

**BULLS LODGE QUARRY
FORMER BOREHAM AIRFIELD
ESSEX**

ARCHAEOLOGICAL MONITORING AND EXCAVATION



**Essex County Council
Field Archaeology Unit**

November 2012

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BULLS LODGE QUARRY, FORMER BOREHAM AIRFIELD, ESSEX
ARCHAEOLOGICAL MONITORING AND EXCAVATION 2012

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SUMMARY

The topsoil stripping of a 3.7ha area in the north-west of Bradwell Quarry was subject to archaeological monitoring and investigation in advance of the northward enlargement of extraction works.

While only a single probable prehistoric pit was recorded, the remainder of a medieval farmstead first excavated in 2008/09 was exposed and investigated. The farmstead occupied a small rectangular ditched enclosure surrounded by fields or paddocks. Further parts of the enclosure and field ditches were recorded, along with possible building remains, a few pits, gullies and the northern edge of a large working hollow. Comprising only three or four rudimentary timber structures, and small quantities of relatively mundane and largely domestic artefacts, this would seem to be a minor or low status farm settlement of the late 12th to mid 13th century, particularly in comparison with the contemporary medieval farmstead and windmill previously recorded in the quarry 1.1km to the east.

A number of post-medieval ditches running across the site, and cutting across the medieval enclosures, represent at least two phases of subsequent change to the layout of the agricultural landscape in the period of the late 17th to 19th centuries. Further drainage features and general disturbance relate to use as a WW2 airfield.

The 2012 area results therefore supplement the findings of earlier archaeological works undertaken in the quarry since the early 1990s and contribute to the general understanding of the evolution of this part of the Essex agricultural landscape from the medieval period to present day.

1.0 INTRODUCTION

Archaeological monitoring and excavation was carried out in May 2012 during topsoil stripping for a northward extension to Bulls Lodge Quarry, Boreham, near Chelmsford. Planning consent for mineral extraction was granted in 1990 and allows the ECC FAU access to investigate each area of the quarry for archaeological remains before quarrying takes place. The scope and extent of the archaeological work are determined by an informal agreement between Hanson Aggregates and ECC FAU, in consultation with the Essex County Council Historic Environment Management team (ECC HEM) who advise the local planning authority.

An area of c.3.7ha along the northern edge of the active extraction area was stripped of topsoil, exposing a range of archaeological remains that were subsequently investigated and recorded. A scatter of prehistoric, medieval and post-medieval features were rapidly recorded and excavated. A denser concentration of features was encountered in the western half of the area. These were a northward continuation of the medieval farmstead site investigated during an earlier phase of quarry stripping in 2008-9. This report presents the results of this most recent monitoring work and, in particular, discusses the medieval farmstead remains in relation to the earlier excavation and to other pertinent discoveries in the surrounding landscape.

Copies of this report will be supplied to Hanson Aggregates, the ECC Historic Environment team and the Essex Historic Environment Record. A digital version of this report will be submitted, along with a project summary, to the Online Access to the Index of Archaeological Investigations (OASIS) and will be accessible via the Archaeological Data Service website (<http://archaeologydataservice.ac.uk/>). The site archive and finds, and hard copies of the report, will be deposited at Chelmsford Museum.

2.0 BACKGROUND

2.1 Location, Topography and Geology

Bulls Lodge Quarry covers 320ha on the site of a former World War II airfield situated 2km north-east of Chelmsford, in the north-west of the parish of Boreham and partly in the parish of Little Waltham (TL 7325 1205; Fig.1). The surrounding landscape consists of arable fields and former quarry workings on a plateau at 53m OD, forming a low outcrop within a wide loop of the river Chelmer. The drift geology comprises a 2m-thick deposit of Boulder Clay of the Springfield Till, laid down in the Anglian glacial period, overlying Chelmsford Sands and

Gravels. Remnants of some of the World War II runways still survive at the northern end of the quarry.

The 2012 site is a c.3.7ha area forming a relatively narrow strip along the northern edge of the edge of the quarry and the extension areas archaeologically monitored in 2008-9 and 2011 (Figs. 1 & 2). Prior to development it lay largely within arable fields, bisected by a north-south running taxiway and plane dispersal areas of the former airfield.

2.2 History

The following historical background is based on previous research and publications by Jones (1988), Stephen (1988) and Clarke (2003). Bulls Lodge Quarry occupies part of the former estate of the manor of New Hall. The estate's manor house stands near the south-western edge of the quarry, 1.6km from the current area, and has been used as a convent since the late 18th century. The origins of the manor are uncertain, although it was first documented in 1301 and it is argued that it displaced an earlier manor known as *Walkfares* in the late 13th century (Clarke 2003, 1-5 and 67-9).

Documentary and cartographic records reveal that much of the manor estate was a deer park, although its precise boundaries are not known. The earliest reference to the deer park dates to 1396, but it was most likely established between 1250 and 1330, the main period of emparking in Essex. The disemparking of the deer park began in the 17th century and was probably undertaken on a piecemeal basis over several centuries. By the late 18th/early 19th century, the deer park no longer existed and its area was occupied by enclosed fields and woods.

The airfield was constructed in 1943 by the 861st Engineer Battalion of the US Army. For a short period after the war it was used as a racetrack for motorcycles and cars, and in the 1950s it was bought by Ford Motor Sport as a centre for vehicle development. The use of the airfield for mineral extraction began in 1990, since when a number of phases of archaeological work have been conducted ahead of quarry development.

2.3 Archaeology

Extensive archaeological investigations have previously been carried out both in and around the quarry. It is located within a general landscape of established archaeological significance. In 1992-4 a Roman villa site was excavated in the neighbouring quarry at Great Holts Farm 0.5km to the east (Germany 2003). The villa is dated to the 2nd-4th centuries and was established within a landscape of regularly planned agricultural fields and stock

enclosures. Remnants of an earlier prehistoric landscape were also recorded, including Neolithic finds, Late Neolithic and Bronze Age ring-ditches, Late Bronze Age pits, and an Early Iron Age timber building. In 1990, a metal-detectorist discovered a Late Bronze Age spearhead in the area between the quarry and Great Holts Farm (Gilman and Bennett 1991). A medieval timber farm building has also been recorded at Great Holts Farm.

The archaeological monitoring of topsoil removal and investigation of exposed remains at Bulls Lodge Quarry has been carried out intermittently since the quarry first started to operate in 1990. The survival of the archaeological remains within the area of the quarry is variable due to truncation by large-scale ground clearance and levelling by bulldozers during the construction of the World War II airfield. However, particularly in those areas least impacted by airfield construction, prehistoric, Roman, medieval and post-medieval remains have been found at various locations across the development area. The main archaeological discoveries made to date, in relation to the current area, are as follows (Fig. 1):

- A prehistoric (Late Neolithic or Early Bronze Age) ring-ditch and Early Bronze Age burial urn 800m to the south-east (Archer and Clarke 2007);
- A Late Bronze Age cremation burial and pits 600m to the south-east (Germany 2007);
- A Late Bronze Age timber building 200m to the south-east (Germany 2008);
- A Late Iron Age/early Roman enclosure 1km to the south-east (Archer and Clarke 2007);
- Late Iron Age boundaries and a Roman stone-founded apsidal building, an administrative centre for a rural estate, approx. 2km to the south-east (outside the limits of Fig. 1) (Lavender 1993);
- A medieval moated farmstead approx. 1km to the east, dated to the 12th/13th century, including a farmhouse, windmill and granary (Clarke 2003);
- A medieval field system 500m to the east (Germany 2007);
- Post-medieval timber structures 300m to the east (Germany 2007);
- The southern part of a medieval enclosed farmstead immediately to the south (Ennis 2011);
- A large medieval pit and post-medieval field boundary ditches and in-filled ponds to the immediate south-east (Allen 2011).

The most pertinent of these previously investigated sites is that of the medieval enclosed farmstead which was excavated in 2008-9 (Ennis 2011) on what was then the northern edge of the active quarry area. The current site lies immediately north of this. While a scatter of prehistoric remains and a possible Iron Age or Roman cremation burial were found in the western part of the 2008-9 site, the southern part of a medieval farmstead occupied the east.

It comprised two ditched enclosures with internal features dated to the later 12th to mid-13th century. The eastern enclosure contained an extensive area of hardstanding, timber buildings and pits, and has been interpreted as a working area or farmyard. The timber structures were lightly constructed and were interpreted as outbuildings, with the main buildings thought most likely to lie further north, beyond the limit of the stripped area. The western enclosure contained a possible timber structure and pits along its east side but was otherwise devoid of features, apart from a pond on its west side that was in-filled in the post-medieval period. Although the western enclosure was less well-dated, it was interpreted as being contemporary with the eastern enclosure, probably being used for coralling and watering livestock. A range of artefacts associated with the occupation and use of the farmstead, including coarse and fineware pottery, metalwork, baked clay/daub, quern/millstone, animal bone and shell, was retrieved.

This farmstead is part of a wider medieval agricultural landscape, contemporary with the medieval farmstead and windmill previously recorded 1.km to the east (Clarke 2003) and the medieval field system 500m to the south-east (Germany 2007). Both farmsteads are thought to represent late agricultural exploitation of marginal land away from the main settlements of Boreham and Little Waltham, and both had been abandoned by the mid-13th century, with the field system becoming disused soon afterwards. This change appears to coincide with the formation of the New Hall estate, first documented in 1301, and the development of a deer park across the quarry area.

3.0 AIMS AND OBJECTIVES

The aim of the ongoing archaeological monitoring is to record archaeological remains that are exposed within Bulls Lodge Quarry before their destruction by successive phases of mineral extraction. The long-term objective is to obtain a greater understanding of the development of the prehistoric and historic landscape within the quarry area. Over much of the quarry the character and date of individual landscape elements can be established through recording and selective excavation, but in some areas more detailed excavation is required to investigate and record significant sites where there is good surviving evidence of settlement or farming activity.

The specific objectives of the current monitoring and excavation work were to:

- Investigate and record a further part of the general scatter of surviving prehistoric remains across the landscape

- Investigate, record and interpret the northern part of the enclosed medieval farmstead previously excavated in 2008-9.

The origin and development of medieval rural settlement types and the dynamics of medieval settlement are ongoing regional research topics for the eastern counties (Medlycott 2011, 70). Specific questions of relevance to the current fieldwork include what forms do medieval farms take, what range of building types are present and how far can functions be attributed to them? It is hoped that these questions can be addressed when the results of the 2008/9 and 2011 excavations are brought together in a publication report.

4.0 METHOD

An area covering 3.7 ha was inspected for archaeological remains in the late spring of 2012 during topsoil stripping undertaken by the quarry operator's contractor using tracked mechanical excavators fitted with toothless buckets. In the east and far west of the area periodic monitoring visits were made to observe the site as the stripping progressed. In the west of the area, immediately north of the medieval farmstead identified in 2008/9, an area of some 1500 sq m was stripped under direct archaeological supervision.

Following mapping of the stripped area by TST, all observed archaeological remains were appropriately sample excavated other than linear features of clear 19th/20th century date. Written, drawn and photographic records were made of all investigated remains, and artefacts retrieved for analysis and dating. The majority of the investigated archaeological features had sterile clay-rich fills that were unsuitable for environmental sampling.

Standard ECC FAU excavation, artefact collection and recording methodologies were employed throughout. The ECC FAU is a Registered Archaeological Organisation with the Institute for Archaeologists (IfA) and all work was carried out in accordance with IfA by-laws and guidelines for watching brief, excavation and artefacts (IfA 2008, revised), and complied with Standards for Field Archaeology in the East of England (Gurney 2003).

5.0 FIELDWORK RESULTS

The removed topsoil consisted of dark grey brown clay silt and was generally about 0.3-0.4m thick. The underlying natural consisted of light brown clayey silt with yellow chalk-flecked clay exposed in the bases of the deeper features. Archaeological remains were mainly restricted to the western third of the stripped area (Fig. 2) and consisted of a range of

ditches, gullies, pits and post-holes along with the northern end of a cobbled working hollow. With the exception of one possible prehistoric feature the bulk of the remains dated to the medieval and post-medieval periods.

No archaeological features were identified in the centre of the stripped area, between the modern north-south water-filled drainage ditch and the taxi-way and former plane dispersal area, as this part of the site had been heavily disturbed -presumably during construction of the airfield. A single ditch of 19th/20th century date was identified in the eastern third of the stripped area.

The southern edge of the 2012 area was bounded by a c.5m wide safety bund which protected a steep and deep drop into the base of the working quarry below (Plate 1). After consultation with the groundworks contractor it was possible to reduce the width of the bund to c.3m in the area immediately north of the most concentrated medieval remains from the 2008-9 excavations.

The recorded archaeological remains are described below in broad period order. Further context data is presented in Appendix 1.

5.1 Prehistoric

Small irregular pit 540, 0.50m long and 0.08m deep, was located in the north-western part of area (Fig. 2). It was filled with dark grey silty clay (539) and contained occasional flecks of charcoal and very small flecks of baked clay, though no pottery or other firm dating evidence. However, as scattered features of prehistoric date were found widely over the western half of the adjacent 2008/9 area it is likely that pit 540 represents a northern continuation of this distribution.

5.2 Medieval (Figs 3-5; Plates 1-4)

Features of medieval date in the central part of the quarry extension area comprise the most numerous and significant remains encountered. These clearly relate closely to the medieval remains previously found immediately to the south, being part of the same farmstead site.

Enclosure system

A number of ditches, 532/546, 547/561 and 559, mark parts of the boundaries of a broadly rectilinear, multi-phase, enclosure system - a continuation of that found to the south in 2008/9 (Figs. 2 & 3).

East-west aligned ditch 532/546 was recorded for a length of 71m, although it was poorly defined towards its western end where there was general ground disturbance including two large patches of buried concrete rubble. Where excavated (segments 532 and 546), it varied in width from 1.10 to 1.15m and depth from 0.26 to 0.46m (Fig. 5, Section 1), seemingly becoming shallower toward its eastern end. Both ends were truncated and/or lacked definition, and it is likely that the ditch originally extended further eastwards. No firm dating evidence was recovered from the ditch fills (533, 534 and 545) but two pieces of lava millstone found in fill 545 are similar to others from the occupation area and imply a probable medieval date for this feature.

North-south ditch 547/561 was traced for over 20m and may have originally met with the west end of 532/546 - though this was not proven. At 0.90m wide and 0.36m deep (in seg 547) it was of similar proportions to the east-west ditch. A small quantity of roof tile fragments were retrieved from its silty clay fill, but these are likely to be intrusive finds from the cut for a modern ceramic field drain. Although ditch 547/561 was recorded to the south edge of the extension area, it was not identified in the 2008/9 area. However, it is not unreasonable to conjecture that it once ran at least as far as post-medieval in-filled pond 489.

North-south aligned ditch 559, previously recorded as feature 305/492 in 2008/9 and tentatively identified as a relict medieval feature, continued northwards through the 2012 area. Definition of this ditch was poor in plan and its full extent could only be ascertained by machine cleaning at regular intervals along its length. The ditch was initially identified in section (Fig. 5, Section 7) within a machine sondage and then investigated within a 1m-long segment excavated by hand (559). The ditch was 1.7m wide by 0.52m deep and filled with a single silty clay fill (558). As in 2008/9, no finds were recovered and the ditch remains undated. However, it is likely to be of some antiquity as it does not show on early editions of the Ordnance Survey mapping. Being located parallel to, and immediately alongside, medieval ditch 547/561 it is possible that it represents a replacement of and modification to the pre-existing enclosure system.

Sub-enclosures

A number of lesser and shorter ditches or gullies were located within the interior of the enclosure defined by 547/561 and 532/546, perhaps denoting the positions of sub-enclosures within the wider field system - particularly in the vicinity of the perceived focus of farmstead occupation. Gully 541 and ditch 522/569 were the more substantial of these.

Gully 541 was roughly aligned north-south and was slightly irregular in plan. Poorly defined in the dry conditions, it was traced for a length of about 6.5m but then petered-out at both ends. A vague edge discerned immediately south-east of pit 528 might indicate its northwards continuation, but this was not confirmed. Where excavated, the gully had a concave profile and measured 0.52m wide by 0.14m deep. It was filled with light greyish brown silty clay that contained frequent flecks of charcoal but no dating evidence.

Off the south end of 541, a short length of ditch 522/569 (Plate 2) ran on a broadly perpendicular alignment. Approximately 10m long and 1m wide, it was investigated in two places (segs. 522 and 569) and established to be 0.30m deep with 45-50° sides (Fig. 5, Section 2), with a broad rounded terminus at its west end and a more tapered end at its east. Small quantities of medieval pottery were retrieved from both excavated segments.

To the west end of the ditch were five broadly east/west aligned gullies (524/571, 543, 573, 550/552/582 and 580). None were particularly straight or uniform and it is unclear whether or not these were structural remains - i.e. foundation slots for fences and/or more substantial structures such as timber buildings. Only gully 573 was found to contain a post-hole (575) within it. Parallel east/west gullies 524/571 (Fig. 5, Section 3), 543 and 573 were exposed and recorded at around 4m in length, widths ranged from 0.30m to 0.46m and depths from 0.09m to 0.16m. Further west, gully 550/552/582 (Plate 3) was more extensive at over 7.5m long, though generally narrower for most of its length. Parallel gully 580 was similar, though could only be traced for 1.8m. Both of these gullies had a concave profile and were somewhat rut-like in appearance.

The east/west gullies were interrupted by two north-south gullies 554/577 (Fig. 5, Section 4) and 556 also on a parallel alignment. Slightly more substantial than the east-west gullies, with rounded terminals recorded at their north ends, both continued southwards beyond the limit of the quarry extension area. Indeed, 556 is likely a further part of gully 401 found in 2008/9. The relationships between the gullies, where they intersected, were not entirely clear due to similarity of fills, parched ground conditions and disturbance caused by modern land drains. Small quantities of medieval pottery were collected from the single fills of 524, 571, 543, 550, 552, 577 and 556. Baked clay and animal bone fragments were also present in some, along with a copper alloy buckle in gully segment 543.

Other Features

Three metres or so to the west of gully 541 was a line of five circular to oval post-holes (510, 512, 514, 517 and 519), running on a similar NNW/SSE alignment and perhaps marking the

position of a former fence line. The largest post-hole (510) was 0.98m long by 0.28m deep (Fig. 5, Section 5) and the smallest (512) 0.24m long by 0.10m deep. The remainder were 0.20m or more deep and all were filled with brownish grey sandy silty clay. Finds were limited to one sherd of medieval pottery from the top fill (516) of post-hole 514 and a small quantity of baked clay from the fill (511) of post-hole 510.

To the north of ditch 541 and the parallel fence line was a group of three oval-shaped pits (525, 528 and 530), possibly aligned alongside the former. These ranged between 0.65-0.9m diameter and 0.11-0.36m depth. All three pits had similar orange/brownish grey sandy silty clay fills, none of which contained any finds.

The northward continuation of extensive circular hollow 464 from the 2008/9 area was exposed along the southern edge of the site, to the south of (and probably bounded/respected by) ditch 522/569 and east of the cluster of intersecting gullies 543, 573, *et al.* Here, where recorded as feature 567, the hollow was some 9m wide - probably being less truncated than its previously excavated southern part. It was found to generally be 0.10-0.20m deep, apart from at its the west where it deepened to form a bowl-shaped depression c.0.55m deep (Fig. 5, Section 6). In the base of the depression was a small patch of medium to large-sized cobbles (583) which were sealed by a 0.12m thick deposit of black clayey silt (566) containing common charcoal flecks and a greyer deposit (572) which extended up the western side of the hollow. A variety of finds were recovered from these two deposits including small quantities of animal bone, oyster shell, baked clay and over 1kg of medieval pottery. Overlying these deposits and essentially in-filling and levelling off the top of the deeper depression was a deposit of mid brown clay (564) that contained further animal bone and pottery, but also fragments of lava millstone. Set into the top of this clay, and occasionally within it, were numerous large flints and occasional fragments of millstone forming a cobble surface (565). The surface extended across the exposed width of the hollow and became denser in its eastern half (Plate 4) with a greater mix of cobble sizes from small to large (563). Sealing the cobbles and the top of the hollow was a 0.35m thick layer of mid-dark brownish grey clay silt (562) which had also been recorded (as 441) in the 2008/9 area. Small quantities of medieval pottery, animal bone and further fragments of lava millstone were collected from both the cobble layer and the soil deposit above.

5.3 Post-medieval and modern

The post-medieval features recorded within the 2012 area provide evidence of multiple episodes of change to the agricultural landscape, with a number of extensive ditches

providing intercutting and spatial relationships that demonstrate wholesale replacement of successive field systems during the 17th-20th centuries.

The eastern half of the 2012 area was bisected by a single north/south aligned ditch. This post-medieval ditch had been excavated in 2011 as feature 502 (Fig. 2) and been recorded for over 250m, crossing several previously monitored quarry areas to the south. The ditch is depicted on the first four editions (c.1876-1936) of the Ordnance Survey mapping and was most probably in-filled during construction of the airfield in 1943. A second ditch, also depicted on the first four editions of the Ordnance Survey, was recorded on an east/west alignment across the middle of the western half of the current area, cutting ditches 547/561, 559 and 535 (Fig. 3). This ditch (585) was over 275m long, generally c.2m wide and filled with dark brownish grey silty clay. Rooty organic disturbance was visible in places and finds of modern white glazed pottery were visible on the surface.

Continuing into the 2012 area, on a slightly arcing but generally north-south alignment was 2008/9 ditch 494. This undated ditch had been previously thought to be a modern feature due to the nature of its highly compacted fill. Recorded in the current area as 535 (Plate 5), the ditch was visible for over 75m established to be 3.7m wide and 0.48m deep (Fig. 5, Section 8). It contained three sandy silty clay fills (536, 537 and 538) from which no finds were recovered. However, the ditch was clearly cut both by a later field boundary ditch and by a modern service trench suggesting that the ditch is older than previously thought.

The east end of post-medieval ditch 585 was cut by a modern service trench (unnumbered) that continued northwards from the 2008/9 area and had a dog-leg turn to the north-west. This late linear feature also contained an ash-filled drain and linked the positions of several former outlying latrine blocks and huts on the western periphery of the World War II airfield.

6.0 FINDS

A total of 378 fragments of pottery, tile, animal bone, iron and copper alloy objects, burnt flint, burnt clay, worked stone and shell weighing a total of 5.516kg were recovered from 19 contexts. Virtually all of the assemblage is of probable medieval date. All of the material has been processed and sorted into context and recorded by count and weight, as appropriate (Appendix 2).

6.1 Pottery (by Helen walker)

The pottery assemblage spans the 12th to mid 13th centuries and comprises a total of 105 sherds weighing 1476g, excavated from fifteen contexts. It has been catalogued according to Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985, 1-16). Quantification by fabric, by weight and count, is presented in Appendix 3.

Fabrics and vessel forms

No finewares are present in the assemblage and there are a limited number of coarsewares, comprising shell-and-sand-tempered ware, early medieval ware and medieval coarseware. The latter is the most abundant and much of the medieval coarseware can be identified as Hedingham coarseware, which was manufactured at production sites in and around Sible Hedingham in central north Essex. Shell-and-sand-tempered ware and early medieval ware have the extreme date range of 10/11th to 13th centuries and medieval coarseware (including Hedingham coarseware), which superseded early medieval ware, was in production from the later 12th to 14th centuries.

Closer dating can be provided by the vessel forms present. The cooking-pot is the only vessel form to be identified with certainty. Four such vessels were identified, three with H2 rims (in early medieval ware, medieval coarseware and Hedingham coarseware) and one with an H1 rim (in Hedingham coarseware). The H2 rim is squared above an upright neck and is datable to the early to mid 13th century. The H1 rim is similar but the rim is flanged rather than squared and was current throughout the 13th century. Where the cooking-pot is complete enough to show the shape of the vessel, all show a sagging base and shouldered profile. These more complete examples also show evidence that they were coil-built (and finished on a turntable) rather than wheel-thrown. This also helps to date the vessels as fully wheel-thrown pots did not become commonplace until the later 13th century. Another strand of dating evidence is that both the Hedingham coarseware cooking-pots show grooving around the top of the rim. This characteristic can be paralleled by vessels from kilns at a Hedingham ware production site at Hole Farm, which have the suggested date of mid 13th century (Walker forthcoming).

Also present in the assemblage is a fragment of beaded rim in early medieval ware, this is also likely to be from a cooking-pot, but is typologically earlier than the H1 and H2 rims, belonging to the 12th to early 13th century. A second sherd of early medieval ware, from the same context (the fill of gully 556) appears to show the remnants of thumbled applied strip decoration and is of a similar date.

Other featured material comprises a sherd of Hedingham coarseware from the shoulder of a vessel showing a handle attachment scar, this is probably from a rounded or squat jug datable to the early to mid 13th century. There is also a Hedingham coarseware fragment from a large thick-walled vessel, which may be from a storage jar. However it shows evidence of fire-blackening, which might preclude use as a storage vessel, although this could be explained by later reuse.

Distribution around the site

Many features contained only one or two sherds of pottery making dating rather tentative. Hollow 567 produced by far the greatest amount of pottery accounting for 81% of the total assemblage by weight. All four coarsewares are represented in the hollow and the feature contained much of the diagnostic pottery, comprising the Hedingham coarseware H1 and H2 rimmed cooking-pots, and the possible storage jar and jug fragments. The likely date for its infilling is therefore the mid 13th century or later. Segments 550 and 552 of an east-west gully both produced single sherds of shell-and-sand-tempered ware. Similarly aligned gully 543 produced a further two sherds of shell-and-sand-tempered ware and it is possible that these features are earlier than the hollow, perhaps dating to the 12th or even as early as the 11th century. Post-hole 514 also produced a single sherd of shell-and-sand-tempered ware and may be contemporary with these gullies.

North-south gully 556 produced the early medieval ware beaded ?cooking-pot rim and sherd with the possible thumbed applied strip which could be 12th century, although a single, albeit tiny, sherd of medieval coarseware in this context would seem to preclude a date before the late 12th century. Parallel gully 577 produced the early medieval ware cooking-pot with the H2 rim, along with body sherds of medieval coarseware and Hedingham coarseware, which would make it the contemporary of hollow 567. The remaining features to produce pottery comprise east-west gully segments 524 and 571 and east-west ditch segments 522 and 569. Both features produced very small amounts of early medieval fabrics and medieval coarsewares, none of which is diagnostic. These features therefore date between the late 12th and 13th centuries. No sherd linkages were detected between features, so there is no evidence for levelling of the site after it went out of use.

Status and function

There is no evidence to suggest high status and the absence of finewares would suggest the pottery is from a service area. The preponderance of cooking-pots over other vessel forms is typical of medieval pottery assemblages. The more complete cooking-pots show sooting or

fire-blackening around the sides and around the rim, this is consistent with being placed at a wood-burning hearth and is again typical of medieval assemblages. The presence of a possible large storage jar is interesting as these were used for grain and the evidence of quern stone fragments from the same feature suggests grain may have been milled on site. Otherwise the assemblage appears entirely domestic.

Comparison to earlier excavations

As might be expected, the assemblage is similar to that from earlier excavations of the same settlement to the south of the present excavation, which took place in 2008 and 2009. However, this assemblage is smaller and finewares were present at the earlier excavations, represented by reasonable amounts of Hedingham fineware. The same hollow (as F567) was encountered in the 2008/9 excavations and it produced the bulk of the assemblage, with pottery again sparsely distributed throughout the remaining features. The date range of 12th to mid 13th century appears similar for all excavations, although more early medieval pottery was encountered in the 2008/9 excavations. In common with the present excavation, previous excavations showed tentative evidence that some features were earlier than others. In addition, H1 and H2 cooking-pot rims are present at both sites and thick-walled sherds perhaps from storage jars were also encountered at the earlier excavations, this time in shell-and-sand-tempered ware. This combined assemblage would benefit from further analysis and publication and would potentially shed more light on dating, function and development of the site.

6.2 Tile

Eight fragments of tile, weighing 444g, were recovered from only two contexts. These are the only finds recovered from the fills of ditch 547. All are roof tile of c.12mm thickness. Most are orange coloured, though two fragments from fill 549 are a darker red and in a sandier fabric. Two of the orange fabric pieces from the same context appear to have traces of mortar adhering to one side.

6.3 Stone

Thirty-two fragments, weighing 2667g, were collected from four contexts. All are fragments of Rhenish lava quern or more probably millstones, of varying size. A large piece from context 563 has an identifiable pecked surface, with a maximum thickness of 40mm. Another, from context 564 has a probable undressed original surface and is c.65mm+ thick. A number of the fragments from context 562 seem to have both surfaces intact, varying in thickness between 35mm and 40mm; all are likely to derive from the same millstone. A similar quantity of quern and millstone fragments was recovered from the 2008/09 site

6.4 Burnt flint

A single small burnt flint fragment was found in context 566. It is unworked and presumably derives from the incidental heating of a flint pebble. It has been burnt red/brown to grey but not particularly crazed, presumably suggesting exposure to lower intensity/indirect heat.

6.5 Baked clay

Forty-eight pieces, 794g, of baked clay fragments were retrieved from seven contexts. Some variation in fabric is evident. Most are of a fine clay containing few, if any, coarse inclusions and baked a red to black colour. A piece from context 566 have flat original surfaces All these pieces are otherwise featureless but could perhaps be considered burnt daub-like. The remainder, from contexts 511, 572 and 578, are of a coarser fabric containing small chalk and flint pebbles, uniformly red but also friable/brittle. Some, from 572, have surviving outer surfaces; some flat but one curved.

6.6 Metalwork

The five iron objects are probably all parts of handmade square-sectioned nails. None are complete. Both nail shafts and heads are present. All are highly corroded. A single copper alloy object derives from context 544. This is part of a buckle, a 'frame with integral (rigid) plate' following the terminology of Egan and Prichard 1991. 32mm long, it has a near-round 16mm diameter loop with a pin hole adjacent on the plate (Plate 6). The plate tapers to an apparent rounded end with a protrusion, possibly a rivet. Alternatively, corrosion has obscured a break and the item is in fact half of a buckle of a type 'with two loops and an integral plate between' (see Egan and Prichard 1991, 109). Buckles of this type, either with one or two loops, are dated to the 13th to 14th century in London.

6.7 Animal bone and tooth

175 fragments of animal bone, weighing 430g, were recovered from seven contexts. The assemblage is very fragmentary, particularly contexts 544 and 546 (which account for 136 pieces/126g), and in fairly poor condition. Pieces of long bones and teeth are prevalent, most seemingly being bovine though some may be goat/sheep. There are no obvious signs of butchery or boneworking.

6.8 Shell

Only three oyster shells were recovered, individually, from three contexts. Two are upper valves and one lower. Their condition is variable, but then the assemblage is very small. The two near-complete upper valves measure c.70mm (from hinge to edge).

6.9 Comments on the assemblage

The assemblage is effectively domestic in character, though the presence of quern/millstone fragments also reflects a possible crop processing aspect to site activity/function. All of the assemblage derives from the remains of a medieval farmstead, the larger part of which was investigated in 2008-9, during an earlier phase of quarry expansion. As such, the 2012 material assemblage is very similar to that collected from the earlier excavation (Ennis 2011). While quantities are commensurately smaller, the range and type of material from medieval features and deposits is the same. It is worth noting that a significant proportion of the artefacts derive from the fills of hollow 567, which is a further part of 2008-9 feature 464 (including segs. 450, 454, 457, 461 and 465), which also contained a large finds assemblage.

Clearly, the 2008-9 and 2012 assemblages should be amalgamated and studied together as and when further analysis for publication of quarry investigation results is undertaken.

7.0 DISCUSSION

The western half of the 2012 area lay to the immediate north of the 2008/9 excavation area whilst the eastern half lay to the north of the area investigated in 2011. As in some previous years there was a slight gap between the plotted southern edge of the 2012 area and the plotted northern edge of the older areas to the south. This gap, the result of the construction of a safety bund around the edge of the working quarry and the machining of the deep and steeply sloping side it protects, is c.3m-wide on plan and effectively bisects the medieval farmstead as revealed in 2008/9 and 2012. The western third of the 2012 area again lay outside of the area of major construction activities associated with the former airfield although some modern disturbance had occurred obscuring east/west ditch 532/546.

7.1 Prehistoric

The single probable prehistoric pit 540 in the west of the current area is likely to be a further component of the general scatter of surviving remains of Neolithic and Bronze Age date found elsewhere across the north-west of the quarry area, including the 2008/9 area. No remains of Iron Age, Roman or Saxon date were encountered, which seems to be fairly typical in this general vicinity - only a single late Iron Age or early Roman cremation burial was found in 2008/9. To date, the greater intensity of prehistoric to Roman remains have been found further to the southeast.

7.2 Medieval

The medieval remains relate to land management and occupation occurring in the later 12th to mid 13th centuries, and is a further part of the medieval site recorded at the northern limit of the 2008/9 quarry extension area.

The two ditched enclosures previously discerned within the 2008/9 area can be seen to be part of a wider enclosed landscape. Ditches 532/546 and 547/561 very likely mark their northern and western extents. North/south ditch 559 that continued from the 2008/9 area may be a later replacement for ditch 547/561. It is likely that 2008/9 boundary ditch 317/323 terminated within the un-investigated 'gap' between the two areas. It may even have turned eastward and headed toward the east-west ditch/gullies west and north of hollow 567. As such, ditch 522/569 could be construed to form a part of the interrupted north boundary of a rectangular occupation enclosure, some 25m wide and at least 60m long. The east end of this enclosure would seem to have been removed by post-medieval ditch 535 and by airfield construction.

It is this rectangular enclosure that is occupied by the medieval farmstead itself. Three possible timber buildings were identified in the 2008/9 area, along with surfaces, pits and a large 'working hollow'. From these remains, and presumably the assumption that the occupation enclosure would be squarer and accommodate a further, more substantial, dwelling, it was posited that the greater part of the site lay to the north. The results of the 2012 area have demonstrated that this was not in fact the case.

Of the 2012 features of medieval date within the farmstead enclosure, it is possible that gullies 524/571, 554/557 and/or 556 constitute the north end of 2008/9 Building 2. If so, the rectangular building defined is c.5.5m long and c.2.5m wide. However, longer gullies 550/552/582, 573/580 and perhaps 543 seem unrelated and might be other boundary structures pre- or post-dating the building. The remainder of the farmstead enclosure, to the east of Building 2, is occupied by hollow 567, the northern continuation of 2008/9 hollow 464. Being less truncated here, the width of 567 is greater and shows that the overall hollow was larger and more rounded/oval than suggested by the surviving remains of 464. Although its function is not clear, the presence of cobble surfacing within it is suggestive of it being used as some sort of processing or working area prior to its infilling. The inclusion of a quantity of lava millstone fragments in and above the cobble surfacing may hint at cereal processing activity, though their inclusion could equally be incidental.

Outside the farmstead enclosure, the other enclosures may have functioned as fields but some occupation activity seems to have extended into them. While gully 541 and post-hole line 510/512/514/517/519 may simply denote the positions of fencelines subdividing the enclosed area north of the farmstead, they could perhaps alternatively constitute a further building. Similarly, Building 3 lies just to the west of the farmstead enclosure. The three pits to the north of this speculative fourth building are evidence of further activity in the surrounding fields, possibly associated with it.

The medieval pottery recovered from the 2012 area dates mainly from the later 12th to mid 13th centuries although, as in 2008/9, there is a slight hint that within this that there is an earlier 12th century element. The assemblage consists entirely of coarsewares, mainly cooking pots, used in domestic activities. There were no finewares (used for serving food) and nothing to indicate that the site was of high status. The presence of part of a possible large storage jar used to hold grain further suggests the likelihood of cereal processing taking place on site.

As has previously been discussed, the farmstead and its surrounding fields are judged to be contemporary with the enclosed farmstead and windmill site previously recorded 1.1km to the east (Clarke 2003; Fig. 1) and with the medieval field system 600m to the south-east (Germany 2007; Fig. 1). The common alignment of the field systems is noted. The farmstead, along with the second farmstead/windmill site to the east, was one of several scattered across the local landscape. Both were located at the boundary of the parishes of Boreham and Little Waltham and appear to represent agricultural exploitation of marginal land away from the main centres of settlement. Both too seem to pass out of use by the mid 13th century, after which the New Hall estate and its deer park are created.

7.3 Post-medieval and modern

In general terms, it appears that two phases of post-medieval landscape change are evidenced. The earlier, represented by ditch 535, is judged to be a wholly new boundary inserted into the landscape, running broadly parallel to relict medieval ditch 559 but cutting through the abandoned medieval farmstead enclosure.

The second phase of landscape change is indicated by ditch 585 running east-west across the western part of the area, and by the continuation of north-south ditch 502 in the eastern part. Along with an unnumbered ditch running east-west across the 2008/9 area, these represent a wholesale revision of the field system across this wider vicinity. This is thought to

post-date the break-up of the medieval deer park, which began in the 17th century and had been completed by the late 18th/early 19th century. The first four editions of the Ordnance Survey mapping show this revised landscape prior to the construction of the WW2 airfield.

8.0 ASSESSMENT OF RESULTS

The investigation of this 3.7ha northward extension to Bradwell Quarry has supplemented the emerging view of the nature and chronology of the settlement, exploitation and change of the local landscape from the prehistoric period onwards. Although few features of pre-medieval date were encountered, this is not particularly unexpected and reflects a general trend of such remains seemingly diminishing northwestwards. The most significant result has been an increased understanding of the nature of medieval land-use and occupation in this vicinity, adding to the wider picture of the landscape gained from past work across the whole quarry.

The remainder of the medieval farmstead has been exposed and investigated, showing it to be smaller and simpler than previously deduced from the 2008/9 results alone. Occupying an enclosure of only c.1500 sq m extent and comprising only three or four rudimentary timber structures, this would seem to be a very minor or low status farm settlement of the late 12th to mid 13th century. Indeed, other than a few interesting metalwork items and millstone fragments, its artefact assemblage is small and mundane in comparison to other medieval occupation sites in the vicinity. This said, it provides an interesting comparison with the contemporary medieval farmstead and windmill previously recorded 1.1km to the east (Clarke 2003).

A further part of the enclosure system associated with the medieval farmstead has also been recorded. This has been shown to be relatively extensive, comprising fields or animal paddocks around the homestead and to be a part of a wider agricultural landscape represented by the medieval field system 600m to its south-east. While the farm seems to have been abandoned prior to, or as a consequence of, the formation of the New Hall estate and its deer park some elements of its field boundaries seem to have persisted and been perpetuated in the estate's layout. Extensive change, probably in the later 17th to 19th centuries, imposed the essence of what is now the modern agricultural landscape on the vicinity, the only subsequent change to this being wrought by the creation of the WW2 airfield. In essence, the 2012 results contribute to the general understanding of the evolution of this small part of the Essex landscape from the medieval period to present day.

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APPENDIX 1: CONTEXT DATA

All dimensions given in metres

Contexts	Type	Description	Period
510	Post-hole	Elongated, 0.98m x 0.60m x 0.28m deep	Medieval?
511	Fill of 510	Brownish grey sandy silty clay	
512	Post-hole	Sub-circular, 0.24m x 0.23m x 0.10m deep	Medieval?
513	Fill of 512	Brownish grey sandy silty clay	
514	Post-hole	Elongated, 0.92m x 0.54m x 0.20m deep	Medieval?
515	Fill of 514	Brownish orange sandy silty clay, primary fill, 0.18m thick	Medieval
516	Fill of 514	Brownish grey sandy silty clay, top fill, 0.08m thick	
517	Post-hole	Oval, 0.44m x 0.33m x 0.23m deep	Medieval?
518	Fill of 517	Brownish grey sandy silty clay	
519	Post-hole	Oval, 0.43m x 0.39m x 0.20m deep	Medieval?
520	Fill of 519	Brownish grey sandy silty clay	
521	Fill of 522	Mid greyish brown silty clay	
522	Ditch	E-W aligned, 3m+ x 1m x 0.30m deep (same as 569)	Medieval
523	Fill of 524	Mid greyish brown clay silt	
524	Gully	E-W aligned, 1m+ x 0.46m x 0.16m deep (same as 571)	Medieval
525	Pit	Oval, 0.90m x 0.85m x 0.27m deep	Medieval?
526	Fill of 525	Orange brown sandy silty clay, primary fill, 0.05m thick	
527	Fill of 525	Orange/greyish brown sandy silty clay, main fill, 0.27m thick	
528	Pit	Oval, 0.65m x 0.58m x 0.11m deep	Medieval?
529	Fill of 528	Orange/brownish grey sandy silty clay	
530	Pit	Oval, 0.79m x 0.72m x 0.36m deep	Medieval?
531	Fill of 530	Orange/greyish brown sandy silty clay	
532	Ditch	E-W aligned, 3m+ x 1.15m x 0.26m deep	
533	Fill of 532	Light greyish brown silty clay, top fill, 0.20m thick	Medieval?
534	Fill of 532	Dark yellowish grey/brown silty clay, primary fill, 0.16m thick	
535	Ditch	NNW/SSE aligned, 10m+ x 3.70m x 0.48m deep	
536	Fill of 535	Pale orange/greyish brown sandy silty clay, primary fill, 0.18m thick	Post-med?
537	Fill of 535	Orange brown sandy silty clay, secondary fill, 0.48m thick	
538	Fill of 535	Brownish grey sandy silty clay, top fill, 0.11m thick	
539	Fill of 540	Dark grey silty clay	
540	Pit	Irregular, hour-glass shape, 0.50m x 0.24m x 0.08m deep	Prehistoric?
541	Gully	NNW-SSE aligned, 1m+ x 0.52m x 0.14m deep	Medieval?
542	Fill of 541	Light greyish brown silty clay	
543	Gully	E-W aligned, 3.7m x 0.30m x 0.09m deep	Medieval
544	Fill of 543	Mid brownish grey silty clay	
545	Fill of 546	Mid greyish brown silty clay	
546	Ditch	E-W aligned, 3m+ x 1.10m x 0.46m deep	Medieval?
547	Ditch	N-S aligned, 3m+ x 0.9m x 0.36m deep (same as 561)	Medieval?
548	Fill of 547	Mid greyish brown silty clay, upper fill, 0.23m thick	
549	Fill of 547	Mottled light grey & mid orange, primary fill, 0.19m thick	
550	Gully	E-W aligned, 0.8m+ x 0.58m x 0.20m deep	Medieval
551	Fill of 550	Light greyish brown silty clay	
552	Gully	E-W aligned, 1m+ x 0.23m x 0.12m deep (same as 582)	Medieval
553	Fill of 552	Light greyish brown silty clay	
554	Gully	NNE/SSW aligned, 2m+ x 0.50m x 0.20m deep (same as 577)	Medieval
555	Fill of 554	Greyish brown silty clay	
556	Gully	NNE/SSW aligned, 3.3m+ x c. 0.50m x 0.18m deep	Medieval
557	Fill of 556	Light greyish brown silty clay	

Contexts	Type	Description	Period
558	Fill of 559	Mid greyish brown to brown silty clay	Post-med?
559	Ditch	N-S aligned, 3m+ x 1.70m x 0.52m deep	
560	Fill of 561	Mid greyish brown silty clay	Medieval?
561	Ditch	N-S aligned, 5m+ x 0.75m x 0.15m deep (same as 547)	
562	Fill of 567	Mid-dark brownish grey clay silt, top fill, 0.35m thick	Medieval
563	Fill of 567	Cobbles, dense small - large in dirty brown clay matrix, 0.08m thick	
564	Fill of 567	Mid brown clay, 0.16m thick	
565	Fill of 567	Cobbles, less dense, larger, more NLS, 0.10m thick	
566	Fill of 567	Black clayey silt, common charcoal flecks, 0.12m thick	Medieval
567	Hollow	c. 8.5m x 2m+ x c. 0.55m deep	
568	Fill of 569	Mid greyish brown silty clay	Medieval
569	Ditch	Rounded terminus, 0.45m+ x 1m x 0.30m deep (same as 522)	
570	Fill of 571	Mid greyish brown silty clay	Medieval
571	Gully	E-W aligned, c. 4m in total x 0.36m x 0.15m deep (same as 524)	
572	Fill of 567	Mid grey silty clay, occ. charcoal flecks, 0.14m deep	Medieval
573	Gully	E-W aligned, c. 4.4m x 0.40m x 0.10m deep	Medieval?
574	Fill of 573	Mid greyish brown slightly sandy clay	Medieval?
575	Post-hole?	Oval, 0.30m x 0.12m x 0.10m deep	
576	Fill of 575	Mid greyish brown slightly sandy clay	Medieval
577	Gully	N-S aligned, 3m+ x 0.50m x 0.10m deep (same as 554)	
578	Fill of 577	Mid greyish brown slightly sandy clay	
579	Fill of 580	Light greyish brown silty clay	Medieval?
580	Gully	E-W aligned, 1.80m x 0.24m x 0.08m deep	
581	Fill of 582	Light greyish brown silty clay	Medieval
582	Gully	E-W aligned, 2m+ x 0.22m x 0.08m deep (same as 552)	
583	Fill of 567	Cobble patch, med – large flints & NLS, 0.08m thick	Medieval
584	Fill of 585	Dark brownish grey silty clay	Post-med
585	Ditch	E-W aligned, 275m+ long x c. 2m wide	Post-med

APPENDIX 2: FINDS DATA

Context	Feature	Count	Wt (g)	Description	Date
511	P-hole 510	7	18	Baked clay;	
516	P-hole 514	1	2	Pottery; coarseware, body sherd	Medieval
521	Ditch 522	2	13	Pottery; coarseware, base and body sherds	Medieval
523	Gully 524	1	4	Pottery; coarseware, body sherd	Medieval
544	Gully 543	2	8	Pottery; coarseware, body and rim sherds	Medieval
		1	-	Copper alloy; buckle frame	Medieval
		40	42	Animal bone; very small frags & crumbs	
		5	24	Baked clay;	
545	Ditch 546	96	84	Animal bone;	
		2	37	Stone; Rhenish lava quern/millstone frags	
548	Ditch 547	2	88	Tile;	
549	Ditch 547	6	356	Tile;	
551	Gully 550	1	6	Pottery; coarseware, body sherd	Medieval
		6	44	Baked clay;	Medieval
553	Gully 552	1	1	Pottery; coarseware, body sherd	
557	Gully 556	7	40	Pottery; coarseware, body sherds	Medieval
		17	114	Animal bone;	
562	Hollow 567	4	14	Pottery; coarseware, body sherds	Medieval
		4	-	Ironwork; 4 Fe nail fragments, heads and shafts	
		5	86	Animal bone;	
		24	1306	Stone; Rhenish lava quern/millstone frags	
563	Hollow 567	4	55	Pottery; coarseware, body and rim sherds	Medieval
		5	24	Animal bone;	
		1	22	Shell; oyster, complete upper valve plus frags	
		3	550	Stone; Rhenish lava quern/millstone frags	
564	Hollow 567	13	110	Pottery; coarseware, base and body sherds	Medieval
		10	78	Animal bone;	
		3	775	Stone; Rhenish lava quern/millstone frags	
566	Hollow 567	45	918	Pottery; coarseware, base, body and rim sherds	Medieval
		2	2	Animal bone;	
		1	20	Shell; oyster, complete upper valve	
		6	218	Baked clay;	
		1	6	Burnt flint;	
568	Ditch 569	2	25	Pottery; coarseware, base and body sherds	Medieval
		1	-	Ironwork;	
		1	4	Baked clay;	
570	Gully 571	3	15	Pottery; coarseware, body sherds	Medieval
572	Hollow 567	4	101	Pottery; coarseware, body sherds	Medieval
		1	6	Shell; oyster, lower valve fragment	
		5	102	Baked clay;	
578	Gully 577	15	164	Pottery; coarseware, base, body and rim sherds	Medieval
		18	34	Baked clay;	

APPENDIX 3: MEDIEVAL POTTERY DATA

All weights in grams

Context	Feature	Count	Weight	Description	Date
516	514	1	2	Shell-and-sand-tempered ware: body sherd, reduced	10th -13th C
521	522	1	9	Medieval coarseware: sagging base sherd	Late 12th - 14th C
		1	4	Hedingham coarseware: body sherd	Late 12th - 14th C
523	524	1	4	Medieval coarseware: body sherd	Late 12th - 14th C
544	543	2	8	Shell-and-sand-tempered ware: body sherd and rim fragment, reduced	10th to 13th C
551	550	1	6	Shell-and-sand-tempered ware: body sherd	10th - 13th C
553	552	1	1	Shell-and-sand-tempered ware: body sherd	10th - 13th C
557	556	3	6	Shell-and-sand-tempered ware: abraded sherds, all from same vessel, oxidised	10th - 13th C
		3	33	Early medieval ware: comprising a body sherd - v. small but appears to be decorated with a thumb applied strip, a sagging base sherd, and a beaded rim, made by folding over the rim externally, most likely from a cooking-pot	12th - earlier 13th C
		1	1	Medieval coarse ware: small sherd, externally fire-blackened	Late 12th - 14th C
562	567	4	14	Hedingham coarseware: misc. body sherds, some abrasion	Late 12th - 14th C
563	567	2	30	Shell-and-sand-tempered ware: body sherds, one abraded	10th - 13th C
		2	25	Hedingham coarseware: H1 cooking-pot rim and body sherd, both reddish-buff, groove around top of rim (as found at Hole Farm production site, Walker forthcoming), body sherd abraded externally	Most likely mid 13th C
564	567	2	21	Shell-and-sand-tempered ware: base sherd and body sherd	10th - 13th C
		2	17	Medieval coarseware: body sherds, from same vessel as cooking-pot in context 566	Late 12th - 14th C
		4	46	Hedingham coarseware: sherd family, body sherds with smooth external surface, reddish fabric	Late 12th - 14th C
		5	26	Hedingham coarseware: misc. sherds comprising three joining body sherds, a sherd from the shoulder of a vessel and a base sherd, all abraded	Late 12th - 14th C
566	567	4	85	Early medieval ware: misc. body sherds, two fire-blackened internally	10th - 13th C
		10	112	Medieval coarseware: fragments from small cooking-pot with shouldered profile and H2 rim, dusting of shell below neck, orange-buff fabric with ill-defined pale grey core, sooted up to shoulder and around rim	Early - mid 13th C
		5	123	Hedingham coarseware: joining sherds from large, thick-walled vessel, could be from a storage jar, although shows patches of fire-blackening on outer surface	Late 12th - 14th C
		15	448	Hedingham coarseware: fragments from cooking-pot, almost complete profile represented, sagging base, shouldered profile and H2 rim, smooth external surface, reddish fabric, patches of sooting, faint grooves around top of rim (as found at Hole Farm production site, Walker forthcoming), no evidence of wheel-throwing - coil-built	Most likely mid 13th C
		1	22	Hedingham coarseware: sherd from shoulder of vessel showing a handle attachment scar, almost certainly from a jug, orange fabric with grey core, abraded, no evidence of wheel-throwing	Late 12th - mid 13th C

Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex
 Archaeological monitoring and excavation 2012

		10	128	Hedingham coarseware: misc. body sherds and one base sherd	Late 12th - 14th C
568	569	1	20	Shell-and-sand-tempered ware: sagging base sherd, spalling around underside of basal angle, some flint in fabric	10th - 13th C
		1	5	Hedingham coarseware: body sherd	Late 12th - 14th C
570	571	2	13	Early medieval ware: body sherds	10th - 13th C
		1	2	Hedingham coarseware: thin-walled body sherd in fine version of the coarse ware fabric, pale grey surfaces, thick orange core	Late 12th - 14th C
572	567	2	72	Medieval coarseware: large sherds from coil-built vessels, one shows external sooting	Late 12th - mid/ late 13th C
		2	29	Medieval coarseware: joining body sherds	Late 12th - 14th C
578	577	7	109	Early medieval ware: fragments from cooking-pot, sagging base, shouldered profile and H2 rim, fire-blackened up to the shoulder and around the rim	Early - mid 13th C
		4	21	Medieval coarseware: body sherds, includes two joining sherds showing external fire-blackening	Late 12th - 14th C
		4	34	Hedingham coarseware: body sherds	Late 12th - 14th C
		105	1476		

APPENDIX 4: CONTENTS OF ARCHIVE (for 2012 area only)

Site Name: Bulls Lodge Quarry (former Boreham Airfield), Boreham
Site Code: BOAF 05 (2012)

Index to Archive:

1. Introduction

1.1 2008/9 Area Excavation & Monitoring Report

2. Research Archive

2.1 Client Report

2.2 Finds Reports

3. Site Archive

3.1 Context Record Register

3.2 Context Records (510 to 585)

3.3 Plan Register

3.4 Section Register

3.5 1 A4 plan/section sheets

3.6 Location plan

3.7 Photographic Registers

3.8 Site Photographic Record (1 Set of colour prints + contact prints & digital images on disk)

3.9 Miscellaneous notes/plans

Not in File

6 large plan/section sheets

Finds

The retained finds from the 2012 area (contexts 510-585) occupy 1 box

APPENDIX 5: ESSEX HISTORIC ENVIRONMENT RECORD SUMMARY SHEET

Site name/Address: Bulls Lodge Quarry (former Boreham Airfield), Boreham, Chelmsford	
Parish:: Boreham	District: Chelmsford
NGR: TL 73310 12180	Site Code: BOAF 05
Type of Work: Archaeological Monitoring and Excavation	Site Director/Group: T. Ennis, ECC Field Archaeology Unit
Dates of Work: 9th May to 1st June 2012	Size of Area Investigated: 3.7 ha
Location of Finds/Curating Museum: Chelmsford	Funding source: Hanson Aggregates
Further Seasons Anticipated?: Yes	Related HER Nos.:
Final Report: Essex Archaeology and History (summary and full report)	Oasis No.: 136045
Periods Represented: Medieval, post-medieval, modern	
SUMMARY OF FIELDWORK RESULTS:	
<p>Archaeological monitoring and excavation was carried out on the latest area of topsoil stripping at Bulls Lodge Quarry, Boreham (a former WWII airfield) during May/June 2012. A 3.7 ha area was investigated to the immediate north of the areas stripped and excavated in 2008/9 (Ennis 2011) and 2011 (Allen 2011).</p> <p>A solitary pit of probable prehistoric date recorded in the west of the area is likely to be a further component of the general scatter of surviving remains of Neolithic and Bronze Age date found elsewhere across the north-west of the quarry, including the 2008/9 area. No remains of Iron Age, Roman or Saxon date were encountered, which seems to be fairly typical in this general vicinity with only a single cremation burial of late Iron Age or early Roman cremation date found in 2008/9.</p> <p>The remainder of a medieval farmstead first excavated in 2008/09 was exposed and investigated. The farmstead occupied a small rectangular ditched enclosure surrounded by fields or paddocks. Further parts of the enclosure and field ditches were recorded, along with possible building remains, a few pits, gullies, a fence line and the northern edge of a large working hollow. Comprising only three or four rudimentary timber structures, and small quantities of relatively mundane and largely domestic artefacts, this would seem to be a minor or low status farm settlement of the late 12th to mid 13th century. The recovery of fragments of millstone and part of a storage jar used to hold grain suggest that cereal processing was taking place. The farmstead is part of a wider medieval landscape which includes a medieval field system identified 500m to the south-east (Germany 2007) and the contemporary medieval farmstead and windmill previously recorded 1 km to the east (Clarke</p>	

2003).

A number of post-medieval ditches running across the site and cutting across the medieval enclosures represent at least two phases of subsequent change to the layout of the agricultural landscape in the period of the late 17th to 19th centuries. Further drainage features and general disturbance relate to use as a WW2 airfield.

The 2012 area results supplement the findings of earlier archaeological works undertaken in the quarry since the early 1990s and contribute to the general understanding of the evolution of this part of the Essex agricultural landscape from the medieval period to present day.

Previous Summaries/Reports:

Allen, P. 2011 (Oct). *Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation, 2011*. EHER Summary

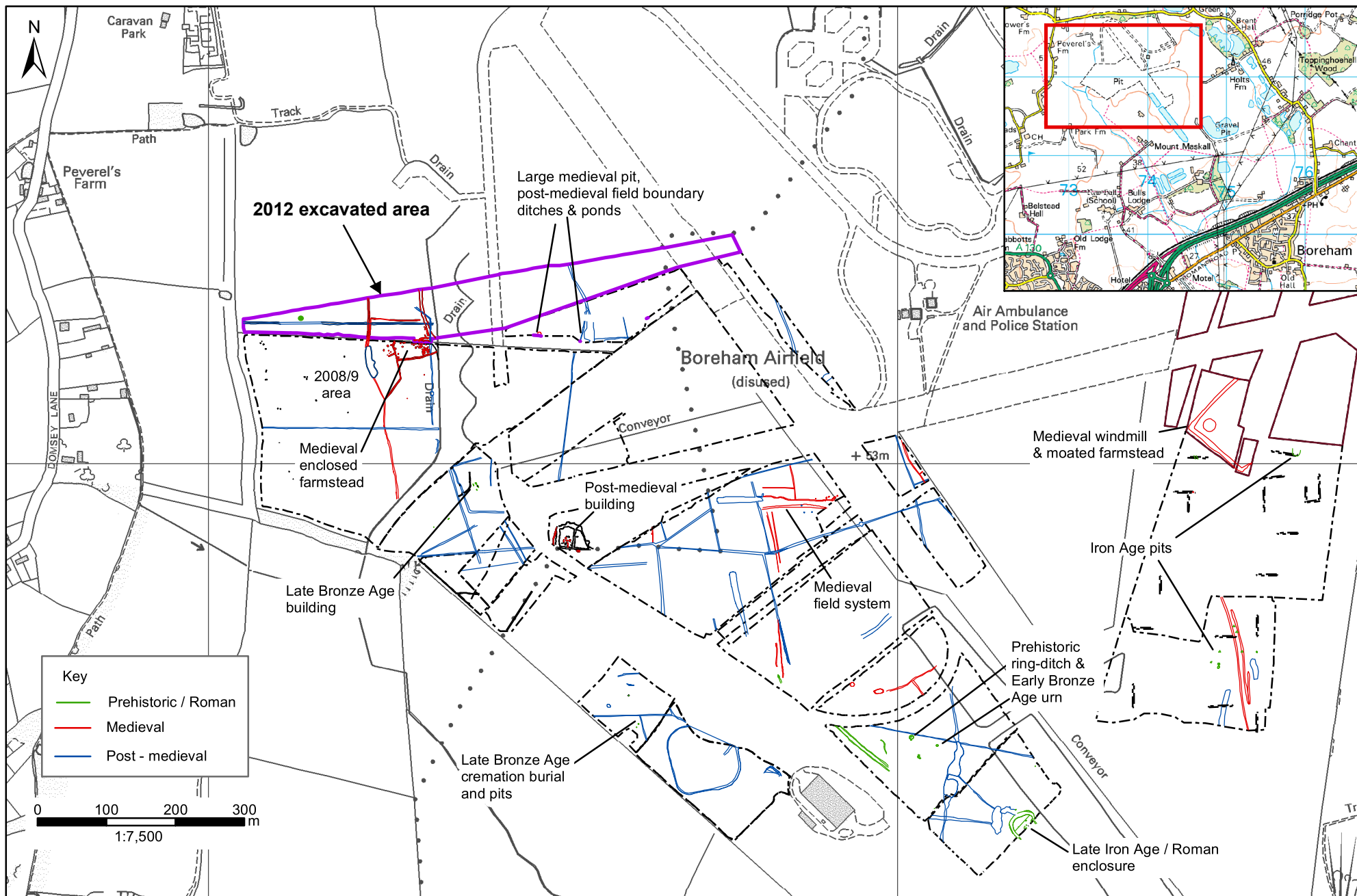
Clarke, R. 2003: *A medieval moated site and windmill: excavations at Boreham Airfield, Essex 1996*. E. Anglian Occ. Paper **11**

Ennis, T. 2011. *Bulls Lodge Quarry, former Boreham Airfield, Boreham, Essex. Archaeological monitoring and excavation 2008-9*, FAU rep. **1975**

Germany, M. 2007 (Feb): *Bulls Lodge Quarry, Former Boreham Airfield, Essex: Archaeological Monitoring and Excavation, 2005 and 2006*. ECC FAU report **1704**

Author of Summary: T. Ennis

Date of Summary: November 2012



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Fig.1. Location plan

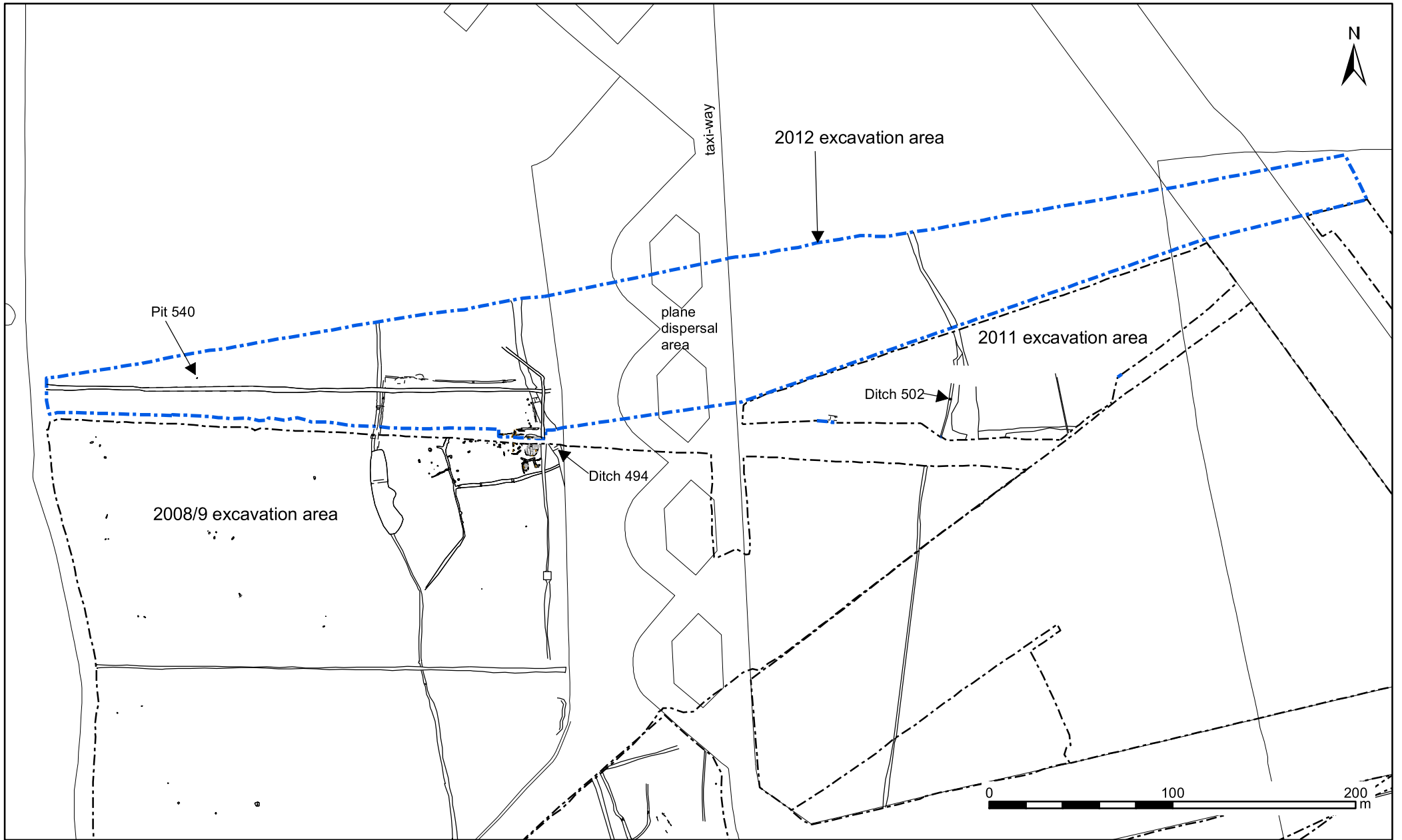


Fig.2. 2012 excavation area

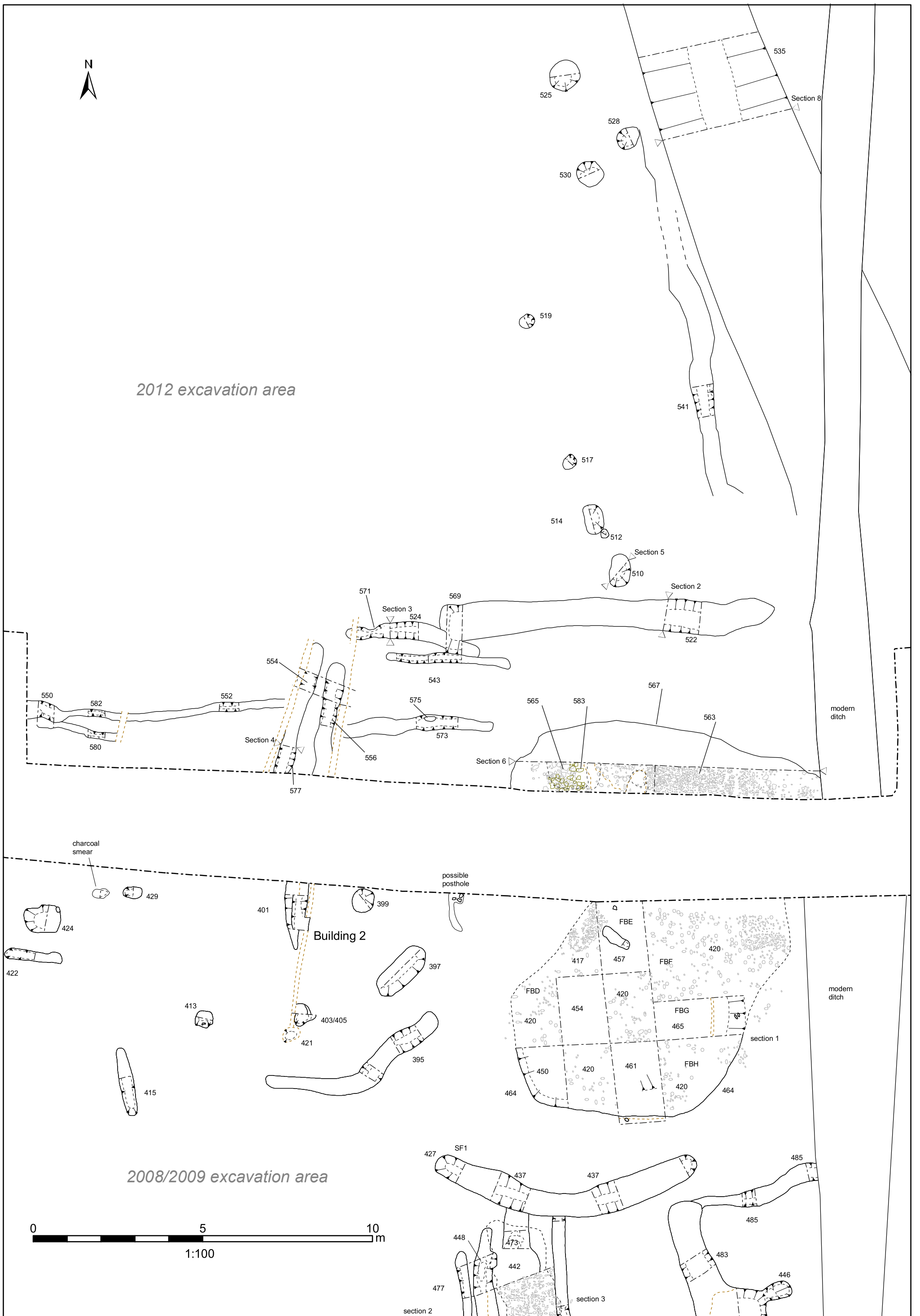


Fig.4. Detail of eastern area

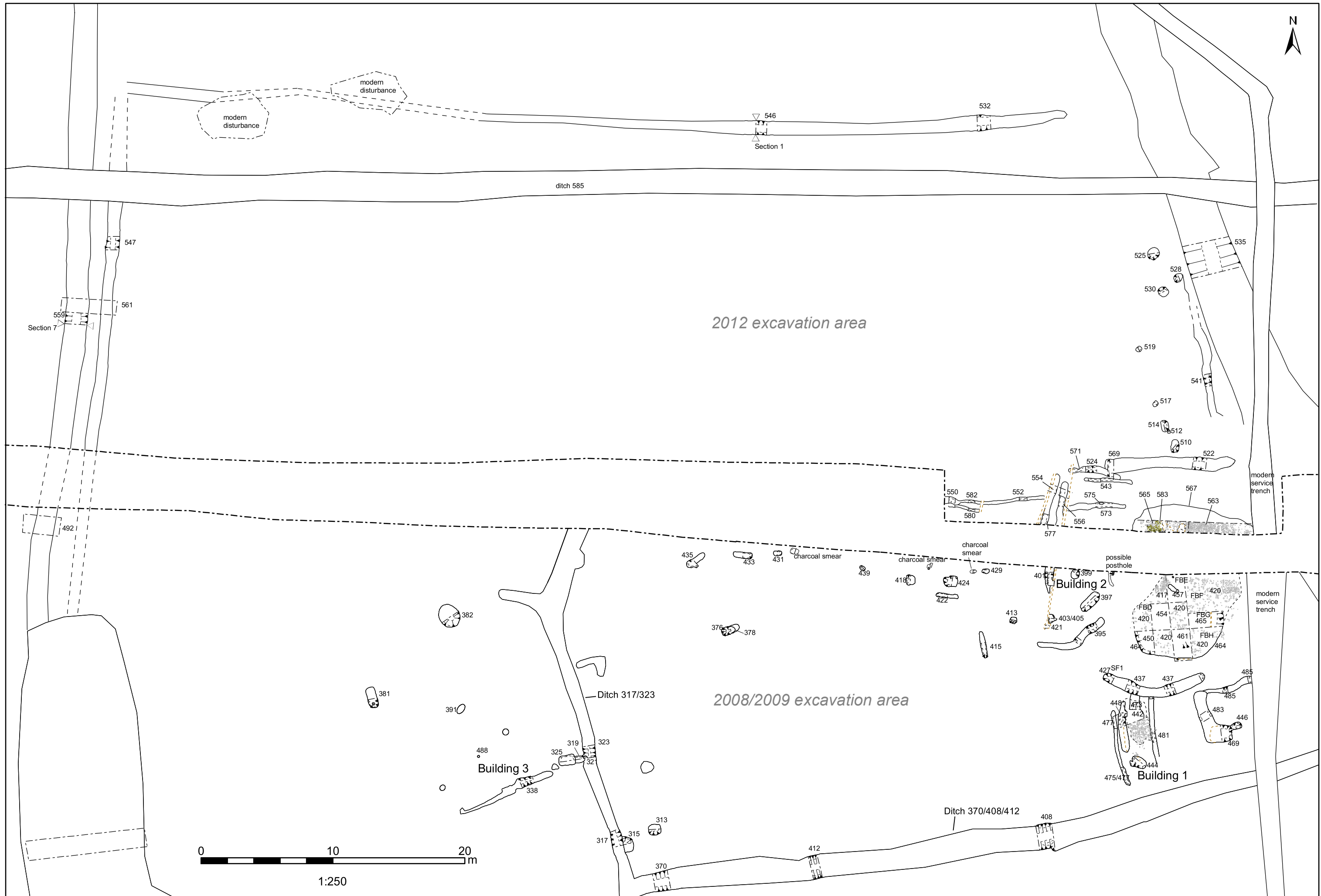
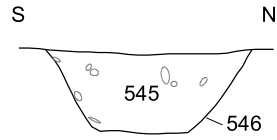
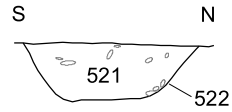


Fig.3. Excavated medieval features

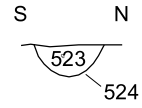
Section 1



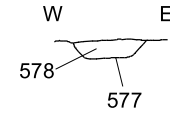
Section 2



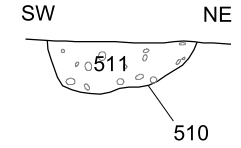
Section 3



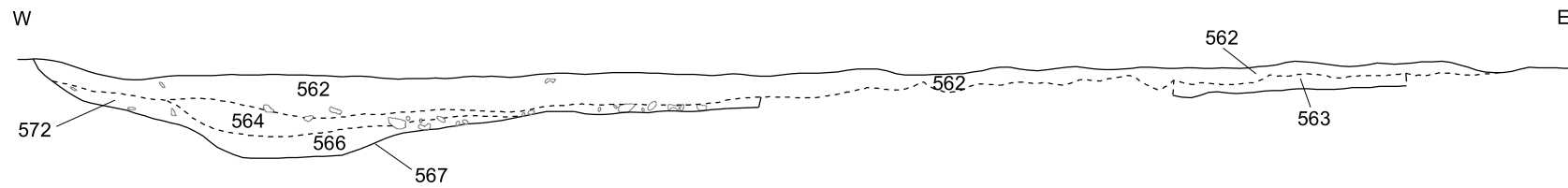
Section 4



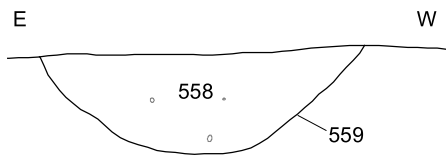
Section 5



Section 6



Section 7



Section 8

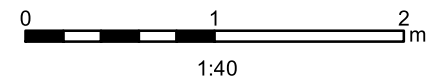
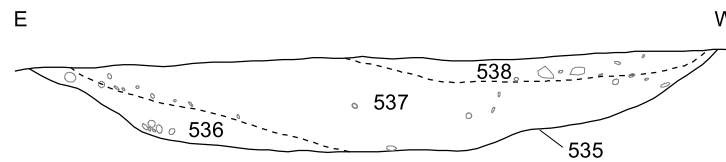


Fig.5. Sections 1-8



Plate 1. General site view - medieval farmstead site under excavation



Plate 2. Ditch 522 (1m scale)



Plate 3. Gullies 580 & 582/550 (1m scale)



Plate 4. Flint cobbles 563 (1m scale)



Plate 5. Ditch 535 (2m scale)



Plate 6. Copper alloy buckle frame from context 544 (32mm length)