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**Archive Summary Report and Assessment for Evaluation
Trenching at Barking Abbey, Essex,
in September 2000
(Museum of London Site Code AED 00)**

Thomas Cromwell, Sarah Jennings, Polydora Baker, Wendy Smith

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Summary

This report describes the results and archive of evaluation trenches at Barking Abbey, looking at the abbey ruins and the Open Space South. The trenches in the ruins confirm extensive truncation by later quarrying activities, while the trenches in the Open Space South identified medieval and post-medieval features sealed below the 20th century factory foundations. An updated project design for limited further analysis is included.

Keywords

Animal Bone
Ceramic
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Plant Remains

Author's addresses

English Heritage Centre for Archaeology, Fort Cumberland, Fort Cumberland Road, Eastney, Portsmouth, PO4 9LD

Tom Cromwell tel: 02392 856 752, email: tom.cromwell@english-heritage.org.uk

Sarah Jennings tel: 02392 856 715, email: sarah.jennings@english-heritage.org.uk

Polydora Baker tel: 02392 856 774, email: polydora.baker@english-heritage.org.uk

Wendy Smith tel: 02392 856 781, email: wendy.smith@english-heritage.org.uk

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Barking Archive Summary and Assessment

1 Introduction

Background

In the spring of 2000 the English Heritage Centre for Archaeology (CfA) was asked to consider excavating evaluation trenches at Barking Abbey as part of a wider “Barking Millennium festival” being organised by the Environment Agency for Saturday 16 September 2000. The project would address a number of management issues for the site, particularly concerning the nature of archaeology in the Central Open Space South as well as the survival of features within the cloister (see figure 1). A project design was drawn up (Cromwell 2000b) and a two-week long excavation was undertaken. The methods involved five trenches strategically placed to answer research questions raised in the project design. Three of these were opened by machine to remove overburden and 20th century remains of the British East Light factory buildings, followed by hand excavation of pre-modern features. The other two trenches, located within the known abbey ruins, were excavated completely by hand. During the excavation, tours of the abbey were arranged by the Environment Agency for parties of school children, and the archaeologists were on hand to explain their methods and the results. On the Saturday of the festival the site was open to the general public and excavation activities were augmented by poster displays, displays of finds, and answers to questions by members of the excavation staff.

Site location and description

The site lies at the west end of the shopping precinct of the town of Barking, alongside the river Roding. The Scheduled area of Barking Abbey is roughly rectangular, extending approximately 400 metres north-south by 200 metres east-west, with the abbey church lying across the centre of the site. It can be split into three approximately equal-sized zones: the Central Open Space North (which is the open ground making up the northern third of the site), the Abbey Ruins (which comprises the abbey church and cloisters, as well as St Margaret’s Church and graveyard south of the abbey church, and the Church of England Primary School on the north-eastern corner of the cloister ruins), and the Central Open Space South. Abbey Road runs along the west side of the site, and North Street runs along the east side, changing its name to Broadway in the southern half of its run.

The abbey was founded around 666AD, although little is known about the location or form of the Saxon abbey. It was abandoned in the 9th century only to be re-founded by c950 (Cromwell 2000a), and the present ruins north of the parish church are medieval in date. The Central Open Space South had factories on it from the start of the 20th century up to 1970, and earlier maps suggest that it was divided into residential properties reminiscent of burgage plots by the 17th century (Cromwell 2000a). There is no direct evidence of the abbey extending this far south. The area within the Schedule appears to reflect the post-1970 road system more than anything else.

2 Excavation results

Trench 1 (see fig 2)

This trench was located within the abbey ruins, running up the slope from the north wall of the North Transept to the north wall of the Chapter House. The aims were to test whether the

walls incorporated medieval walls or foundations, and whether stratified medieval deposits remained *in situ* at the various levels within the landscaping. The excavation was taken down to natural gravels, by hand – a process requiring only deturfing at the southern end at the base of the slope. The trench produced 10 stratified contexts – most of which spanned the whole plan extent of the northern part of the trench - as well as a context for unstratified material (001). The contexts seem to fall into two phases: 20th century landscaping, and post-medieval excavation and dumping.

Phase 3 20th century

Starting from the topsoil, contexts 201, 203, and 204 were layers of sand with water-rounded pebbles that contained considerable quantities of broken peg tile fragments of various sizes, small lumps of lime mortar, and fragments of disarticulated human bone. The layers were approximately 0.50m thick overall, sloping downhill to the south. Given that the sand and gravel matrix resembled churned-up natural deposits, and that the layer below them had 19th century pottery, these three layers were interpreted as a product of early 20th century landscaping.

Phase 2 Post-medieval

Below the dump layers was context 205, similar to the three dumps above it, but consisting of sandy silt matrix, with chalk and lime mortar fragments. It contained pottery from the 13th to 19th centuries, and is either another episode of landscaping, or perhaps even the spoil tip from the 1911 excavation of the site.

Context 205 sealed a cut 208 that was partially filled by layer 206, and then by fill 209 suggesting that it remained open as a cut for some time before accumulating the secondary fill and then being sealed by a further dump layer.

Context 208 was cut into a buried turf layer 202, which is probably a post-Dissolution accumulation. Given the depth of the deposit relative to surviving medieval levels (see Trench 5 text), exposure of this surface for the accumulation of topsoil is likely to stem from one of the two known excavations on site in 1911 or 1724. Below the buried turf was layer 207, another dump layer with broken roof tile, suggesting a spoil tip. Below 207 at the north end of the trench was 210, a thin layer of sandy silt soil with chalk and mortar fragments. Below 210, and below most of the exposed area of 207, was natural river gravel. No evidence of *in-situ* medieval or earlier monastic deposits was found.

Trench 2 (see fig 3)

Phase 3 20th century factory use

This trench was located in the Central Open Space South, just south of the parish church of St Margaret's. Excavation started by machine, removing the turf along with approximately 0.30m of post-1972 overburden [contexts 032, 033, 049] added as landscaping, with unstratified finds being given context 002. Below this were strip foundations for brick walls [contexts 052, 051, 055], along with a large brick drainage inspection chamber near the centre of the trench that was within a deep cut 008 that was machine-excavated to 2.5m depth, and had been backfilled in the past with shredded plastic sheeting. Below and around the foundations were several layers identified as pre-and post-factory construction levelling layers [053, 054]. Two areas of road/yard surfacing associated with the factory were identified [034, 050], consisting of gravel and rubble hardcore. Removal of these layers revealed a number of features cut into a thick silty layer 015 on both sides of the deep cut 008, which was backfilled for safety reasons and used as a spoil tip. 015 was interpreted as a soil build-up following the truncation of underlying medieval features, and could be a plough soil.

Phase 2 Post-medieval features

East of 008 the features cut into 015 included a shallow linear slot 005 and its fill 006 which ran from the north edge of the trench to the cut 008. A rectangular cut 043 with fairly sharp corners approximately 0.80 x 0.60m was filled with broken bricks 044, but was not excavated. It was interpreted as a post pad. A large square-cornered feature 045 with a sandy silt fill 046, also not excavated, was truncated by the south edge of the trench and by 008. Further east was a group of contexts [037-042] that were certainly structural, but were not excavated due to time constraints. 037 was a rectangular cut approximately 0.85 x 0.65m, aligned with one leg of L-shaped slot feature 039 whose fill 040 consisted mainly of broken roof tiles in a silty matrix. The west end of the slot was truncated by cut 041, a rectangular feature 1.00 x 0.60m, whose north side was aligned with the north edge of the slot feature. 041 was filled by 042, a silty matrix with occasional gravel inclusions and a fragment of animal bone. Near these, rectangular cut 035 measured 2.00+ x 0.60m, and was truncated by the eastern edge of excavation. It was filled by 036, a very dark greyish black sandy silt, but was again not excavated.

West of 008, the only feature identified as being cut into 015 was pit 009, a sub-rectangular feature 1.70x1.20m, with a shallow slope at top, narrowing to a trapezoidal depression in the middle, and bottoming out at 0.30m depth. The fill 010 was a sandy silt matrix with gravel inclusions. No other features were recognised in this area until after layer 015 had been stripped away to expose the natural 016, which in this area of site was a brick-earth deposit overlying loose river gravels that were seen in section in 008.

Below 015 were a series of pit features cut into the natural 016. The most complex sequence starts with sub-circular cut 030, at the southern edge of the truncation from 008 where it meets the trench edge. This steep-sided pit is approximately 0.40m deep, and contained pottery of 16/17th century date. It overlay pit 011, a large ovoid feature truncated by the south trench edge and 008, and filled with 012 – a brown sandy silt with 17th century pot in it. 012 was also cut by shallow linear slot 022 running off to the north trench edge. It was 0.24m wide and 0.05m deep, and the fill 023 contained pot from the 13/14th century, that may be residual.

Phase 1 Medieval

The rest of the features below 015 are apparently medieval. Pit 020, an irregularly ovoid pit truncated by the south trench edge, contained 12/13th century pot, and was cut by later pit 011. 020 was over 2.00m long at the trench edge, and 0.90m wide, extending to a depth of at least 0.45m before excavation was stopped. West of 020 was a smaller oval cut 028 measuring 0.40 x 0.30 x 0.10m deep. Its fill 029 contained one fragment of bone. In the north west corner of the trench, sub-rectangular cut 024 was truncated by the west edge of the trench. It was not noticed during excavation of 015, and was therefore truncated to only one third of its depth as seen in section. This feature was also cut by a pit [059] that could only be seen in section after a heavy rain shower. East of 024 was a sub-circular cut 018 of uncertain function, measuring 0.55 x 0.42 x 0.12m deep. It was filled by 019, a silty sand that contained no finds. Further east along the north edge of the trench was 013, a rectangular corner of a larger flat-based feature that was truncated by the trench edge. The exposed portion measured 1.20+ x 0.50+ x 0.15m deep, and had a piece of dressed limestone against one of its sides within the fill 014, which had quantities of shell and bone as well as pot. Next to 009 was a rectangular cut 026, 0.70 x 0.40m with steep sides, filled by sandy silt 027, of uncertain function. The final contexts in this trench were cut 057 and its fill 058, which only appeared in section after layer 015 had been removed.

Summary of Trench 2

Excavation showed that the area had approximately 0.30m of post-1970 topsoil sealing a mix of shallow 20th-century strip foundations and extremely deep service-pits, which in turn sealed a collection of post-medieval slots and other light structural features whose function is uncertain. Below these lay a homogenous soil layer approximately 0.50m thick that sealed a collection of medieval pits of various apparently domestic functions, although none of the evidence could be firmly associated with monastic activity.

Trench 3 (see fig 4)

Phase 3 20th century factory use

This trench was located south of Trench 2. The upper levels were excavated by machine. Below the turf 438 was a layer 439 of demolition rubble including yellow and red bricks, as well as mortar fragments in a loam matrix. Both of these layers covered the whole extent of the trench. Below 439 at the west end of the trench a pit (cut 442, fill 441) was seen in section at the northern edge of excavation, with its western extent projecting beyond the trench. It was cut into layer 440, a 0.30m thick silty sand deposit that again covered the entire trench, and has been interpreted as some form of levelling layer. No structural evidence of the 20th century factory buildings was found in this trench.

Phase 2 Post-medieval

As no features could be seen in 440, it was removed by machine down to layers 401 in the east half and 437 in the west half. These two layers are of similar clayey sand, but are separated by ditch cut 434 which ran across the centre of the trench, and cannot be directly linked as a result. The western layer was cut by a number of features.

Cutting 437 are a number of unexcavated pits (426, 425, 419, 418, 417) of various sizes, as well as pits that were excavated (cut 421/fill 420, cut 423/fill 424), and two sets of intercutting features. In the first, a 0.15m deep circular post hole feature 0.26m in diameter with straight sides and a flat bottom (cut 436/fill 435) was cut through the centre of shallow rectangular feature 422. The fill of the post hole contained part of a wooden post still *in situ*. The shallow feature 422 was 0.128 x 0.88 x 0.13m deep, and contained a distinct line of broken bricks on its east side, lying on the base of the cut. Finds from this context support an 18th century date. The second set of contexts is a linear ditch or pit 434 which truncates layer 437, and contains the fills 416, 406, and 405. These may be cut from directly under layer 440 but the relationship was not clear. The fills suggest an 18th or 19th century date for the ditch.

Phase 1 Medieval

A machine was used to cut a slot through layer 401, as the trench needed to be stepped in for safety reasons. The following contexts were then exposed.

Layer 401 appears to seal large intercutting pit-like features 408 and 432, but these were only visible once the slot was machined through the otherwise sterile-looking 401. Their function is unknown, but may be related to ditch 434, which lies above them. Finds from lower fill 410 of 408 suggest a date of the 14th century. Cut 431 truncated cut 408, which in turn truncated layer 433, a thin clayey sand layer between 401 and the 0.30m thick layer 402 directly above the natural gravels.

Also cut into layer 402 and sealed by layer 401 were two pits and their fills. Cut 414 was a figure-of-eight shaped feature 0.85 x 0.45m, suggesting that it might have been the base of two intercutting circular pits or post holes. A larger and less regular feature lay at the east end of the trench. Pit 404 had two fills (409 and 403), and produced pottery of late 11th or early

12th century date. At the base of it was a patch of manganese staining given context number 412, but probably natural in origin. The natural gravels in this trench were numbered 411.

Two contexts (003 and 415) were used for unstratified finds.

Summary of Trench 3

The sequence is similar to Trench 2, with 20th-century landscaping and factory demolition debris overlying a collection of post-medieval pits of light structural and other uncertain uses. These again overlay a layer of soil, below which a collection of medieval pits and possible post holes, which in turn overlay a soil layer on top of natural gravel deposits. Again, the medieval features do not exhibit overtly monastic evidence, and appear instead to be domestic in nature – possibly relating to backyard activities.

Trench 4 (see fig 5)

Below the turf 609 was a dump layer 608 of very organic silt approximately 0.30m thick, which had been introduced after the factory buildings were demolished. This sealed a thin layer of mortar fragments and brick fragments 607 interpreted as the demolition horizon for the buildings that occupied the site until the 1970s. Below this was a landscaping layer 606 of dumped silt with numerous modern fragments of brick, glass, and pot that is interpreted as landscaping around the site after construction at the start of the 20th century. This layer overlay both the foundations of a substantial concrete-floored brick cellar that filled most of the trench (cut 602, structure 601, trench fill 603) and a medieval pit (cut 605, fill 604) that was oval in shape. It measured 2.00 x 1.00 x 0.73m deep, had steep sides rounding to a flat bottom, and contained a very organic silt with quantities of pot, bone, and brick. From the section, it appears that the foundation trench for the brick structure effectively truncated this area down to natural river gravel.

Trench 5 (see fig 6)

This trench was located at the top of slope, north of Trench 1, in order to test medieval archaeological survival in the areas that did not appear to be quarried. The trench was sited directly in front of a tile-lined fireplace surviving in the warming-house wall, although the wall itself looked to be either repaired or even newly built as part of early 20th century landscaping. Topsoil 801 gave way to the base of the wall 804, which in turn sat on a mortar spread 803 and what looked to be chalk foundations 802. Closer examination of the wall indicated that the fireplace lining (Which Alfred Clapham had recorded in 1911 in his surviving site notebook, H Lockwood, pers comm) might be *in situ*, but that the faces of the wall in which it sat had been rebuilt in recent times. As with the other marked-out stub walls within the ruins, the edges of the new faces were seen to “float” over the turf in areas where the soil had eroded – indicating a lack of foundations. The chalk foundations 802 are not in the same alignment as the wall, and their width can only be guessed. The evaluation originally hoped to expose *in situ* floor tiles that are said to still exist on the site, but the most likely areas for the tiles were covered by tarmac paths, and thus were not available for examination.

Conclusions

The abbey ruins area

Trench 1 can best be summarised as a series of dumps of disturbed soil that contained building demolition rubble and disarticulated bone. These dumps came down onto natural subsoil, suggesting that no *in situ* archaeological features from the abbey remain at the lower

level of landscaping that comprises the cloister, abbey church, and chapter house. The implication, when the results of Trench 5 are added, is that medieval and possibly earlier *in situ* remains (and presumably medieval ground level) are now likely to be found only at the “upper” level in the existing landscaping, which comprises the domestic parts of the north range such as the refectory and the undercrofts of the east and west ranges. The stub walls in the lower level all appear to be 20th century marking-out exercises based at least in part on “projections” derived from assumptions about typical monastic ground plans rather than hard evidence, although those at the upper level might retain some historic fabric behind modern facings. Whether the cloister archaeology was removed by Henry VIII, Lethuillier, unrecorded gravel extractors, or by Clapham’s team is not certain, but the lack of any medieval or earlier material in Trench 1 coupled with the buried turf suggests that the area was a crater at a fairly early post-medieval date.

The Open Space (South) area

The other three trenches show that medieval features survive south of St Margaret’s Church at a depth of 1.50m or more, directly on top of the natural river gravels. These are either of a light structural nature or else are pits from domestic and light industrial activities. They are both truncated and sealed by post-medieval activity of a similarly light structural nature, and these in turn are sealed below the construction and demolition layers of the 20th century factories on the site. These factory footings are predominantly concrete-footed strip construction, leading to good preservation of the features below, although in the case of Trench 4 a larger basement structure has erased the earlier stratigraphy. The features did not reveal anything directly identifiable as monastic in origin, and may well have been domestic secular deposits associated with housing on this side of the abbey. Indeed, it has been argued that the tithe map evidence for Barking suggests the whole space south of the parish churchyard was in secular hands by the later medieval period, if not before (H H Lockwood, pers comm).

Earlier foundations

It should be noted that no identifiable early medieval features were found in Trenches 1-4, even though natural gravels were reached in each trench. While it is still possible that early medieval monastic remains might exist under the upper levels of landscaping in the abbey ruins, there was nothing in any of the trenches that could confirm the possibility that St Erkenwald’s abbey was on the same site as the medieval abbey, or even that the area was occupied by domestic housing.

The soils at Barking Abbey are of a fine silty nature, and features are hard to see. Ideally, trenches in these conditions should be allowed to weather to allow features to be found.

3 Finds (Sarah Jennings)

Objects

A total of 36 objects or groups of fragments were recovered by hand during the course of the excavation, and recorded on single line record forms at the time. A further 47 fragments, or groups of fragments were recovered during the processing of the samples and were subsequently recorded on single line record forms. All 83 items were packaged in standard CfA bags.

Methodology

The objects given individual identification numbers were made of iron, lead, copper alloy, bone, glass, and stone. Late glass (dating to the 19th/20th century) was not given "small find" numbers, but was classed as "bulk finds" .

Numbers by material	
iron	48
copper alloy	13
silver	1
lead	1
bone	2
stone archit	1
stone object	2
glass window	7
vessel	2
object	1

Archive completion

The 47 small bags of material recovered from samples were all rebagged and given individual numbers.

All the metal finds have been x-radiographed (Plate numbers P531 , P534).

None of the material requires immediate conservation, and all the iron and copper ally items seem reasonably stable.

The assemblage

The assemblage is dominated by iron nails and nail shafts, and by copper alloy pins, mostly with wire wound heads. The x-radiographs, and the stratigraphy have identified a number of relatively modern items such as metal reinforcements for boot heels.

Other metal finds include a silver coin, which looks as though it might be a long cross penny from the x-radiograph, but it is very small, and a piece of copper ally with ?repose decoration. No came was recovered.

Non-metal items include two beads (one of glass, one of ?amber), a long pointed bone shaft, the head of a bone netting needle, and pieces of several quarries with grozed edges and marks of comes. The condition of the glass suggests it is medieval in date; where it is possible to tell the quarries seem to be nearly colourless, but two joining pieces from context 204 (Trench 1) are deep blue.

Further work

5 or 6 objects require more detailed (individual) record sheets.

A small number of items, less than 10, will require packing for long term storage.

The material of bead SF 200001080 should be ascertained if possible.

Bulk Finds

The bulk finds from Barking Abbey comprise:

Animal bone	1 standard box
Pottery	1 standard box 1 skull box
CBM	4 standard boxes
Misc	1 standard box (containing clay pipes, glass, plaster, shell, charcoal, glass)

Human Bone

The only human bone recovered came from Trench 1. It comprised entirely of disarticulated pieces redeposited during 19th/20th century landscaping. The presence of human bone was noted on the bulk finds record and it was reburied where found. No further work is required.

Ceramic Building Materials

The vast majority of the ceramic building material came from unstratified machining or disturbed late landscaping deposits of the 19th/20th century. The CBM from these deposits mainly comprised modern brick, pantiles, and standard peg tile. This material was counted and weighed by category on site and the amounts entered on the bulk record forms. Samples only were retained and the remainder discarded on site.

Other ceramic building material included small fragments of ridge tile and fragments of peg tile with a clear lead glaze. Although these were also from late deposits, this material was retained.

Very little floor tile was recovered, again from late deposits eg 012 and 021 in Trench 2 and context 204 in Trench 1. Most was extremely worn examples of Flemish-type floor tile, no examples of inlaid tiles were found.

Clay Tobacco Pipes

Small numbers of bowls and bowl fragments, and stem fragments were recovered from the late deposits.

Glass

Glass of interest or potential, such as quarries, was given 'small find' numbers. Modern bottle glass from machining and topsoil was noted on the bulk record sheets and reburied on site.

A limited amount of post-medieval glass from the upper contexts, and small chips of glass from samples which subsequently were found to be disturbed, have all been classed as bulk finds.

Pottery (Sarah Jennings)

Methodology

All the pottery, both hand recovered and retrieved from samples, has been recorded on CfA pottery record sheets. The method of quantification used is sherd count only. The fabric ware names used are common names - such as Mill Green ware, Scarborough wares etc.

Unknown fabrics, or wares without common names have been given brief fabric descriptions such as Sandy/Shelly ware. Significant feature sherds are noted on the sheets.

Archive report

Pottery was recovered from a number of contexts in all trenches. A total of 604 sherds was recovered from 31 contexts; the sherd total does not include the 19th/20th century pottery from context 001 or all the minute unidentifiable scraps retrieved from samples. About 20% of this material dates to the 18th century or later, and it appears that machine clearing might have contaminated some other contexts.

The significant pottery dates to the medieval period, primarily 13th/14th century and 11th/12th century. There was only a little material dating to the late medieval/early post-medieval period, particularly the period associated with the Dissolution.

Most of the medieval pottery of the 13th/14th century is that locally available, Mill Green Ware and London-type ware; in addition there are examples of Surrey White wares eg Kingston and Cheam. The earlier, 11th/12th century, pottery is sandy, shelly, and sandy/shelly wares readily available in the region. There were a few imports - Paffrath ware, Low Countries Red Ware, Rouen-type ware, and some regional imports, including a piece of Scarborough ware.

4 Environmental evidence

Faunal remains (Polydora Baker)

Faunal remains were recovered primarily from trenches 2-4, but the assemblage sizes are very small for all contexts. Only one feature (014) yielded a relatively large and rich bone assemblage.

In addition to hand-collection, samples were recovered from a range of contexts, including pit fills, fills of cuts, layers and dumps, most of which are dated to the medieval period (11th-14th c.). Processing of the samples was by wet-sieving (4mm mesh) and flotation (heavy residue mesh 1mm; flot mesh 0.5mm) (W. Smith 2001). All of the wet-sieved samples were sorted for faunal remains. The heavy residues from flotation were sorted through a 2mm mesh and the >2mm fraction was completely sorted, except in the case of Sample 2014 (cut fill 014, 13th-14th c.). Given the large size of this residue (3.6L), a 2L subsample was processed and the >2mm fraction was sorted. A very small volume (100ml) of the <2mm residue was scanned also. Sorting of the remaining residue from S. 2014 is pending. Scanning and sorting of the <2mm residues from a number of contexts is also pending.

The remains from hand-collection, sieving and heavy residues were analysed and a complete archive report is available. The report presented in this Project Design consists of the text and reduced tables.

Plant remains (Wendy Smith)

Twenty-five samples were collected from twenty-three contexts. All samples were processed by water flotation at CfA. The flot was sieved over a 0.5mm mesh and the heavy residue (the material which does not float) was washed over a 1mm mesh. On the basis of assessment it is recommended that eleven of the samples are sufficiently rich in charred and/or mineralised plant remains to merit full analysis. Charred cereal grain, asparagus seeds and weed/wild seeds as well as mineralised fruit remains (sample 2014, context 14) were recovered.

5 Archive summary

The archive consists of the following items:

116 no. Context records

31 no. A3 site drawings on drafting film

252 no. Colour slide photographs

216 no. Black-and-white print photographs

13 no. Photographic record sheets, with 104 records

25 no. Environmental samples

83 no. Individually Numbered Object records

The bulk finds from Barking Abbey comprise:-

Animal bone 1 standard box

Pottery 1 standard box

1 skull box

CBM 4 standard boxes

Misc 1 standard box (containing clay pipes, glass, plaster, shell,
 charcoal, glass)

6 Assessment

6.1 *Original aims (from Cromwell 2000a)*

- 6.1.1 “The first aim of any work on this site should be to establish the nature and extent of archaeological survival across the site, in order to inform future issues of site management.”
- 6.1.2 “The second aim is to provide a high-profile display of English Heritage excavation work to add to the Environment Agency’s festival.”

6.2 *Original objectives (from Cromwell 2000a)*

- 6.2.1 “To sample the terraces in the cloister area at both high and low ground levels through excavation to determine what has survived both Henry VIII’s works and Clapham’s 1911 excavation.” (Aim 4.1.1)
- 6.2.2 “To excavate trenches within the Central Open Space South to assess whether there are surviving pre-modern features in the area behind the known Heath Street houses.” (Aim 4.1.1)
- 6.2.3 “To provide outreach in the form of poster displays, environmental processing and finds processing demonstrations, and talks about the site to tour parties.” (Aim 4.1.2)

6.3 *Stratigraphic assessment*

The initial brief to evaluate the abbey ruins and the Central Open Space South during a concurrent festival dictated the scale and location of the excavations, which in turn limited the stratigraphic potential of the results. The first aim, establishing the nature and extent of archaeological survival, was largely successful, as was the second aim of providing a display. However, in designing a methodology that provided answers about depth and survival within a limited time scale in fairly restricted areas, the trenches proved too small to provide a complex interpretation of the pits encountered. The resulting record provides a good sample of surviving archaeological stratigraphy, but can only be analysed in fairly crude terms. In trench 2 there are clearly structures represented by the features, but in the absence of floor surfaces or enough area to see whole buildings the potential for analysis is minimal. Trench 3 also has a number of features of interest, but again these cannot be put to more than minimal further analysis. The one area of analytical potential that should be explored is a comparison with the stratigraphic profiles of other excavations in the area to build up a model of the different horizons across the site, a task that would take a week to complete. More detailed analysis cannot take place short of opening a large area and allowing for a lengthy field project.

It should be noted that pre-Conquest features were not encountered, limiting the potential for the site to say anything about the early days of Barking Abbey.

The stratigraphic record should therefore receive only brief further analysis to support specialist reports as needed.

6.4 Finds assessment (Sarah Jennings)

6.4.1 Finds

A total of 83 unique numbers was allocated to the individually recorded item recovered by hand and from the processing of environmental samples. In some cases, such as copper alloy pins and pin shafts, iron nails and nail shafts, and highly corroded iron sheet, one unique number represents several items. During the assessment additional numbers were allocated to some items identified from the x-radiographs.

The potential of the finds is limited. None of the material recovered from 19th and 20th century landscaping is dealt with unless the objects themselves are intrinsically interesting.

The picture presented by the objects often represents a clearer reflection of date than that given by the pottery. For instance context 204 Trench 1 (post 1911) produced pottery dating to the 2nd half of the 13th century, but the iron objects include a boot heel reinforcement and a very modern appearing pintel or hinge pivot. The two joining pieces of a deep blue glass quarry though would appear to be medieval in date.

Trench 1

Nil.

Trench 2

Feature 013, fill 014 contained a long Cu alloy pin with a wire wound head (200001029), an iron object with a tang, stubby short triangular section blade with a semicircular hole in the apparent end (200001068); one clipped Cu alloy sheet fragment ; scrap of glass; assorted nail shafts.

Feature 030, fill 031 contained a Cu alloy pin shaft , a piece of iron wire and a nail shaft.

Feature 020, fill 021 unidentifiable iron fragment and a length of iron strap or binding with one attachment hole near the intact square end - the other broken end is curved.

Feature 047, fill 048 contained a long pointed bone shaft possibly unfinished (200001016) and a nail.

Trench 3

Nil.

Trench 4

Only context 604 yielded material from a feature with a pottery spot date of mid 1th/early 14th century. The finds included a silver coin, possibly a long cross penny (200001037); a Cu Alloy buckle tongue (200001054); several nail shafts and one nail head.

6.4.2 Pottery

Most of the material recovered represents single sherds from vessels, and generally the sherd/vessel ratio is low. A few contexts (eg 031, 407) did have joining sherds. For six contexts pottery was only recovered from samples.

Potential

This material has little potential beyond informing dating or sequences within the trenches, and providing background information for environmental work – such as contamination and residuality. Except for two or three contexts the sherd vessel ratio is 1:1 and many of the pieces are small and in some cases abraded.

The main potential of the pottery from the CfA would be in conjunction with future work on additional material from other interventions at Barking Abbey.

The pottery should be linked to the Fabric Codes used by MoLSS as part of further analysis.

6.5 Environmental assessments

6.5.1 Faunal remains assessment (*Polydora Baker*)

Given the small size of assemblages from individual contexts, few observations may be made regarding contextual, spatial or chronological variation. The data from medieval contexts at Barking show the use of domestic mammals but also a wide variety of other resources, including possibly rabbit, a variety of domestic and wild birds, freshwater (rudd), migratory (eel) and probably marine fish, as well as marine molluscs. Additional mammals include dog and cat, and small mammals were present in the site vicinity also.

Then smaller assemblages from the post-medieval period provide little information about subsistence or economy at the site.

Waste appears to have been dumped into pits or other types of cuts, but no evidence of specialised deposits can be observed. Most of the contexts yielded only a few fragments of the main domestic mammals, birds or fish. Context 014 yielded by far the largest and richest assemblage, including almost all of the bird and fish bones, and marine molluscs.

The presence of very young caprines and pigs in addition to a range of birds, fish and molluscs may suggest a possible high-status component, although many of the resources may have been locally available. Identification of the fish remains may help to define provisioning mechanisms.

A few unusual specimens were observed. The presence of cutmarks on two metatarsals of a large dog skeleton (post-medieval context 012) is of interest, and may indicate the use of dog skins. The partly sawn cattle metatarsal from the same context suggests bone working.

6.5.2 Archaeobotanical assessment (*Wendy Smith*)

Twenty-three out of the twenty-five samples assessed contained charred and/or mineralised plant remains. Ten of these samples (2005, 2007, 2010, 2011, 2013–2015, 2018, 2020 and 2021) were from well-sealed, securely-dated contexts and were sufficiently rich to merit further analysis. These contained a mixture of cereal grain and weed/wild taxa. In most cases samples were dominated by cereal grain. Sample 2014 (context 014), however, contained mineralised plant remains (primarily fruit stones) which were recovered in both the flot and heavy residue. An asparagus (*Asparagus officinalis* L.) seed was recovered from sample 2018 (context 021). In addition, one sample (2008), which was not particularly rich, is worth further analysis, since it provided a further asparagus seed. It is recommended that the asparagus seeds are AMS dated to ensure that these are securely medieval. Analysis of the Barking Abbey archaeobotanical assemblage has met the original Project Design aims 8.1, by establishing that good

preservation of charred and mineralised medieval – post-medieval archaeobotanical material exists in this area of Barking Abbey. In addition, full analysis will feed into the revised project aim 7.1.1 below.

7 Updated Project Design

Given the limited nature of the evaluation trenches, the revised aims and objectives are designed only to complete the analysis to a suitable state where the results can be disseminated. Any more extensive work beyond these aims would need to be tied to analyses of other sites in the area in order to provide enough potential to justify the work.

7.1 Aims

- 7.1.1** To complete the analysis of the plant and animal remains (notably the fish bones), comparing them with environmental evidence from similar sites in the Greater London area in order to provide further information on medieval diet and economy in Barking.
- 7.1.2** To provide limited further analysis of the artefacts and stratigraphy in order to support the analysis of the environmental data.
- 7.1.3** To disseminate the results in a suitable format, currently suggested as a further CfA Report and a short “pointer” in an appropriate journal such as the *London and Middlesex Archaeological Society* journal.
- 7.1.4** To deposit the site archive in a local museum (Valence House, Dagenham) for use by other researchers.

7.2 Objectives

- 7.2.1** To provide an archive of the zoological data, which may inform future archaeological and environmental archaeological investigation (7.1.1, 7.1.4)
- 7.2.2** To identify the types and possible sources of animals used in the medieval period in this area (7.1.1)
- 7.2.3** To document zoological assemblages within individual features, and from these data determine if possible feature use and local activity (7.1.1)
- 7.2.4** To quantify and analyse the fish remains (7.1.1)
- 7.2.5** To compare stratigraphic profiles with other nearby excavations to determine similarity or difference across the Abbey area (7.1.2)
- 7.2.6** To augment the finds and pottery archives by further material analysis and documentation (7.1.2, 7.1.4)

7.3 *Methods*

Faunal:

- 7.3.1 Complete sorting of >2mm fraction of heavy residue from S. 2014
- 7.3.2 Sorting of 400 ml of <2mm heavy residue from context 014 (S. 2014)
- 7.3.3 Sorting of additional samples (<2mm residue): 200-500 ml depending on residue volume
- 7.3.4 Analysis of fish bones by an external specialist
- 7.3.5 Analysis of additional mammal and bird bones

Plant:

- 7.3.6 All of the flots should be sorted for charred plant remains. Only the heavy residue from samples 2014 should be fully sorted for charred and/or mineralised plant remains.
- 7.3.7 All of the plant remains recovered in the flots and the heavy residue from sample 2014 should be fully identified and quantified.
- 7.3.8 Radiocarbon dating to determine or verify the date of the asparagus seeds.
- 7.3.9 A report should be prepared, which specifically addresses what the charred and mineralised archaeobotanical assemblage from Barking Abbey tells us about diet, agricultural practice and rubbish disposal in the period.

Stratigraphy:

- 7.3.10 Examine sections and levels from all available archives of previous trenches around the abbey, as well as soil types and features found, to produce a ground model in AutoCAD of stratigraphic “horizons” across the Scheduled area. (7.2.5)

Finds and pottery:

- 7.3.11 Completion of more detailed Object record sheets for selected items. (7.2.6)
- 7.3.12 Determination of bead material. (7.2.6)
- 7.3.13 Statement on pottery and finds for analysis report. (7.2.6)
- 7.3.14 Link pottery to MoLSS Fabric Codes. (7.2.6)

General:

- 7.3.15 Create illustrations. (7.1.3)
- 7.3.16 Collate analyses for inclusion in CfA report. (7.1.3)

7.4 Resources

Task	Task description	Time	Staff	Cost
1	sorting (5.3.1)	0.5 day	PB	-
2	sorting (5.3.2)	0.5 day	PB	-
3	sorting (5.3.3)	3 days	PB	-
4	analysis (5.3.4)	5-7 days	tba	tba
5	analysis (5.3.5)	1 day	PB	-
6	sorting 11 flots (5.3.6)	6 days	WS	-
7	Sorting heavy residue (5.3.6)	1 day	WS	-
8	identify charred plant (5.3.7)	8 days	WS	-
9	Radiocarbon dating of seed (5.3.8)	-	AB	-
10	archaeobotanical report (5.3.9)	3 days	WS	-
11	stratigraphic comparison (5.3.10)	5 days	TGC	-
12	pot and finds tasks (5.3.11-13)	3 days	SJ	-
13	link pot with MoLSS codes (5.3.14)	1 day	SJ	-
14	illustrations (5.3.15)	2 days	JNV	-
15	collation of analyses for report	5 days	TGC	-
16	edit report	1 day	SK	-
17	admin support	1 day	MW	-
Total		46 days		£1000

7.5 Timing

The dating will take the longest of all these tasks, potentially up to three months, so the analysis CfA report could be finished within four months.

8 Acknowledgements

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Appendix A: Barking Abbey medieval & post medieval pottery Assessment Report (Sarah Jennings)

Methodology

All the pottery, both hand-recovered and retrieved from samples, has been recorded on CfA pottery record sheets. The method of quantification used is sherd count only. The fabric ware names used are "common" names - such as Mill Green ware, Scarborough wares etc. Unknown fabrics, or wares without common names have been given brief fabric descriptions - such as Sandy/Shelly ware. Significant feature sherds are noted on the sheets.

Pottery was recovered from a number of contexts in all trenches. A total of 604 sherds was recovered from 31 contexts; the sherd total does not include the 19th/20th century pottery from context 001 or all the minute unidentifiable scraps retrieved from samples. About 20% of this material dates to the 18th century or later, and it appears that machine clearing might have contaminated some other contexts.

The significant pottery dates to the medieval period, primarily 13th/14th century and 11th/12th century. There was only a little material dating to the late medieval/early post-medieval period, particularly the period associated with the Dissolution.

Most of the medieval pottery of the 13th/14th century is that locally available, Mill Green Ware (Pearce *et al* 1982) and London-type ware (Pearce *et al* 1985); in addition there are examples of Surrey White wares eg Kingston and Cheam (Pearce and Vince 1988). The earlier, 11th/12th century, pottery is sandy, shelly, and sandy/shelly wares readily available in the region. There were a few imports - Paffrath ware, Low Countries Red Ware, Rouen-type ware, and some regional imports, including a piece of Scarborough ware.

The pottery

The date range of the pottery recovered is from 11th/12th century to the 20th century. There is no material that indicates any pre-Norman Conquest activity in the stratigraphy, or residually from the immediate area.

Most of the material recovered is singletons, and generally the sherd/vessel ration is low. A few contexts (eg 031, 407) did have joining sherds and sherds of a reasonable size. For six contexts pottery was only recovered from samples. These are too small to give other than a general date indication.

Trench 1

The material from two of the contexts of 1911 landscaping (contexts 203 and 204) contain pottery from medieval deposits without any later contamination.

The sherd of Scarborough white Fabric II (Farmer 1979) from context 206 is an unusual find in the London area.

This and the remainder of the pottery from this trench appear to have been re-deposited.

Trench 2

The hand recovered pottery from Pit 9 (context 010) is late medieval/early post-medieval in date and probably dates to the late 16th, or just possibly the early 17th century. However, three sherds from sample 2003 are of Transfer Printed Ware and are undoubtedly 19th century in date.

Rubbish pit 30 (context 31) yielded substantial parts of two vessels, a Low Countries Red ware *Grape* which has been heavily sooted through prolonged use as a cooking vessel (Jennings 1981, 134-140 no 952) and part of an early post medieval black glazed ware straight-sided mug. This is similar to the Babylon Wares made at Ely.

However, a glaze fleck from a Tin glazed vessel from Sample 2001 for context 012 indicates that the contents of this pit are likely to be residual.

The only pottery from sub rectangular pit 26 came from sample 2017 and gives a date of late 17th, but more probably 18th century.

Trench 3

Pit 414 contained only three sherds but the Rouen-style decoration on a London-type ware sherd from context 413 indicates a date of the last quarter of the 13th century. Linear feature 408 yielded material from two contexts 407 and 410 dating to late 13th/14th century. The vessel forms indicate a 14th century date for the fill of this feature, possibly in the second half. This date is supported by the "Tudor" Green sherds from sample 2010.

The upper fill of Pit 404, context 403, yielded the only group of any significance (84 hand-retrieved sherds and 20 from samples), and this dates to the 11th/12th centuries. The lower fill, context 409, contained a much smaller group of sherds of similar date, but also some fragments that are probably ceramic building material from sample 2013. The general date would be the first half of the 12th century for this pit. This feature represents about one-sixth of the total site assemblage.

Trench 4

Only the fill of Feature 605 contained any pottery. Context 604 yielded a total of 110 sherds including several small pieces of possibly unusual forms such as a fragment with a pre-firing piercing, part of a possible louvre, and one piece of a probable curfew. Unfortunately these are all too small to give much indication of the overall vessel form. Much of the material from this context is small, slightly abraded sherds with a very low SVR. 47 of these were Mill Green fragments indicating that some of the material at least is residual in this context. Additionally, material from the associated sample 2006 indicates the possibility of modern contamination.

Other pottery

Much of the remainder of the pottery is residual or very late in date. It does though indicate the general nature of the site assemblage and the trading links that Barking had with main land Europe, particularly the Low Countries, during the medieval and late medieval period.

Potential

This material has little potential beyond possibly informing dating or sequences within the trenches, and providing background information for environmental work - such as contamination and residuality. Except for two or three contexts the sherd vessel ratio is 1:1 and many of the pieces are small and in some cases abraded.

The pottery certainly would not make a free-standing report on its own, and any level of work on the pottery at analysis stage would wholly depend on the nature of the report on the excavation and its stratigraphy.

The main potential of the pottery from the CfA would be in conjunction with future work on additional material from other interventions at Barking Abbey.

The only contexts that would merit detailed recording are 403, 405, 415, 604.

Resources

NB taking this pottery through to assessment/analysis will require it to be linked the Fabric Codes used by MoLSS. It might be that this is worth doing for the sake of completeness.

A full pottery report would require between 10 and fifteen drawings

Sarah Jennings

8 v 01

Bibliography

(see main bibliography, p16)

BARKING ABBEY pottery spot dates				
context	trench	Spot date	date range	comment
001	1 (?)	19 th /20th century	11th to 20th century	
201	1	19 th century	11th to 19th century	
203	1	Late 13th/14th century	11th to 14th century	
204	1	2nd half 13th	11th to 14th century	
205	1	16 th + 19th century	13th to 19th century	
206	1	mid 13th century	13th to 14th century	Scarbro ware
002	2	19 th	12th to 20th	
003	3 (?)	19 th	11th to 20th	
010	2	Early 17th + 19th (from sample)	15th to 19th	LPM from sample
012	2	17 th	12th to 18th	
014	2	14 th	13th to 14th	
021	2	Late 12th/early 13th	12th to 13th	scrappy
023	2	mid 13th +	13th to 14th	sample only
025	2	12 th - 14th	medieval	sample only
027	2	Late 17th/18th	late 16th to 18th	sample only
029	2	? medieval	?medieval	sample - brick
031	2	Late 16th/early 17th	14th to 17th	grapen
048	2	Late 14th/15th	16th to 16th	grapen
401	3	mid-late 13th	11th/12th to 14th	
402	3	mid 13th/14th	13th to 14th	sample - scraps
403	3	12 th - ?1st half	11th to 12th	large group
405	3	19 th	mid 13th to 20th	
407	3	Late 13th/14th; 14th	13th to 14th	
409	3	11 th /12th	11th to 12th	odd forms
410	3	14 th	13th to 15th	
413	3	Late 13th/early 14th	mid 13th to 14th	
415	3	14 th	12th to 14th	
422	3	18 th	13th to 19th	
433	?	mid 13th/early 14th	13th to 14th	sample only scraps
435	?	Medieval	11th +	sample only scraps
604	4	mid 13th +	11th to 14th	odd forms

Appendix B: Animal Bone report, by Poly Baker

The animal remains from Barking Abbey (659); the excavations in 2000 by the Centre for Archaeology, English Heritage

Polydora Baker, Revised 10/06/01

Introduction

In September 2000, the Centre for Archaeology (CfA), English Heritage undertook evaluation excavations on the site of Barking Abbey, Essex. The aim of the excavations was to inform management decisions about the site, by identifying and characterising the archaeological remains. The excavations also served as an educational initiative and formed an important activity during the Barking Millennium festival (Sept. 16, 2000) (Cromwell 2000b). The site history is summarised in Cromwell (2000b).

Excavations at Barking

Excavations, evaluations and watching briefs have been undertaken at Barking from the early 19th c. to c. 1991 (see Cromwell 2000b, pp. 2-3). Of particular interest to the CfA excavators was the possibility of locating occupation layers relating to the early Saxon monastery, and to the Saxon-medieval transition period. Four main trenches were opened: one in an area of known archaeological potential, the cloister (Trench 1), and three in an area previously unexplored to the south of the graveyard of St. Margaret's church (Trenches 2-4) (Cromwell 2000b). A fifth trench was opened in the Abbey ruins, on top of the slope, north of the chapter house (Cromwell, pers. Comm. 2001).

Environmental archaeology

The early abbeys are known to have been producers as well as consumers, but well-recovered assemblages of plant and faunal remains from monastic contexts are rare. Animal bones recovered during the 1985/86 excavations have provided invaluable information about animal economies at Saxon Barking, but the data from the samples was limited, as these were very small (Rackham, n.d., p. 16-17). In the context of the CfA excavations at Barking, the controlled recovery of environmental remains was considered a priority, and a detailed sampling strategy was devised in order to ensure this (W. Smith and P. Baker in Cromwell 2000; see Recovery and processing below). Of interest also was the possibility of locating water-logged deposits, documented during the MoLAS excavations, which might yield well-preserved botanical and faunal remains.

Site chronology

The excavated contexts cover a wide time period, from c. the 11th-19th c. but most are medieval. Some of these are tightly dated but we cannot extrapolate from these to structural features or to wider site activity, nor place the data within a well-defined chronological framework (Cromwell, pers. comm. 2001). For the purposes of this report, all data are presented by context and grouped following preliminary pottery spot-dates as follows (see Table 1 in archive report):

Medieval: 11th- 16th c.

Post-medieval: 17th-19th c.

Medieval-post-medieval: 11th-19th c.

Modern/Unstratified

The Animal Remains

Animal remains were collected by hand and from the wet-sieved and flotation residues. The rigorous sampling strategy resulted in a well documented and varied, albeit small assemblage. Full analysis was undertaken of the mammal and bird remains, as well as of the molluscs, in lieu of an assessment, given the overall small assemblage size. The sorted fish remains were quantified by bodypart, but full analysis is pending.

Objectives

Given the small assemblage size and the above limitations regarding the wider spatial and chronological contexts, the objectives of the zooarchaeological study are to:

- provide an archive of the data, which may inform future archaeological and environmental archaeological investigation;
- to identify the types and possible sources of animals used in the medieval period;
- to document assemblages within individual features, and from these data determine if possible feature use and local activity;
- to quantify the fish remains, and provide recommendations for their analysis.

Methods

Recovery and sorting:

Samples were recovered from a variety of contexts, including pit fills, fills of cuts, layers and dumps. Processing of the samples was by wet-sieving (4mm mesh) and flotation (heavy residue mesh 1mm; flot mesh 0.5mm) (See appendix C). All of the wet-sieved samples were sorted for faunal remains. The heavy residues from flotation were sorted through a 2mm mesh and the >2mm fraction was completely sorted, except in the case of Sample 2014 (cut fill 014, 13th-14th c.). Given the large size of this residue (3.6L), a 2L subsample was processed and the >2mm fraction was sorted. A very small volume (100ml) of the <2mm residue was scanned also. Sorting of the remaining residue from S. 2014 is pending. Scanning and sorting of the <2mm residues from a number of contexts is also pending.

Recording:

The recording system based on a restricted suite of elements (eg Davis 1992; Albarella et al. 1997) was greatly expanded in order to gain maximum information about each context. The maxilla, premaxilla and upper teeth were counted, as were the occipital condyle and zygomaticus. The lower teeth and mandible fragments, including the condyle and coronoid process, were recorded also. The longbones and phalanges were recorded where these included at least half of the medial or lateral side of the proximal and/or distal epiphysis or epiphysial surface. The calcaneum and astragalus and other tarsals and carpals were recorded also. Pig metapodials and cattle and caprine half distal metapodials were counted as 0.5, dog and rabbit metapodials as 0.2 and phalanges as 0.4 (following Davis 1992). Tooth eruption and wear were recorded and analysed following Payne (1973, 1987) for sheep, and Grant (1982) and O'Connor (1989) for pigs and cattle. Measurements were taken following Driesch (1976), Davis (1992) and Payne and Bull (1988). The fish bones were divided into cranial elements, vertebrae and indeterminate ribs/rays/vertebral spines. Bivalves were quantified where the umbo was present.

Identification:

The mammal and bird remains and molluscs were identified using the Centre for Archaeology (CfA) reference collection. In addition, sheep and goat were distinguished following Boessneck (1969) and Prummel and Frisch (1976), while the medium size Galliformes were

identified following MacDonald (1992). The collection, archive report, and database (Access 97, *Barkingbones*) are currently stored in the animal bone laboratory of the CfA.

Results

The assemblage includes mammal, bird, and fish remains as well as molluscs. A few unidentifiable remains of amphibia and crustacea are present also. The assemblage is well-preserved and only a few specimens show evidence of severe weathering or carnivore gnawing. Contexts 403, 031 and 021 include the odd very weathered bone/tooth, which may be residual. The total number of identified mammal and bird remains (N=243) and molluscs (N=207) is small and the data provide limited information about diet, animal economy or husbandry at Barking. Chronological analysis is not possible given the small assemblage size and only a few individual contexts merit comment.

Mammals

Main domestic mammals: The mammal bones are mainly from cattle, sheep/goat and pig. Most of the sheep/goat remains are probably from sheep, as only this species was securely identified. The frequency of the main taxa varies between hand-collected and sieved assemblages, and between phases but interpretation of this variation is hampered by the small assemblage size (Table 1). All bodyparts of the domestic livestock are represented, although only a few elements of individual taxa are present in each context. Concentrations of particular elements were not observed. Five cattle bones, six caprine bones and one pig bone show evidence of butchery, including chop and cutmarks. One of the more interesting specimens is a cattle metatarsus from a Postmedieval context (012). The bone was sawn partway through at the proximal and distal shafts, possibly to produce a straight tube of bone or shaft fragment for working (Plate 1, in archive report). One very weathered canine of a male equid was recovered from context 012 also; the poor preservation suggests it may be residual.

Age data are limited (Table 2). All cattle phalanges, a proximal radius and distal scapula from Medieval contexts are fused, indicating the presence of animals over 18 months, but two metapodial epiphyses from medieval and post-medieval contexts are unfused. A small ulna of a juvenile is present in a medieval context (021) also. No tooth wear data are available from stratified contexts. The sheep/goat tooth wear and fusion data from medieval contexts suggest that most caprines were killed when adult, although context 014 includes three bones of very juvenile caprines also. Three mandibles from a post-medieval context (031) are all from subadult animals. Tooth eruption and wear in the medieval pigs show that mainly subadults were killed; a few bones and teeth of very juvenile pigs are present in medieval and post-medieval contexts also.

Few pathologies were observed but three caprine mandibles from a post-medieval context show crowding of teeth and interdental attrition. Very few measurements are available for the main taxa and are listed in Tables 7-8, in the archive report.

Other mammals: Two partial dog skeletons were present in two medieval/post-medieval pit fills (Table 1; see also Table 6 in archive report). The remains from pit fill 012 (post-medieval) are from a large dog, similar in size and proportions to an Alsatian (comparison to a modern skeleton AML 53). The elements present include the maxillae and mandibles; innominates, femora, and tibiae; right third and fourth metatarsals, a metapodial fragment and a phalanx. Many ribs and vertebrae are present also but not quantified. The left tibia shows some extra porous growth on the distal medial and anterior shaft, the cause of which is not known. The two metatarsals show cutmarks on the anterior surface of the proximal end,

which may result from skinning. The bones from context 048 (medieval) are similar in size and shape to those of a small poodle (AML 7, AML 16), and include the cranium, right and left mandibles, left scapula, and right and left humeri, radii and ulnae. Both mandibles show crowding of the first and second premolars and of the fourth premolar and first molar. In addition the right mandible shows crowding of the incisors and the presence of an additional small canine, possibly the deciduous tooth (Plate 2, in archive report). A few cat bones and teeth were recovered, including a cranial fragment and deciduous tooth of a very young animal from medieval contexts. The few dog and cat measurements are presented in Tables 7-8, in the archive report.

A number of rabbit bones were recovered, most of which are from context 014 (S. 2014, wet-sieving and flot residue) (13th-14th c.). Additional bones, including a sacrum and caudal vertebrae are included in the unidentified bones from this same context. The bones may be from a single intrusive animal, but they may also be contemporaneous with deposit formation. A range of small mammals is represented in the bone assemblages from the flot residues (Table 1; see also Table 6, in the archive report), but these are too few to provide information regarding site environment in the medieval period.

Birds

Few bird bones were recovered by hand, but they are relatively common in the sieved (wet and flot residues) assemblages. Most of the remains are from Context 014 (S. 2014), and include domestic fowl, goose, duck, pigeon, snipe, green woodpecker, thrush/starling and passerines (Table 1). The goose bones are similar in size to those of the greylag (*Anser anser*), but it is not possible to identify these to the wild or domestic forms. The duck (*Anas* sp.) specimen is similar in size to the mallard or pintail, but it may also be from a domestic duck. Fowl, goose, duck and pigeon may have been consumed. Snipe was considered “favoured eating” in the late medieval period (Albarella and Davis 1994), but the status of the smaller birds, whether food or natural casualties, is uncertain.

Fish

The assemblage of fish remains includes a total of 1097 bones, most of which were present in the flot residues from the medieval samples. One context alone, a cut fill dated to the 13th-14th c. (014, S. 2014), yielded c. 70% of the bones (Table 3). The remainder is mainly from well-defined contexts dating between the 11th-14th c. A large proportion (30%-50%) of the assemblages consists of vertebrae, most of which are identifiable. The cranial remains, which make up 25%-30% of the assemblages, are more fragmented but c. one third of these bones is identifiable. Ribs, rays, and vertebral spines are common, but these are not diagnostic. In summary, approximately 60% of the assemblage is probably identifiable to family, genus or species. At least five species, including eel, a small gadid as well as larger, probably marine fish, are present. Many tiny fish vertebrae are present in the <2mm fraction of the heavy residues also. These may be from the gut contents of the large fish, but it is possible that they are comestible species, perhaps “whitebait”. A Cyprinid species is present as indicated by a pharyngeal tooth from S. 2014. The specimen is serrated and may be from rudd (*Scardinius erythrophthalmus*) (see Wheeler, A., 1978). Further sorting and identification will assist in determining possible sources of these small bones (see Recommendations below).

Mollusca

Many fragments of marine molluscs and a few terrestrial gastropods were recovered by wet-sieving and in the flot heavy residues, but few of these include diagnostic/recordable parts. The largest assemblage is from a cut fill (context 014), dated to the 13th-14th c. A total of 206 mainly fragmented marine bivalves, which include the umbo were identified to taxon and to

side (left/lower or right/upper valve). The Common mussel (*Mytilus edulis*) and the Common European oyster (*Ostrea edulis*) are by far the most common species and are present in similar proportions (Table 5). Left and right or upper and lower valves are equally represented also (Table 11, in archive report). Less common taxa include the Common edible cockle (*Cerastoderma edule*), and winkle (*Littorina littorea*). A fourth bivalve species is present but is not identifiable due to complete encrustation. Only one terrestrial gastropod was identified to taxon, *Trichea cf. hispida*. A larger unidentified terrestrial gastropod is also present but very fragmented. The few complete or relatively complete mussel or oyster valves do not allow for detailed metric analysis. Only the largest specimens of both taxa were measured, in order to document maximum size. The following measurements were taken on specimens from context 014, S. 2014:

- Ostrea edulis*: Upper valve Ht. 73.4mm, Br. 56.2mm; Lower valve Ht >58.9mm (estimate), Br 64.1mm
- Mytilus edulis*: Ht 57.4mm, Br 26.8mm
- Cerastoderma edule*: Ht. 28.4mm, Br 32.8mm

Both the mussel and oyster are common around the British coast and may be found in brackish waters, including the Thames estuary (Tebble 1966). The data suggest that these were by far the more commonly consumed species, while the presence of only a few edible cockles suggests that these were not used in the same frequency. Interpretation of the single winkle is not possible. It is in very good condition and may have been collected accidentally, with the more abundant species.

Few terrestrial gastropods were recovered in the samples. The land snail, *Trichea cf. hispida*, is from a modern dump layer for landscaping (Context 201).

Summary and Recommendations

Given the small size of assemblages from individual contexts, few observations may be made regarding contextual, spatial or chronological variation. The data from medieval contexts at Barking show the use of domestic mammals but also a wide variety of other resources, including possibly rabbit, a variety of domestic and wild birds, freshwater (rudd), migratory (eel) and probably marine fish, as well as marine molluscs. Additional mammals include dog and cat, and small mammals were present in the site vicinity also. Then smaller assemblages from the post-medieval period provide little information about subsistence or economy at the site.

Waste appears to have been dumped into pits or other types of cuts, but no evidence of specialised deposits can be observed. Most of the contexts yielded only a few fragments of the main domestic taxa, bird or fish. Context 014 yielded by far the largest and richest assemblage, including almost all of the bird and fish bones, and marine molluscs. The presence of very young caprines and pigs in addition to a range of birds, fish and molluscs may suggest a possible high-status component, although many of the resources may have been locally available. Identification of the fish remains may help to define provisioning mechanisms.

A few unusual specimens were observed. A small dog mandible from a medieval context (048) shows the abnormal presence of a second small canine in the right jaw, as well as crowding of the teeth. The presence of cutmarks on two metatarsals of a large dog skeleton (post-medieval context 012) is of interest, and may indicate the use of dog skins. The partly sawn cattle metatarsal from the same context suggests bone working.

The data suggest that there is the potential for good preservation of a range of vertebrate remains and mollusca from medieval and post-medieval contexts in the area of Barking Abbey. Any future investigations should include a detailed sampling strategy in order to ensure controlled recovery of zooarchaeological remains and to increase the information gained to date. Recommendations for further work on this assemblage are provided below.

Recommendations

The sampling programme resulted in the recovery of many fish bones from at least six species, which merit further analysis. It is recommended that the fish bones from well-stratified and securely dated contexts be analysed. In addition it is recommended that part of the <2mm flotation heavy residues from well stratified and securely dated contexts be sorted and the fish bones analysed. Estimates of fish bone counts from Sample 014 are provided in Table 4. Samples should be selected for further sorting on the basis of secure archaeological information; contexts 401, 407, 409, 410 are of particular interest. It may be possible to integrate sorting for faunal remains with further palaeobotanical work.

Tasks

Complete sorting of >2mm fraction of heavy residue from S. 2014: 1/2 day (in house)

Sorting of 400 ml of <2mm heavy residue from context 014 (S. 2014): 1/2 day (in house)

Sorting of additional samples (<2mm residue): 200-500 ml depending on residue volume: 2-3 days (in house)

Analysis of fish bones: c. 5 days

Analysis of additional mammal and bird bones: 1 day (in house)

BIBLIOGRAPHY

(see main bibliography, p16)

Table 1

Barking Abbey (659): Distribution of identified and unidentified remains in hand-collected assemblages by bone counts
 Pig metapodials and cattle and caprine half distal metapodials counted as 0.5; canid and rabbit metapodials counted as 0.2
 and phalanges as 0.4 (following Davis 1992); M-PM: Medieval-Postmedieval; Mod: Modern; Unstr.: Unstratified

Animal Bone Report Table 1 pt 1

Taxon	Medieval												Post-medieval					M-PM	Mod	Unstr.	Grand			
	014	021	029	048	401	403	407	409	410	415	433	604	total	010	012	023	027	031	total	405	201	002	total	
Hand-collected																								
Mammal																								
Cattle (<i>Bos taurus</i>)		4		3		2							10	12	6			1	19				1	30
cf. Cattle		3				3							6											6
Sheep/goat (<i>Ovis aries/Capra hircus</i>)	4	5				5	3		5			5	27					10	10	1				38
Sheep							1					1	2		1				1					3
cf. Sheep							1					1	2		1				1					3
Pig (<i>Sus scrofa</i>)	3	1			1	4		1				1	11	3	1				4					15
Dog (<i>Canis familiaris</i>)				4									4		11				11					15
cf. Dog (<i>Canis familiaris</i>)				8									8											8
Cat (<i>Felis domesticus</i>)																		1	1			1		2
Rabbit (<i>Oryctolagus cuniculus</i>)																						1		1
Total identified mammal	7	13		15	1	14	5	1	5	1		8	70	15	20			12	47	1		3		121
Bird																								
Domestic fowl (<i>Gallus gallus</i>)												1	1											1
Galliformes (<i>Domestic fowl/pheasant/Guinea fowl</i>)	1												1											1
Goose (cf. cf. <i>Anser</i> sp.)	1												1											1
Duck (<i>Anas</i> sp.)	1												1											1
Total identified bird	3											1	4											4
Total identified	10	13	0	15	1	14	5	1	5	1		9	73	15	20			12	47	1		3		124

Animal Bone Report Table 1 pt 2

Medieval

Post-medieval

M-PM Mod Unstr. Grand

Taxon	014	021	029	048	401	403	407	409	410	415	433	604	total	010	012	023	027	031	total	405	201	002	total
Wet-sieved residues																							
Mammal																							
Cattle (<i>Bos taurus</i>)																	1	1	2				2
cf. Cattle																							
Sheep/goat (<i>Ovis aries/Capra hircus</i>)											1	4						3	3				7
cf. Sheep/goat	3	1						1				2											2
Pig (<i>Sus scrofa</i>)	4	2				4	3	1		1	2	16					1	2	3	1			20
cf. Cat (<i>Felis domesticus</i>)																					1		1
Rabbit (<i>Oryctolagus cuniculus</i>)												6											6
cf. Rabbit	1											1											1
Total identified mammal	15	2			4	3	1	1	1	3	29						2	6	8	2			39
Bird																							
Domestic fowl/pheasant (<i>Gallus gallus/Phasianus colchicus</i>)	1						1					2											2
cf. Domestic fowl/pheasant	1											1											1
Galliformes	1											1											1
cf. Galliformes	3											3											3
Goose (<i>Anser</i> sp.)	1											1						2	2				3
cf. Pigeon/Dove (<i>Columba</i> sp.)	1											1											1
cf. Snipe (<i>Gallinago gallinago</i>)	1											1											1
Thrush (cf. <i>Turdus</i> sp.)	1											1											1
Thrush/Starling (<i>Turdus</i> sp./ <i>Sturnus</i> sp.)	2											2											2
cf. Thrush/Starling	3											3											3
cf. Green woodpecker (<i>Pica viridis</i>)	1											1											1
cf. Passerine	1											1											1
Total identified bird	17				1						18							2	2				20
Total identified	32	2	0		0	4	3	2	1	3	47						2	8	10	2			59

Animal Bone Report Table 1 pt 3

Taxon	Medieval										Post-medieval							M-PM			Grand total			
	014	021	029	048	401	403	407	409	410	415	433	604	total	010	012	023	027	031	total	405		201	Unstr.	002
Flot residues																								
Mammal																								
Cattle (<i>Bos taurus</i>)								1			1	2		1	1	3	1	6		2				10
Sheep/goat (<i>Ovis aries/Capra hircus</i>)					1			1	1	2	4	1		1			1	2						6
Sheep (<i>Ovis aries</i>)								1			1													1
cf. Sheep/goat																								1
Pig (<i>Sus scrofa</i>)						1				1		1		2	9	11	1			1				13
cf. Equid sp.															1									1
cf. Cat						1										1								3
cf. Rabbit																								7
cf. Rat (<i>Rattus</i> sp.)	5											2								2				1
cf. Rat (<i>Rattus</i> sp.)							1					1												1
Bank vole (<i>Clethrionomys glareolus</i>)																								1
Field vole (<i>Microtus agrestis</i>)																								1
Northern mole (<i>Talpa europaea</i>)																								1
Shrew (Soricidae)	1																							1
Total identified mammal	6	1	2	2	3					4	18	1		4	1	12	3	21		4	5			48
Bird																								
cf. Galliformes																								
Goose (cf. <i>Anser</i> sp.)																								1
cf. Thrush/Starling	2																							1
Passerine	2																							2
cf. Passerine	2	1					1																	3
Total identified bird	6	2					1																	11
Total identified	12	2	0		1	2	3	0	3		27	0		4	1	12	3	21		4	7			59

Animal Bone Report Table 2

Barking Abbey: Mandibular tooth wear in cattle, caprines and pigs (after Payne 1987, Grant 1982)
 Rec.: recovery-hc: hand-collected; ws: wet-sieved; fr: flint residue

Phase	Cxt	ID#	Rec.	Ldp4	LP4	Mandibular teeth				
						LM1	LM2	LM1/2	LM3	
Cattle unstratified	002	5	hc						f/g	
Pig medieval	403	95	hc		0		0			
medieval	021	179	ws					e		
medieval	021	180	ws							
medieval	014	49	hc			f			Cr	
Sheep/goat medieval	403	108	hc		8A/9A					
medieval	403	98	hc					8A		
medieval	410	119	hc					9A		
medieval	410	120	hc						11G	
medieval	410	279	fr					11A		
med/post-med	405	107	hc		11S	11A	9A	9A	11G	
post-med	031	70	hc		2A	9A	7A	0		
post-med	031	71	hc		7S	9A	7A			
post-med	031	69	hc		7S	9A	7A		4A	
post-med	031	72	hc						4A	

Animal Bone Report Table 3

Barking Abbey (659): Distribution of fish bones by phase, recovery method and element

Element	Medieval															Post-medieval					M-PM	Mod	Grand Total					
	014	019	021	025	029	401	402	403	407	409	410	413	433	435	604	total	010	012	023	027	031	total		405	201			
Flot residues (>2mm)																												
Scales	8																										8	
Crania	110						1			2	2				13	134	3			1	11	15	11	1			161	
Ribs/Rays/Spine	212	1	5			10	1		10	17	11		5	6	59	339	18	2	2		9	31	27	6			401	
Vertebrae	198		1		1	3	2	2	1	3	3	1	2	1	21	240	3	1	1	2	5	12	13	2			266	
Total	529	1	6		1	13	4	2	16	22	16	1	7	7	93	721	24	3	3	3	25	58	51	9			836	
Wet-sieved residues (>4mm)																												
Crania	80		1								3				2	86											8	94
Ribs/Rays/Spines	25														1	26											12	38
Vertebrae	80		1	3				2	11	1	4	3	1		7	113					3	3	13				129	
Total	185		2	3				2	11	1	7	3	1		10	225					3	3	33				261	
Grand Total	714	1	8	3	1	13	4	4	27	23	23	4	8	7	103	946	24	3	3	3	28	61	84	9			1097	

Animal Bone Report Table 4
 Barking Abbey (659): Estimate of fish bone counts in S. 2014, flotation heavy residues (<2mm fraction)

Sample	Heavy residue (<2mm)		Bone counts		Estimates	Total
	Tot. vol.	Vol. sorted	Element	N	400 ml	500 ml
2014*	750 ml	100 ml	Crania	17	68	85
			Vertebrae	46	184	230
			R/R	3	12	15
			Scales	5	20	25

*The heavy residue of 750 ml is from a 2L subsample of total 3.6L

Table 5
 Barking Abbey: Distribution of identified marine and terrestrial molluscs

Taxon	Flot residues (>2mm)						Total	Wet sieved (>4mm)						Total	Grand Total
	Medieval			PM ^{Mod}				Medieval			Post-medieval				
	014	021	604	010	010	201		014	019	021	409	604	027		
Common edible mussel (<i>Mytilus edulis</i>)	27		1				28	81						81	109
Common european oyster (<i>Ostrea edulis</i>)	11	2	6	1	2		22	55	1	2	2	5	2	69	91
Common edible cockle (<i>Cerastoderma edule</i>)	3						3	2						2	5
Winkle (<i>Littorina littorea</i>)						1	1	1						1	1
<i>Trichea</i> cf. <i>hispida</i>															1
Total	41	2	7	1	3		54	139	1	2	2	5	2	153	207

Animal Bone Report Table 6

Barkling Abbey: Element distribution of commensal animals

Carnivore and lagomorph metapodia counted as 0.2 and phalanges counted as 0.4 (after Davis 1992).

Rec.: recovery - hc: hand-collected; ws: wet-sieved; fr: flot residue; M: medieval; PM: post-medieval

Taxon	Rec.	Phase Context Element	Unstrat.	Medieval					Med-Post- medieval		Post-medieval	
			002	403	401	014	407	048	012	405	201	031
Dog/cf. Dog (part skeletons)												
Dog	hc	inn								2		
Dog	hc	fem								2		
Dog	hc	tib								2		
Dog	hc	mt3								0.2		
Dog	hc	mt4								0.2		
Dog	hc	mtp								0.2		
Dog	hc	p1								0.4		
Dog	hc	mandible							2			
Dog	hc	maxilla							2			
cf. Dog	hc	sca							1			
cf. Dog	hc	hum							3			
cf. Dog	hc	rad							2			
cf. Dog	hc	uln							2			
Cat												
Cat	hc	uln										1
Cat	hc	rad	1									
cf. Cat	fr	occ condyle		1								
cf. Cat	fr	UdP3?			1							
cf. Cat	ws	hum								1		
cf. Cat	fr	mc4										0.2
Rabbit												
cf. Rabbit	fr	LP/M								2		
Rabbit	hc	hum	1									
Rabbit	ws	rad					2					
cf. Rabbit	fr	ulna					1					
Rabbit	ws	mc1?					0.2					
Rabbit	ws	mc2					0.2					
cf. Rabbit	fr	mc2					0.2					
Rabbit	ws	mc4					0.2					
cf. Rabbit	fr	p3					0.4					
cf. Rabbit	ws	p2					0.4					
cf. Rabbit	fr	p2?					0.8					
Small mammals												
Shrew	fr	premaxilla					1					
Field vole	fr	mandible										1
Bank vole	fr	mandible										1
cf. Rat	fr	atlas							1			
cf. cf. Rat	fr	mtp										0.2

Animal Bone Report Table 7 pt 1

Barking Abbey: Mammal and bird postcranial measurements (after Driesch 1976; Davis 1992; Payne and Bull 1988)
 measurements to one tenth of a mm

Phase	Cxt	ID#	Taxon	Element	Measurements									
					GL	GLI	Bp	SLC	SD/SC	Bd	BT	HTC	LA	LAR
Mammals														
post-medieval	010	18	Cattle	hum							833	792	339	
post-medieval	010	15	Cattle	mtc			627							
medieval	021	65	Cattle	inn										644
med/post-med	012	33	Cattle	mtt			395							546
post-med	031	74	Sheep/goat	sca				196						
medieval	604	124	Sheep/goat	sca				179						
medieval	407	112	Sheep	hum							245	128		
medieval	407	111	Sheep/goat	mtc						125				
medieval	410	116	Sheep/goat	mtc			194			120				
medieval	410	117	Sheep/goat	mtc						148				
medieval	604	123	Sheep/goat	mtc			219			124				
medieval	407	110	cf. Sheep	tib			397							
medieval	604	126	cf. Sheep	tib							269			
medieval	604	125	Sheep	tib							268			
med/post-med	012	36	cf. Sheep	mtt			217							
medieval	604	122	Sheep/goat	mtt			193			108				
medieval	410	280	Sheep	ast				284			185			

Animal Bone Report Table 7 pt 2

Phase	Cxt	ID#	Taxon	Element	GL	GLI	Bp	SLC	Measurements													
									SD/SC	Bd	BT	HTC	LA	LAR								
medieval	409	201	Pig	hum																		
medieval	403	94	Pig	mc4			132														187	
med/post-med	012	32	Dog	inn			519															217
med/post-med	012	25	Dog	fem																		
med/post-med	012	24	Dog	fem																		
med/post-med	012	30	Dog	tib	2349		440															
med/post-med	012	42	Dog	mt3	913																	
med/post-med	012	41	Dog	mt4	844																	
med/post-med	012	39	Dog	mtp																		
med/post-med	012	40	Dog	p1	333		108															
medieval	048	85	cf. Dog	sca					147													
medieval	048	78	cf. Dog	hum																		
medieval	048	80	cf. Dog	hum																		
medieval	048	82	cf. Dog	rad																		
medieval	048	81	cf. Dog	rad			114															
post-med	031	76	Cat	uln																		
unstratified	002	7	Cat	rad	974		84															
unstratified	002	6	Rabbit	hum																		
medieval	014	165	Rabbit	rad																		
medieval	014	167	Rabbit	mc1?	98																	
medieval	014	140	Rabbit	mc2	183																	
medieval	014	331	cf. Rabbit	mc2	188																	
medieval	014	141	cf. Rabbit	p2	87																	
medieval	604	275	Northern mole	rad	231																	

Animal Bone Report Table 7 pt 3

Phase	Measurements													
	Cxt	ID#	Taxon	Element	GL	GLI	Bp	SLC	SD/SC	Bd	BT	HTC	LA	LAR
Birds														
medieval	604	129	Domestic fowl	tst	818		151		80	149				
medieval	014	146	Domestic fowl/pheasant	sca	661									
medieval	014	172	cf. Snipe	cpm	276		64							
medieval	014	176	cf. Pigeon/Dove	rad						45				
medieval	014	147	cf. Green woodpecker	cpm	232		65							

Animal Bone Report Table 8

Barking Abbey: Mandible and mandibular tooth measurements in sheep/goat, pig and dog measurements in tenths of mm; *dog cranium measurement (4) in Driesch 1976

Phase	Cxt	ID#	Element	Side	Measurements																						
					P2L	P2W	P3L	P3W	P4L	P4W	M1L	M1 Wa	M1 Wp	M1 W	M2 L	M2 Wa	M2 Wp	M2 W	M3 Wa	M3 Wp	P1- P4	P2- P4	M1- M3	P1- M3	P2- M3	Can- condyle*	
Sheep/goat																											
medieval	410	120	mandible																								
medieval	410	119	LM12													73	75			75	72						
post- medieval	031	69	mandible																	76	69						
Pig																											
medieval	403	95	mandible																								
medieval	014	49	mandible								160	107	114			206	131	136									
medieval	021	180	LM1/2									94	102														
Dog																											
medieval	048	90	mandible	L	67	34	79	39	92	48	168				67	57							248				
medieval	048	89	mandible	R	69	35	79	39	92	48	169				67	57					271	241		522	490	806	
medieval	048		maxilla	L			91	39	145	82	c.109				109	46											
medieval	048		maxilla	R			92	39	145	83	107				109	48											

Animal Bone Report Table 9

Barking Abbey: Distribution of fish bones by phase, recovery method and element

Element	Medieval																	Med/Post-med			Post-medieval					Grand Total	
	014	019	021	023	025	029	401	402	403	407	409	410	413	433	435	604	total	012	405	total	010	027	031	201	total		
Flot residues (>2mm)																											
Scales	8																8										8
Crania	110						1			2	2				13	134		11	11	3	1	11	1	16	161		
Ribs/Rays/Sp	212	1	5	2		10	1		10	17	11		5	6	59	339	2	27	29	18		9	6	33	401		
Vertebrae	198		1	1		1	3	2	2	1	3	3	1	2	1	21	240	1	13	14	3	2	5	2	12	266	
Total	529	1	6	3		1	13	4	2	16	22	16	1	7	7	93	721	3	51	54	24	3	25	9	61	836	
Wet-sieved residues (>4mm)																											
Crania	80		1								3				2	86		8	8							94	
Ribs/Rays/Sp	25														1	26		12	12							38	
Vertebrae	80		1		3			2	11	1	4	3	1		7	113		13	13				3		3	129	
Total	185		2		3			2	11	1	7	3	1		10	225		33	33				3		3	261	
Grand Total	714	1	8	3	3	1	13	4	4	27	23	23	4	8	7	103	946	3	84	87	24	3	28	9	64	1097	

Animal Bone Report Table 10
 Barking Abbey: Distribution of identified marine and terrestrial molluscs

Taxon	Flot residues (>2mm)			Wet sieved (>4mm)			Total	Grand Total				
	Medieval	Post-med	Total	Medieval	Post-med	Total						
	014	021	604	010	020	031	409	604	027	031		
Common edible mussel (<i>Mytilus edulis</i>)	27		1				81				81	109
Common european oyster (<i>Ostrea edulis</i>)	11	2	6	1	2		55	2	5	2	69	91
Common edible cockle (<i>Cerastoderma edule</i>)	3						2				2	5
Winkle (<i>Littorina littorea</i>)							1				1	1
<i>Trichea cf. hispida</i>					1						1	1
Total	41	2	7	1	3	54	139	2	5	2	153	207

Animal Bone Report Table 11

Barking Abbey: Distribution of identified marine bivalves by side

fr: flot residue; ws: wet-sieved

Phase	Recovery	Valve side		Total
		l	r	
Common edible cockle (<i>Cerastoderma edule</i>)				
medieval	fr	2	1	3
medieval	ws	2		2
	Total	4	1	5
Common edible mussel (<i>Mytilus edulis</i>)				
medieval	fr	16	12	28
medieval	ws	38	43	81
	Total	54	55	109
Common european oyster (<i>Ostrea edulis</i>)				
medieval	fr	11	8	19
medieval	ws	35	30	65
	Total	46	38	84
post-medieval	fr	1	2	3
post-medieval	ws	4		4
	Total	5	2	7

Animal Bone Report Table 12

Barking Abbey: Fish bone counts and estimates for S. 2014, flotation heavy residues (<2mm)

Sample	Heavy residue		Bone counts		Estimates 400 ml	Total 500 ml
	Tot. vol.	Vol. sorted	Element	N		
2014*	750 ml	100 ml	Crania	17	68	85
			Vertebrae	46	184	230
			R/R	3	12	15
			Scales	5	20	25

*The heavy residue of 750 ml is from a 2L subsample of total 3.6L

Appendix C: Assessment of charred and mineralised plant remains from Barking Abbey, Essex.

Wendy Smith

English Heritage Research Fellow in Archaeobotany

Department of Archaeology, University of Southampton, Highfield, Southampton, SO17 1BJ

Five evaluation trenches were excavated as part of the 'Barking Millennium Festival' organised by the Environment Agency. The main objective of the project was to assess whether proposed changes to the layout of pavings and/or paths in the central open area of the Abbey precinct would affect any underlying archaeology.

Excavations carried out by English Heritage, Centre for Archaeology (CfA) included sampling of all sealed features for charred plant remains. In particular, the priority was to assess the archaeobotanical potential of medieval and Anglo-Saxon deposits at the site. Samples were not collected from Trench 5, because excavations in this area of the Abbey were solely to ascertain the plan of walls, which were within or immediately below the modern turf layer. In addition, it was clear that areas of Trench 5 were contaminated with later material and the excavated layer contained abundant modern root mat. Trench 1 was not intensively sampled, largely because it was clear that many deposits had residual 19th century material and spot dating on site established that most features were Early Modern in date (18th – 19th centuries). As a result, the samples studied here are primarily from Trenches 2–4, where secure medieval features were encountered.

Sample volumes ranged from 20 L to 4.25 L, but typically sample sizes were around 20 L in volume. Although the sampling strategy was to collect 40 L samples, the difficulties of processing the particularly clayey soil samples from Barking Abbey meant that the sample size was reduced. A CfA environmental assistant processed the bulk soil samples using water flotation. The flots (the material which floats) were sieved to 0.5mm and the heavy residues (the material which does not float) were washed over a 1 mm mesh sieve, and both were air-dried. The results presented here are based on both the heavy residues and the flots.

This assessment is designed to determine if charred plant remains are present and of interpretable value. In addition, this assessment aims to determine the potential for the charred plant remains to answer the following questions:

- Do any of the plant remains recovered provide information about diet at Barking Abbey?
- Do any of the plant remains recovered provide information about agricultural practices in the medieval period?
- Do the assemblages recovered provide information about rubbish disposal patterns on site?
- Do any of the plant remains recovered provide information about the wider environment of the site?

Laboratory method

The author assessed the flots using a low-power binocular microscope at magnifications between x12 and x25. The heavy residues were sorted by eye, and with the aid of a x10 hand lens, by the author and assistants. Flots and heavy residues were rapidly scanned and, as a result, smaller seeds may have been overlooked. Unless otherwise indicated in Table 1, 100% of all flots or heavy residues was scanned for charred plant remains. Although the English Heritage archaeobotanical comparative collection was consulted during the assessment, the identifications presented here should all be seen as highly provisional.

Results

The assessment results for charred and mineralised plant remains from the Barking Abbey flots and heavy residues are presented in Table 1, which also includes a semi-quantitative record of any other environmental remains (bones, molluscs or charcoal) or small finds observed during the assessment of this material. Nomenclature for economic plants follows Zohary and Hopf (1994) and nomenclature for indigenous taxa follows Stace (1997). Table 2 summarises the samples recommended for further analysis in terms of their location, date and context type.

Discussion

The plant remains

Twenty-three out of the twenty-five samples assessed contained charred and/or mineralised plant remains. Ten of these samples (2005, 2007, 2010, 2011, 2013–2015, 2018, 2020 and 2021) were from well sealed, securely dated contexts and were sufficiently rich to merit further analysis. In addition, one sample (2008), which was not particularly rich, might be worth further analysis, since it provided a further asparagus (*Asparagus officinalis* L.) seed.

In most cases the richer samples contained a mixture of barley (*Hordeum* sp.), rye (*Secale cereale* L.) and free-threshing type wheat (*Triticum* sp.) grains. Several samples also contained large pulses (*Vicia* sp./ *Pisum* sp.) which had well-preserved hila (the point where the pea or bean attaches to the pod) and should be identifiable to species level during further analysis. Most interestingly, charred asparagus (*Asparagus officinalis* L.) seeds were also recovered from two samples (2008 and 2018). Previous archaeobotanical research (Robinson unpublished) to the west of the Abbey precinct, in the Abbey Retail Park also produced finds of asparagus from a range of features dating from the Late Saxon to early medieval period (11th – 12th century). Robinson (unpublished) believes this suggests that garden plots of asparagus were cultivated in the area around the Abbey in the Anglo-Saxon period. In addition to evidence for cultivated crops, a range of weed/wild plants, which most likely represent contaminants of cereal or pulse crops, has also been recovered.

Although the majority of plant remains encountered were charred, mineralised plant remains were observed in the heavy residue from sample 2014 (context 014). Mineralisation, through calcium phosphate replacement, can be due to a number of reasons, but typically this form of preservation occurs in cess or refuse deposits (Green 1979, 281). Notably, the mineralised component of the Barking Abbey assemblage produced remains of grape (*Vitis vinifera* L.) and sloe/bullace (*Prunus* sp.), which are not recorded in the charred component. This suggests that full analysis of this mineralised deposit should provide more detailed information on the scope of diet at the Abbey.

Other environmental remains (animal bone, charcoal and molluscs)

Small quantities of animal bone, charcoal and molluscs were recovered from the majority of sample flots and residues collected. In most cases it is not recommended that further analysis of this material is undertaken. However, a large quantity of animal bone and molluscs was observed in the heavy residue from sample 2014 (context 014), and it is recommended that at least this material should be assessed.

Potential

The samples recommended for further analysis do have clear potential to provide information about diet and agricultural practice in the period. In particular the fact that the majority of samples recommended for further analysis are from pits means that some discussion of rubbish disposal patterns at Barking Abbey between the 11th and 17th centuries is possible. In addition, since the pit deposits are from three different areas of the site, analysis of the distribution of plant remains should be possible (see Table 2). Unfortunately it is unlikely that information about the wider environmental setting of Barking Abbey is available from this assemblage.

Assemblages from early medieval monasteries are still quite limited. Previous work has been carried out on Anglo-Saxon and medieval deposits at Barking Abbey (Davis unpublished; Robinson unpublished), but is restricted both in terms of area covered and the number of samples studied. Full analysis of the Barking Abbey archaeobotanical assemblage will expand the evidence for medieval cultivated plants established by Robinson (unpublished) from her work on waterlogged deposits at the Abbey Retail Park. In addition it will establish a wider chronological perspective for cultivation practice, by building on the information gathered on Saxon charred plant remains from previous work at Barking Abbey by Davis (unpublished).

Archaeobotanical evidence from monastic houses in the Thames basin is also limited. The only other published archaeobotanical assemblage of this date from an Abbey in Essex is from Waltham Abbey (Moffat 1987). In terms of the wider region, only excavations at Abbey Wharf, Reading (Carruthers 1997) located on the river Kennet, has resulted in the analysis and publication of charred and waterlogged archaeobotanical material. The Barking Abbey archaeobotanical assemblage will add to our wider understanding of the agricultural economy of these religious houses during the medieval period.

Finally, the abundance of pit deposits at Barking Abbey will produce assemblages that may also be usefully compared to such deposits elsewhere in the region, for example in comparison with pit deposits studied by Murphy (1992) at Culver St., Colchester, Essex. Comparison of similar deposits between sites may help elucidate general attitudes or practices in terms of rubbish disposal in the period.

Recommendations for revised research design

The samples recommended for further analysis (2005, 2007, 2008, 2010, 2011, 2013–2015, 2018, 2020 and 2021) should have their flots fully sorted for charred and/or mineralised plant remains.

The >2mm fraction of all Barking Abbey heavy residues was scanned during the assessment and in most cases only small quantities of heavier items, such as charred hazel (*Corylus* sp.) nutshell, were recovered. However, the heavy residue from samples 2014 contained a fairly substantial quantity of mineralised plant remains and, therefore, it is recommended that the

entire heavy residue from this sample is fully sorted for mineralised and charred plant remains.

It is recommended that the asparagus seeds are dated. Asparagus seeds have been recovered from Roman deposits at Alcester in Warwickshire by Moffett (1989, Microfiche 1, F1) and, therefore, cultivation of asparagus is generally considered to date from the Roman period. However, securing cultivation of asparagus at Barking Abbey in the medieval period does remain an issue for this material. One of the Barking Abbey asparagus seeds reported here (sample 2008, context 019) is from a context which is only dated to the medieval period on the basis of stratigraphy. The other asparagus seed was recovered from a pit (sample 2018, context 021) that dates to the 12th – 13th century and is, therefore, slightly later in date than the asparagus seeds recovered by Robinson (unpublished) at Abbey Retail Park. Because many areas of the site have an overburden of 18th and 19th century material, with later re-working of medieval features, the advantage of dating the Barking Abbey asparagus seeds would be to establish a securely medieval date for the cultivation of asparagus at Barking. I recommend that dating of the asparagus seeds from samples 2008 and 2018 is included in the revised research design, in consultation with Alex Bayliss.

Proposed methodology

All of the flots should be sorted for charred plant remains. Only the heavy residue from samples 2014 should be fully sorted for charred and/or mineralised plant remains. I recommend that all of the plant remains recovered in the flots and the heavy residue from sample 2014 are fully identified and quantified. Finally, a report should be prepared, which specifically addresses what the charred and mineralised archaeobotanical assemblage from Barking Abbey tells us about diet, agricultural practice and rubbish disposal in the period.

ESTIMATION OF RESOURCES NEEDED FOR FULL ANALYSIS

Activity	Number of Days
<i>Full analysis</i>	
Fully sorting 11 flots for charred plant remains	6
Fully sorting 1 heavy residue for charred/ mineralised plant remains	1
Identification and quantification of charred plant remains	8
Preparation of archaeobotanical report	3
TOTAL TIME NEEDED	18

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References

(see main bibliography, p16)

Plant Report Table 1 pt1 Assessment results from Barking Abbey (659)

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)		Context Type	Date ‡	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)	
							Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed				
2001	012	20	70	3.2	Fill of large pit	17C		+	+					++		+	No	Modern root and leaves present. Hulled barley grain (<i>Hordeum</i> sp.), rye grain (<i>Secale cereale</i> L.), free-threshing type wheat (<i>Triticum</i> sp.) grain, large pulse (<i>Vicia</i> sp./ <i>Pisum</i> sp.) and indeterminate large grass/ cereal (POACEAE/ Cereal) observed. Assessed as POOR.	Ceramic also recovered.
2002†	201	20	550	7.3	Dump layer for 19C landscaping	19C	+	+	+		++	+		+	+	No	Flot sieve overflowed during processing. One rye (<i>Secale cereale</i> L.) rachis internode and one indeterminate large grass caryopsis/ cereal grain (POACEAE/ cereal) observed. Assessed as POOR.	Tile, ceramic, ?Fe corrosion, mortar and ?egg shell also recovered.	
2003	10 (con-text 101 on bag)	20	105	3.1	Fill of pit	17C-.19C	+	+	+	+		+	+		+	No	Possible free-threshing type wheat (<i>Triticum</i> sp.) grain, large grass (POACEAE) caryopsis and clover/ vetch (<i>Trifolium</i> sp./ <i>Medicago</i> sp./ <i>Melilotus</i> sp.) observed. Assessed as POOR.	Two unidentified vitreous objects, glass, copper alloy, clay pipe and ceramics were also recovered.	
2004	405	20	100	2.8	Upper fill of pit	19C	+	+				+			+	No	?Modern blackberry (<i>Rubus</i> sp.) and elder (<i>Sambucus nigra</i> L.) seed present. One charred large grass caryopsis/ cereal grain (POACEAE/ cereal) observed. Assessed as POOR.	Clay pipe, glass, unidentified metal objects (including ? slag and ?Fe corroded object), bead, copper alloy, ceramic and tile recovered.	

†Sample 2002 overflowed during processing.

Key for animal bone and plant remains: += <25 items, ++ = 25 – 75 items and +++ = >75 items. Key to molluscs and charcoal: += <10 items, ++ = 11–40 items, and +++ = >40 items. Shading indicates those samples recommended for further analysis. ‡Dates are based on the results of the pottery assessment and are AD. Samples assessed as **POOR** contain < 50 plant remains, samples assessed as **GOOD** contain between 100-200 plant remains and samples assessed as **RICH** contain > 200 plant remains.

Plant Report Table 1 pt2 Assessment results from Barking Abbey (659)

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Heavy Res. Vol. (L)	Context Type	Date †	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)		
							Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed					
2005	403	20	130	4.2	Upper fill of pit	12C - ?1 st half	Flot	+	Flot	+	Flot	+	Grain	+++	Chaff	+	Weed	+++	Barley (<i>Hordeum</i> sp.) grain, cf. rye (<i>Secale cereale</i> L.) grain, rye rachis internodes, free-threshing type wheat (<i>Triticum</i> sp.) grain and rachis internodes, and indeterminate cereal grain observed. Weed/wild seeds noted include: oat/brome (<i>Avena</i> sp./ <i>Bromus</i> sp.) caryopses, dock (<i>Rumex</i> sp.), stitchwort (<i>Stellaria</i> sp.), stinking chamomile (<i>Anthemis cotula</i> L.), sedge (2-sided <i>Carex</i> sp.), small legume (<i>Vicia</i> sp./ <i>Lathyrus</i> sp.), small clover/vetch (<i>Trifolium</i> sp./ <i>Medicago</i> sp./ <i>Melilotus</i> sp.). Assessed as RICH .	Ceramic and an unidentified highly vitreous object were also recovered.
2006	604	20	75	6.7	Fill of oval pit	Contam-inated with 19C residual material	Flot	+	Flot	+	Flot	+	Grain	++	Chaff	+			A coin was recovered from this heavy residue. In addition, tile, ceramic, unidentified metal objects and ?Fe corroded objects were also recovered.	
2007	604	20	40	4.2	Fill of oval pit	mid 13C	Flot	+	Flot	+	Flot	+	Grain	++	Chaff		+		Ceramic, unidentified ?Fe corroded object and unidentified vitreous objects recovered.	
2008	019	10	10	1.55	Fill of structural cut	Medieval (based on stratigraphy - no pottery recovered from this context)	Flot	+	Flot	+	Flot	?	Grain	++	Chaff		+		Free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain, cereal/ large grass (cereal/ POACEAE) culm node, and asparagus** (<i>Asparagus officinalis</i> L.). Assessed as POOR to GOOD .	

Plant Report Table 1 pt3 Assessment results from Barking Abbey (659)

Sample	Context	Flot Vol. (ml)	Heavy Res. Vol. (L)	Context Type	Date ‡	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)	
						Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed				
2009	025	20	25	2.6	Fill of pit	Medie-val		+	+	+		+			+	No	Free-threshing type wheat (<i>Triticum</i> sp.) grain, large grass (POACEAE) caryopsis, bedstraw (<i>Galium</i> sp.), possible oat (<i>Avena</i> sp.), and small unidentified grass (POACEAE). Assessed as POOR.	Ceramic also recovered.
2010	407	20	250	3	Fill of linear feature – above charcoal lens	13C – 14C		+	++	++		+	+++		++	Yes	Only 30% of flot scanned. Large pulse (<i>Vicia</i> sp./ <i>Pisum</i> sp.), hulled barley (<i>Hordeum</i> sp.) grain, free-threshing type wheat (<i>Triticum</i> sp.) grain, bedstraw (<i>Galium</i> sp.), oat (<i>Avena</i> sp.) type large grass caryopsis, unidentified stalk and unidentified bud observed. Assessed as GOOD to RICH.	Ceramic and tile also recovered.
2011*	410	20	55	3.5	Primary fill of linear feature – below charcoal lens	14C		++	++	++			++		+	Yes	Large pulse (<i>Vicia</i> sp./ <i>Pisum</i> sp.), free-threshing type wheat (<i>Triticum</i> sp.) grain, small legume (<i>Trifolium</i> sp./ <i>Medicago</i> sp./ <i>Melilotus</i> sp.) observed. Assessed as GOOD.	Tile and ceramic also recovered.
2013	409	20	300	5.6	Fill of pit	11C-12C		+		++	++	+	+++			Yes	Free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain and barley (<i>Hordeum</i> sp.) grain observed. Assessed as GOOD to RICH.	A hazel (<i>Corylus avellana</i> L.) nutshell and a possible twig removed. Ceramic and tile also recovered.

*Sample number 2012 was issued, but a sample was not collected.

Key for animal bone and plant remains: + = <25 items, ++ = 25 – 75 items and +++ = >75 items. Key to molluscs and charcoal: + = <10 items, ++ = 11–40 items, and +++ = >40 items. Shading indicates those samples recommended for further analysis. ‡Dates are based on the results of the pottery assessment and are AD. Samples assessed as **POOR** contain < 50 plant remains, samples assessed as **GOOD** contain between 100-200 plant remains and samples assessed as **RICH** contain > 200 plant remains.

Plant Report Table 1 pt4 Assessment results from Barking Abbey (659)

Sample	Context	Flot Vol. (ml)	Heavy Res. Vol. (L)	Context Type	Date †	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)		
						Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed					
2014	14 (con-text 514 on bag)	20	110	Total 3.6 Sub-sampled 2 L	Fill of structural cut	14C	+	+++	+	++		+++	+++			+	Yes	Charred free-threshing type wheat (<i>Triticum</i> sp.) grain, indeterminate cereal grain and oat (<i>Avena</i> sp.) observed. Also, mineralised possible cereal grain or large grass (cereal/ POACEAE) and possible sloe/ bullace (cf. <i>Prunus</i> sp.) noted. Assessed as GOOD to RICH.	Only 55% of heavy residues (2L of total 3.6L volume) was rapidly scanned. Heavy residue contains ca. 20 mineralised sloe/ bullace (cf. <i>Prunus</i> sp.) stones and one mineralised grape (<i>Vitis vinifera</i> L.) pip. Ceramic, mortar, copper alloy and unidentified mineralised objects also recovered.
2015	604	20	110	3.6	Fill of oval pit	Mid 13C	+	++				+	+++			+	Yes	Rye (<i>Secale cereale</i> L.) grain, free-threshing type wheat (<i>Triticum</i> sp.) grain, indeterminate cereal grain and small legume (<i>Vicia</i> sp./ <i>Lathyrus</i> sp.) observed. Assessed as GOOD.	One large pulse (<i>Vicia</i> sp./ <i>Pisum</i> sp.) recovered. In addition metal objects (a metal hook/catch, magnetic objects and ?Fe corroded objects), mortar, ceramics and an unidentified vitreous object also recovered.
2016	023	20	75	1	Fill of shallow slot – ? beam slot	Mid 13C		+	+			+	+				No	50% of flot scanned. Indeterminate wheat (<i>Triticum</i> sp.) or rye (<i>Secale cereale</i> L.) grain and indeterminate cereal grain observed. Assessed as POOR.	Ceramic also recovered.
2017	027	20	50	2.05	Fill of pit	Late 17C – 18C		++		+		+	+				No	Free-threshing type wheat (<i>Triticum</i> sp.) grain and possible free-threshing type wheat (<i>Triticum</i> sp.) or rye (<i>Secale cereale</i> L.) grain observed. Assessed as POOR.	Ceramic and magnetic metallic object also recovered.

Key for animal bone and plant remains: += <25 items, ++ = 25 – 75 items and +++ = >75 items. Key to molluscs and charcoal: += <10 items, ++ = 11–40 items, and +++ = >40 items. Shading indicates those samples recommended for further analysis. †Dates are based on the results of the pottery assessment and are AD. Samples assessed as **POOR** contain < 50 plant remains, samples assessed as **GOOD** contain between 100-200 plant remains and samples assessed as **RICH** contain > 200 plant remains.

Plant Report Table 1 pt5 Assessment results from Barking Abbey (659)

Sample	Context	Flot Vol. (ml)	Heavy Res. Vol. (L)	Context Type	Date ‡	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)	
						Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed				
2018	021	20	175	4.25	Fill of pit	Late 12C – 13C		+	+	+		+	+++		++	Yes	Only 50% of sample scanned. Asparagus (<i>Asparagus officinalis</i> L.) seed, free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain, oat (<i>Avena</i> sp.), large pulse (<i>Vicia</i> sp./ <i>Pisum</i> sp.) and dock (<i>Rumex</i> sp.) seed. Assessed as GOOD.	Possible Fe corroded metal object and ceramic also recovered.
2019	029	10	125	0.95	Fill of structural cut	?Medieval		+		+			+		+	No	Free-threshing type wheat (<i>Triticum</i> sp.) grain and large grass (POACEAE) caryopsis observed. Assessed as POOR.	Tile/brick also recovered.
2020	031	20	12	3.35	Fill of pit	Late 16C – 17C	+	++	+			+	+++		+	Yes	Free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain, large grass (POACEAE) caryopsis and a detached cereal/ large grass embryo. Assessed as GOOD.	A hazel (<i>Corylus avellana</i> L.) nutshell, ceramics and a magnetic metal object were also recovered.
2021	413	20	75	3.4	Fill of pit	Late 13C – Early 14C		+	+	+			+++		+	Yes	Free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain, oat (<i>Avena</i> sp.), medium-sized pulse (<i>Vicia</i> sp./ <i>Lathyrus</i> sp.) and dock (<i>Rumex</i> sp.) observed. Assessed as GOOD.	Ceramic also recovered.
2022	412	5	50	3	Layer with manganese staining	Undated										No	No charred plant remains observed. Only modern root and insects, as well as small flecks of charcoal, observed. Assessed as POOR.	Nothing observed or recovered.

Key for animal bone and plant remains: + = <25 items, ++ = 25 – 75 items and +++ = >75 items. Key to molluscs and charcoal: + = <10 items, ++ = 11–40 items, and +++ = >40 items. Shading indicates those samples recommended for further analysis. ‡Dates are based on the results of the pottery assessment and are AD. Samples assessed as **POOR** contain < 50 plant remains, samples assessed as **GOOD** contain between 100-200 plant remains and samples assessed as **RICH** contain > 200 plant remains.

Plant Report Table 1 pt6 Assessment results from Barking Abbey (659)

Sample	Context	Sample Vol. (L)	Flot Vol. (ml)	Heavy Res. Vol. (L)	Context Type	Date ‡	Bone		Charcoal		Mollusc Or Marine Shell		Plant Remains (Flot only)			Further analysis	Comments on Flot (Unless otherwise stated, 100% of flot was scanned)	Comments on Heavy Residue (Unless otherwise stated 100% of >2mm fraction of Flot Heavy Residue was scanned)
							Flot	Res	Flot	Res	Flot	Res	Grain	Chaff	Weed			
2023	435	4.25	1	0.55	Fill of post hole	Medieval	+	+	+			+				No	Modern root present. No charred plant remains observed. Assessed as POOR.	Coal observed but not removed. Glass, copper alloy, unidentified metal object, unidentified ?Fe corroded object and ?slag also recovered.
2024	401	20	52	3.6	Soil layer	Mid-Late 13C		+	+	+			++		+	No	Large grass (POACEAE) caryopsis, medium-sized legume (<i>Vicia</i> sp./ <i>Lathyrus</i> sp.), free-threshing type wheat (<i>Triticum</i> sp.) grain and indeterminate cereal grain. Assessed as POOR to GOOD.	Glass, possible slag and ceramics also recovered.
2025	402	20	35	2.75	Possible buried soil	Mid 13C – 14C		+	+	+			++			No	80% of flot scanned. Free-threshing type wheat (<i>Triticum</i> sp.) grain, rye (<i>Secale cereale</i> L.) grain, sproated oat (<i>Avena</i> sp.) and indeterminate cereal grain observed. Assessed as POOR to GOOD.	Glass, ?slag (magnetic metallic object) and ceramic also recovered.
2026	433	20	70	2.75	Layer between contexts 401 and 402	Mid 13C – Early 14C		+	+	+			+			No	50% of flot scanned. Possible rye (<i>Secale cereale</i> L.) grain and indeterminate cereal grain observed. Assessed as POOR.	Possible ?Fe corroded objects and ceramic also recovered.

Key for animal bone and plant remains: + = <25 items, ++ = 25 – 75 items and +++ = >75 items. Key to molluscs and charcoal: + = <10 items, ++ = 11–40 items, and +++ = >40 items. Shading indicates those samples recommended for further analysis. ‡Dates are based on the results of the pottery assessment and are AD. Samples assessed as **POOR** contain < 50 plant remains, samples assessed as **GOOD** contain between 100-200 plant remains and samples assessed as **RICH** contain > 200 plant remains.

Plant Report Table 2**Samples recommended for further analysis (ordered by date and context type)**

SAMPLES RECOMMENDED FOR FURTHER ANALYSIS			
Sample Number	Trench Number	Date	Context Type
2013	Trench 3	11C-12C	Pit 404 (below 2005)
2005	Trench 3	12C	Pit 404 (above 2013)
2018	Trench 2	Late 12C – 13C	Pit 20
2007	Trench 4	Mid 13C	Pit 604 (upper fill)
2015	Trench 4	Mid 13C	Pit 604 (lower fill)
2010	Trench 3	13C-14C	Linear feature 408 above charcoal lens (above 2011)
2021	Trench 3	Late 13C- Early 14C	Pit 414
2011	Trench 3	14C	Linear feature 408 below charcoal lens (below 2011)
2014	Trench 2	14C	Cut 13
2020	Trench 2	Late 16C- 17C	Pit 30
2008	Trench 2	Medieval†	Cut 18

†No pottery was recovered from context 019 (sample 2008). However, on the basis of stratigraphy this context is considered Medieval.

Appendix D: Figures.

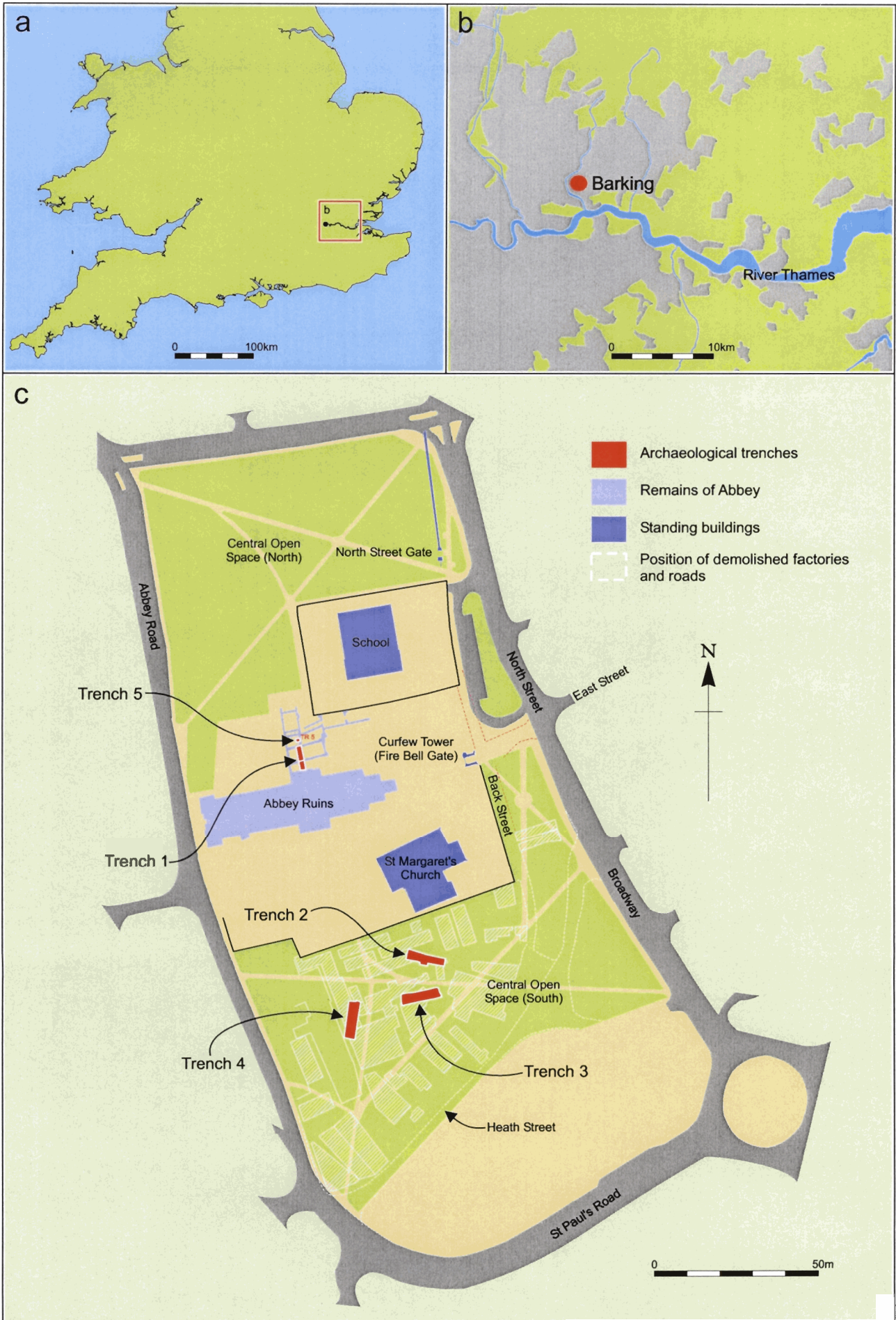


Figure 1a & 1b. Maps showing location of Barking, Figure 1c Trench locations

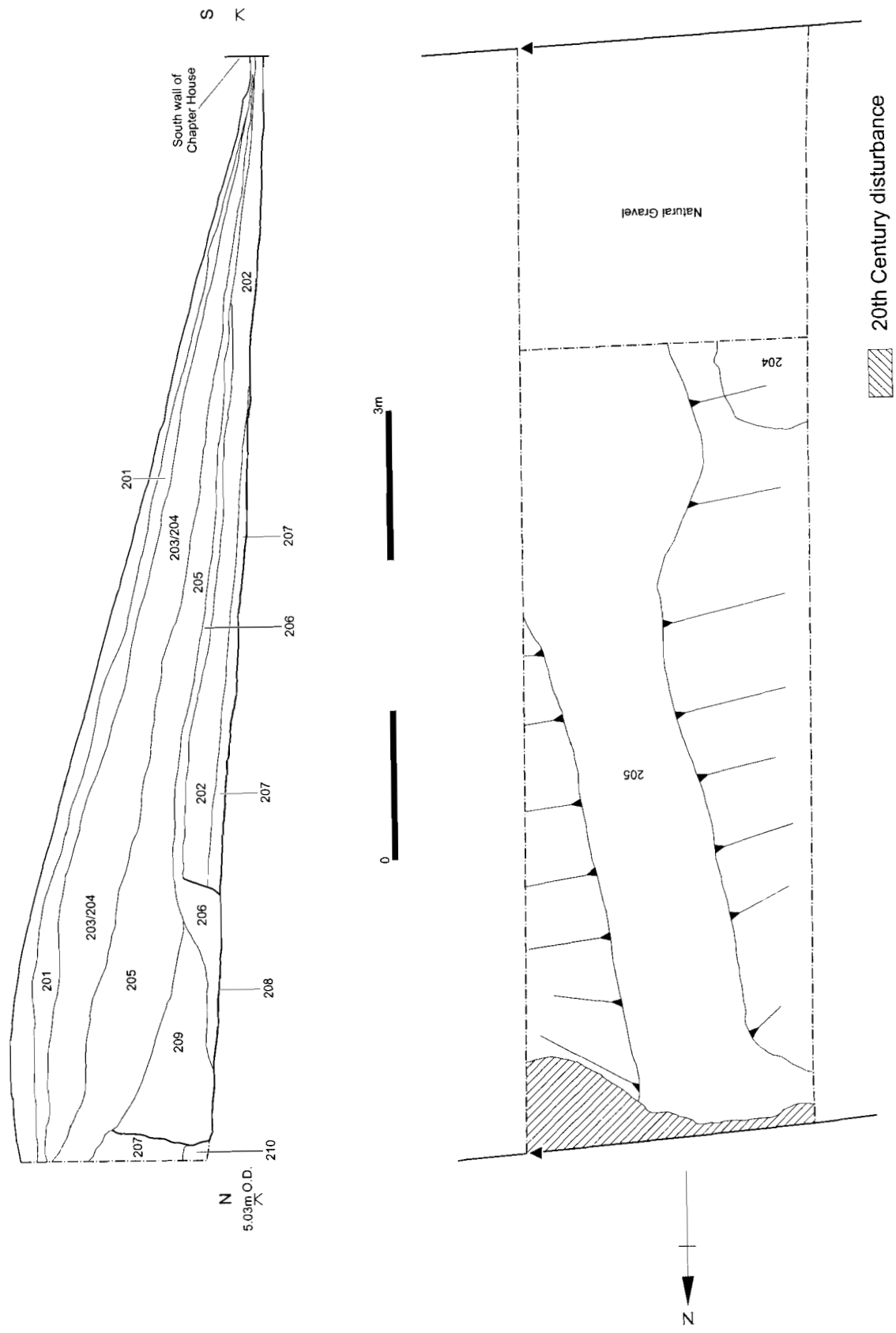


Figure 2. Section and plan of Trench 1

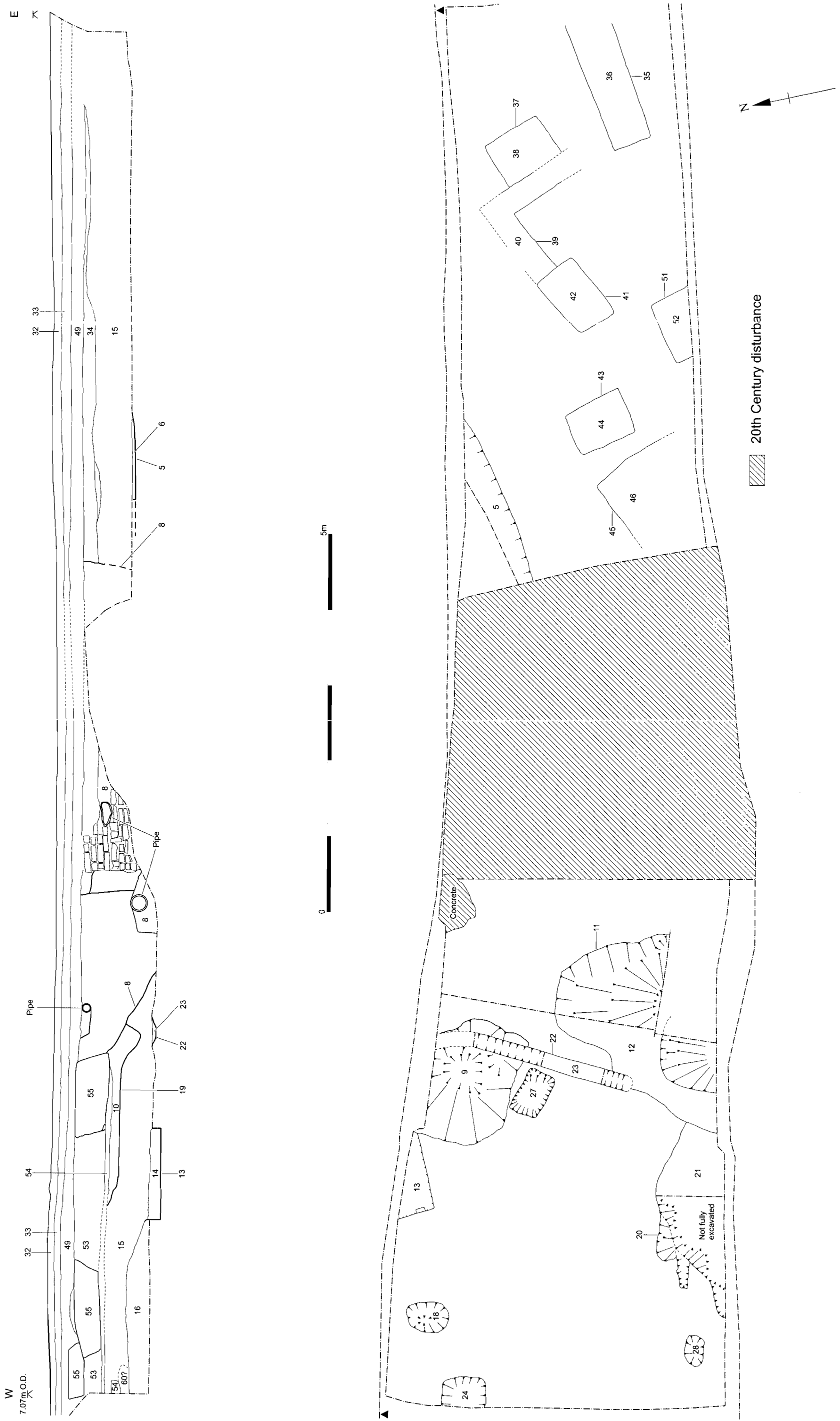


Figure 3. Section and plan of Trench 2

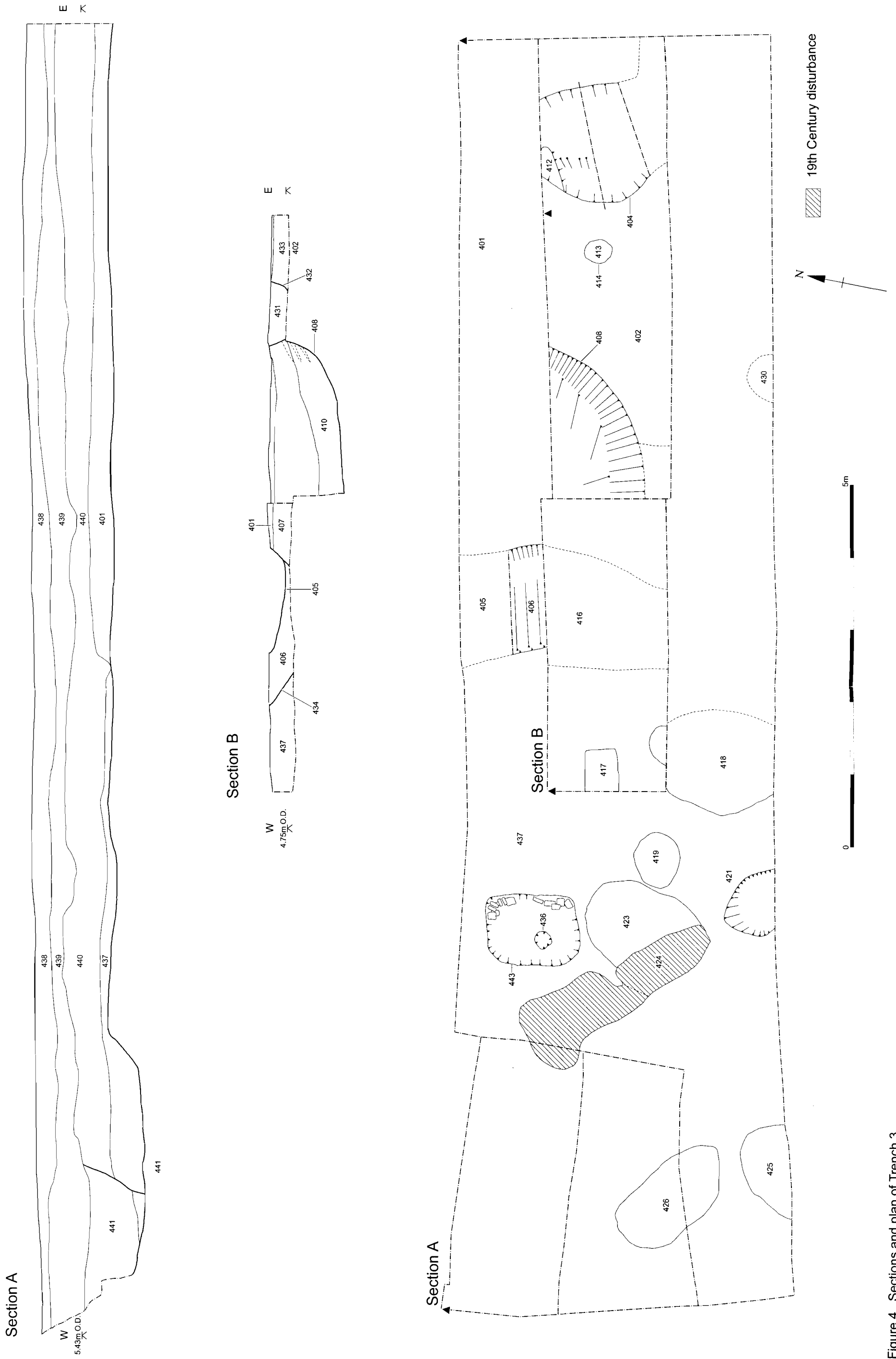


Figure 4. Sections and plan of Trench 3

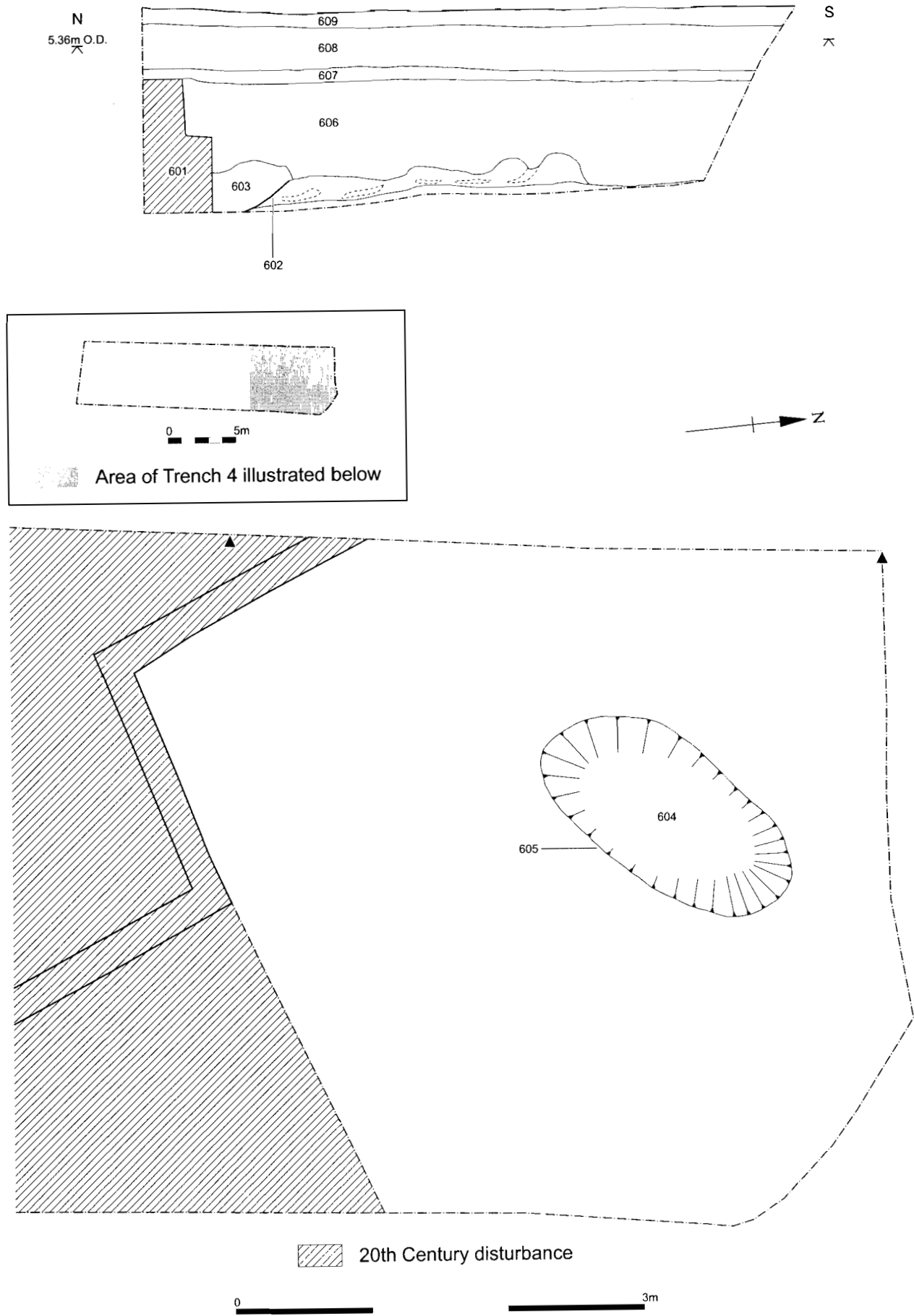


Figure 5. Section and plan of Trench 4

Figure 6. Plan of Trench 5

