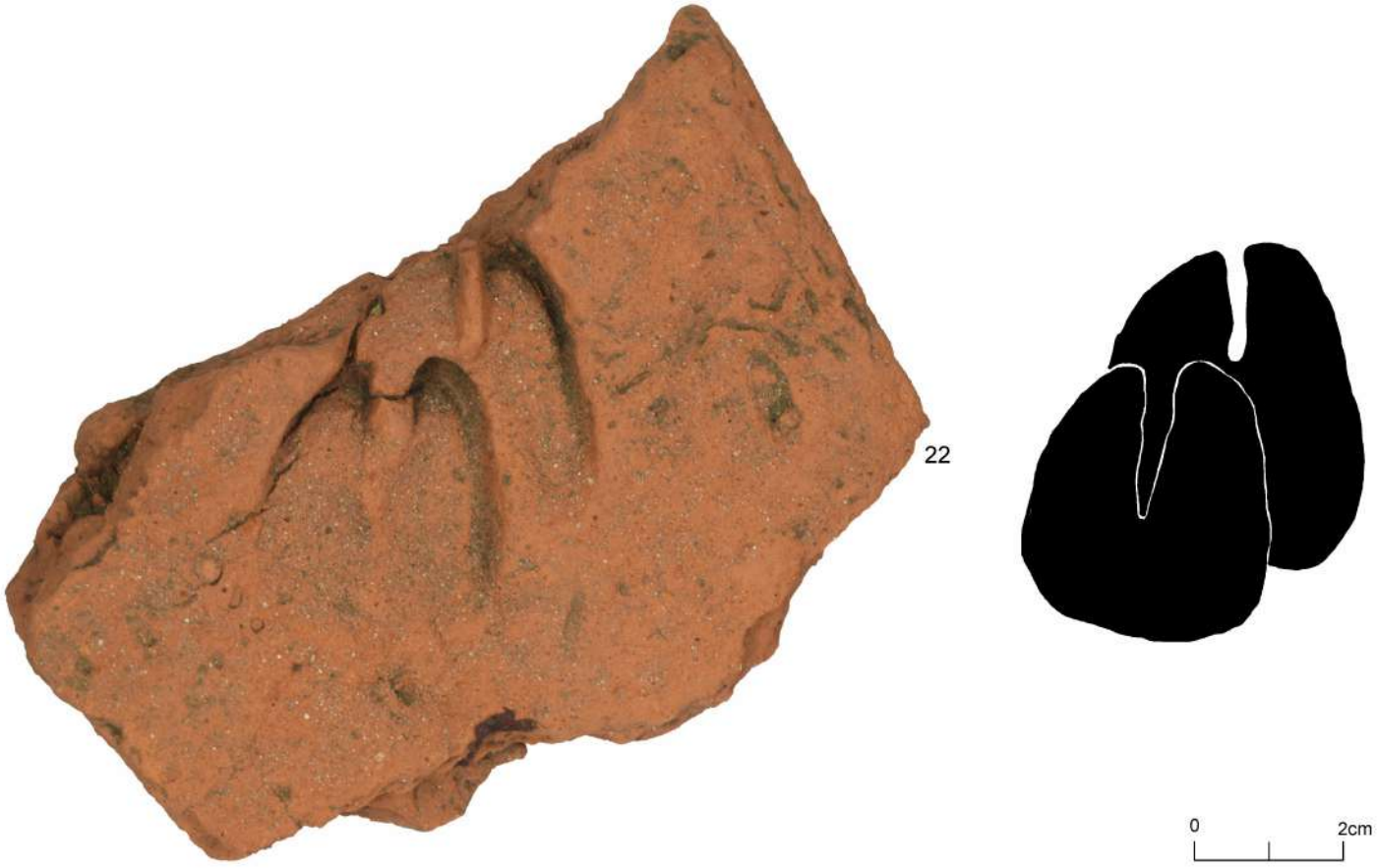


Fig 28 Ceramic building material from L8.

Fig 29 Ceramic building material from L8.

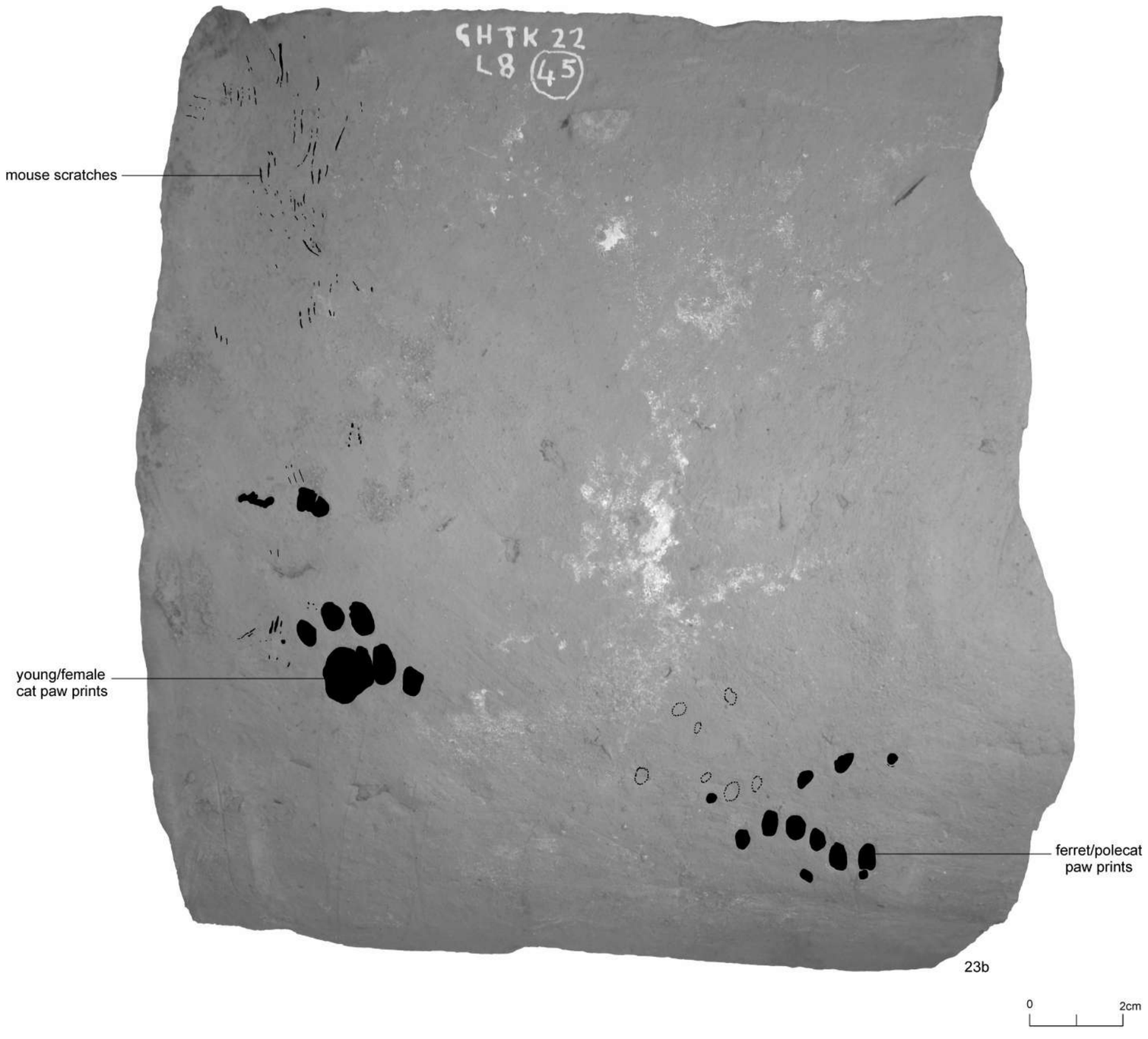


Fig 30 Ceramic building material from L8.

Fig 31 Small finds: objects of personal adornment (1-2) and weights (3-5).

Fig 32 Small finds: woodworking tools (6-7).

Fig 33 Small finds: agricultural tools (8).

Fig 34 Small finds: structual fittings and fasteners (9) and object the function or identification of which is unknown or uncertain (10).

OASIS Summary for colchest3-511212

OASIS ID (UID)	colchest3-511212
Project Name	Archaeological investigations on land to the east of Tilekiln Green, Great Hallingbury, Essex, CM22 7TH: November 2022-February 2023
Sitename	Land to the east of Tilekiln Green, Great Hallingbury, Essex, CM22 7TH
Sitecode	GHTK23
Project Identifier(s)	2022/11L, 2023/01d
Activity type	Excavation, Evaluation, Watching Brief
Planning Id	UTT/20/1098/FUL
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	Colchester Archaeological Trust
Project Dates	13-Nov-2022 - 15-Feb-2023
Location	Land to the east of Tilekiln Green, Great Hallingbury, Essex, CM22 7TH NGR : TL 51950 21417 LL : 51.8706348786517, 0.205685916262668 12 Fig : 551950,221417
Administrative Areas	Country : England County/Local Authority : Essex Local Authority District : Uttlesford Parish : Great Hallingbury
Project Methodology	Archaeological watching brief, evaluation (five trial-trenches) and excavation carried out as per the conditions of the project Brief and WSI.

Project Results	Archaeological evaluation and excavation were carried out on land east of Tilekiln Green, Great Hallingbury, Essex in advance of the construction of a residential development. Large quantities of broken tiles and medieval pottery sherds had previously been identified on the site, which was recorded on the Essex Historic Environment Record as the site of a former medieval/post-medieval tile kiln (EHER 4661). A five trench archaeological evaluation in November 2022 revealed the remains of a kiln in Trench 1, with ditches, pits and a possible backfilled pond in the rest of the trenches. Subsequent excavation in February 2023 revealed a lime kiln, a tile kiln and three additional structures or workshops. Both kilns and one workshop where built partially below ground, the others at ground level. The lime kiln consisted of a barrel-shaped combustion chamber with two opposing draw-holes. The draw-holes led into two ancillary chambers where the limeburners would have worked, one of which appears to have been a later addition. The combustion chamber was built of peg-tile. The retaining walls of the ancillary chambers were constructed out of courses of flint and peg-tile, with the internal walls of peg-tile alone. The firing chamber of the tile-kiln had two flues divided by a spine wall, which were connected to the stokepit by two arched stokeholes. The flues were spanned by at least seven tightly packed arched spandrels which would have carried the floor of the kiln. The sheer quantity of peg-tile wasters from the site reveals that peg-tiles were being manufactured in the kiln. The workshops included a tile-lined chamber at the back of the kiln, and two additional structures represented by beam slots, tiled surfaces, post-holes and hearths. One of these had been built over the backfilled tile-lined chamber. Finds analysis and radiocarbon dating would suggest a date range for the kilns from the 14th to the 17th century.

Keywords	Lime Kiln - MEDIEVAL - FISH Thesaurus of Monument Types Lime Kiln - POST MEDIEVAL - FISH Thesaurus of Monument Types Tile Kiln - MEDIEVAL - FISH Thesaurus of Monument Types Tile Kiln - POST MEDIEVAL - FISH Thesaurus of Monument Types Workshop - MEDIEVAL - FISH Thesaurus of Monument Types Workshop - POST MEDIEVAL - FISH Thesaurus of Monument Types Vessel - MEDIEVAL - FISH Archaeological Objects Thesaurus Vessel - POST MEDIEVAL - FISH Archaeological Objects Thesaurus Peg Tile - MEDIEVAL - FISH Archaeological Objects Thesaurus Peg Tile - POST MEDIEVAL - FISH Archaeological Objects Thesaurus Ridge Tile - MEDIEVAL - FISH Archaeological Objects Thesaurus Brick - MEDIEVAL - FISH Archaeological Objects Thesaurus Brick - POST MEDIEVAL - FISH Archaeological Objects Thesaurus Hair Pin - MEDIEVAL - FISH Archaeological Objects Thesaurus Hooked Tag - MEDIEVAL - FISH Archaeological Objects Thesaurus Weight - MEDIEVAL - FISH Archaeological Objects Thesaurus Auger Bit - MEDIEVAL - FISH Archaeological Objects Thesaurus Weeding Hook - MEDIEVAL - FISH Archaeological Objects Thesaurus Hinge - MEDIEVAL - FISH Archaeological Objects Thesaurus Animal Remains - MEDIEVAL - FISH Archaeological Objects Thesaurus Animal Remains - POST MEDIEVAL - FISH Archaeological Objects Thesaurus
Funder	Private or public corporation Developer
HER	Essex HER - unRev - STANDARD
Person Responsible for work	Adam Wightman, Chris Lister, Laura Pooley
HER Identifiers	HER Event No - GHTK23
Archives	Digital Archive - to be deposited with Archaeology Data Service Archive; Physical Archive, Documentary Archive - to be deposited with Saffron Walden Museum;

Report generated on: 01 Mar 2024, 14:20