

Middle Bronze Age, Late Bronze Age and Medieval Remains on Land at Zone A Housing, Beaulieu, Chelmsford



Post-excavation Assessment Report



July 2015

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**Middle Bronze Age, Late Bronze Age and Medieval Remains on Land at Zone A
Housing, Beaulieu, Chelmsford**

Archaeological Excavation

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Summary

Four archaeological excavations were carried out within Zone A housing at Beaulieu, Chelmsford. (TL 7185 1031). The fieldwork took place between the 9th of April and 27th of May 2014.

The first area (A2) encountered the remains of a Late Iron Age enclosure and two Late Iron Age pits associated with domestic settlement.

Two separate areas totalling 400m² and 406m² in area (areas A3 and A4) targeted Late Iron Age pits to the south of the development area.

The northern area (Site 7) uncovered a Middle Bronze Age ditch, along with part of a scattered Late Bronze Age settlement area, attested to by the remains of seven pits containing domestic refuse. Two phases of medieval activity were recorded, representing part of an ancillary manorial complex.

The earliest Medieval phase comprises five ditches delineating small enclosures. The later phase included a putative watering hole or large semi-industrial pit, with a cobbled surface to one side and hedge line arrangements potentially for the control of livestock.

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Between the 9th April and 27th May 2014 Oxford Archaeology East carried out an archaeological excavation at Beaulieu, Chelmsford: Zone A (TL 7230 1014) (see fig. 1). In advance of construction of a new neighbourhood planned for North-East Chelmsford, known as Beaulieu. Chelmsford City Council has granted outline planning permission (ref: 09/01314/EIA) for a new neighbourhood at Beaulieu of up to 3,600 new homes and up to 62,300m² of mixed use development including new schools, leisure and community facilities, employment areas, new highways and associated ancillary development, including full details in respect of roundabout access from Essex Regiment Way and a priority junction from White Hart Lane.
- 1.1.2 These archaeological excavations were undertaken to mitigate construction impacts of an area of residential housing with associated access and infrastructure totalling 3.3 hectares.
- 1.1.3 This work was carried out in accordance with the Beaulieu Archaeological Investigation Strategy (URS 2013a), the Beaulieu Zone A Archaeological Mitigation Design (URS 2014) and an Archaeological Method Statement (Mortimer 2014).
- 1.1.4 This excavation is part of an ongoing archaeological project, across a phased development. The time-scale for this development is dependant on many factors and so cannot be accurately determined at the present time. The work presented in this Post-Excavation Assessment will eventually be incorporated into wider Analysis and Publication Reports.
- 1.1.5 This assessment has been conducted in accordance with the principles identified in English Heritage's guidance documents *Management of Research Projects in the Historic Environment*, specifically *The MoRPHE Project Manager's Guide* (2006) and *Project Planning Note 3: Archaeological Excavation* (2008).

1.2 Geology and topography

- 1.2.1 Beaulieu (the Site) is located approximately 4km to the north-east of Chelmsford, Essex (centred on TL 7230 1014; Figure 1). The Site encompasses an area of high ground surrounded on three sides by river valleys. To the west and south is the River Chelmer, and to the east is Boreham Brook. North of the Site the ground rises towards the village of Terling. From the southern part of the Site there are views south towards the Chelmer Valley and Danbury Hill.
- 1.2.2 The superficial geology consists of boulder clay of the Lowestoft Till formation underlain by London Clays. To the south of the area lay a mixture of head deposits and sand and gravels (British Geological Survey).

1.3 Archaeological and historical background

Neolithic

- 1.3.1 Essex has some of the earliest surviving evidence of settlement, mainly concentrated to the north-east along the River Crouch at Lawford and Lemarsh (Hedges, 1984). Evidence for possible domestic settlement within the vicinity of Beaulieu was recorded at Court Road, 1km to the north-west, in the form of several pits with Neolithic pottery within their fills (SMR 6142).

Bronze Age

- 1.3.2 Settlement continued to be concentrated along the river valleys of the Chelmer and Crouch, however during the Bronze Age the landscape was enclosed by field systems for the first time, such as those found at Great Wakering (Kemble, 2001). These enclosed field systems would have continued in use through into the early Iron Age. It has been suggested that these Bronze Age field systems form the basis for the modern landscape in the Chelmer Valley (Drury & Rodwell, 1980).
- 1.3.3 Several crop-marks have been recorded by aerial photography to the south of Belstead Hall and interpreted as part of a Bronze Age settlement (SMR 16888), with further domestic dwellings excavated at Springfield Lyons, 2.5km to the south-west. Further occupation sites are attested to by the recovery of artefacts, such as at New Hall School, to the south-east and Pratt's Farm, to the north.

Iron Age

- 1.3.4 The settlement pattern during the Iron Age would have been of nucleated settlements within a larger farming landscape. Evidence of this, within the vicinity of the development area, was seen to the south of Belstead Hall (SMR 17438). This comprised a large enclosure with associated pits and smaller ditches (Drury, 1978).
- 1.3.5 The Later Iron Age witnessed an expansion of settlement onto the heavier clay soils and the continued occupation of the estuaries. These estuarine sites are seen to become more complex in nature over time, with higher population density and sustained occupation, such as has been found at Little Waltham (Drury 1980).
- 1.3.6 Sites such as the Gosbecks oppida at Colchester show that by the end of the Iron Age portions of the population were highly structured and of high status. These sites would have relied on farming communities scattered around the environs to supply agricultural commodities. (Crummy 1997).

Roman

- 1.3.7 Following the Boudiccan revolt of AD60, a small Roman fort was constructed on the southern banks of the River Can on the road from Colchester to London, about 5km to the southwest at Moulsham. The fort was replaced by a Mansio, built in the vicinity of what is now Roman Road, and which served as a post office, civic centre and hotel. A small market town would have grown up around the Mansio, and the area surrounding this would have formed an agricultural hinterland to supply produce to the town.
- 1.3.8 This agricultural landscape would have comprised of large farms and villa complexes, such as those at Great Holts Farm and Bulls Farm Lodge. Smaller domestic sites would also have formed part of the landscape. Evidence for these has been recorded during evaluation work at Beaulieu. Evidence for pottery making, associated with domestic use was also recorded.

Anglo-Saxon

- 1.3.9 In the immediate post-Roman period, the Roman town at Chelmsford was abandoned and much of the surrounding landscape reverted to rough pasture or woodland (Hunter, 2003). No known remains of Anglo-Saxon date are recorded within the application site although this is more likely to reflect the relatively poor archaeological visibility of Anglo-Saxon settlement sites rather than a lack of activity during the period.
- 1.3.10 Two records dating to the Anglo-Saxon period are held by the Essex Historic Environment Record (EHER); both of which are documentary records for Late Saxon

manors, Belestedam (Belstead Hall) is recorded in the Domesday survey of AD 1086 falls within the Beaulieu development area (Reaney, 1035).

Medieval

- 1.3.11 The medieval town of Chelmsford was founded at the end of the 12th century, by the Bishop of London, to the north of the earlier Roman settlement at Moulsham. Throughout the medieval period the site was located within the rural hinterland of Chelmsford in a landscape populated by scattered farmsteads and manors.
- 1.3.12 To the south-east lay the manor of New Hall on the site of the current New Hall School. It is first mentioned by name (as 'Nova Aula') in documents dating to AD1301 when the site formed part of the lands owned by the Canons of Waltham Abbey and was used as the summer residence of the Abbott. It was later transferred to the Regular Canons under Henry II (Burgess & Rance, 1988).
- 1.3.13 The first deer park surrounding New Hall was created during the medieval period with the manor at its centre (Tuckwell, 2006). Under Henry VII, New Hall was granted to Thomas Boteler, Earl of Ormond, who received a licence to crenellate (fortify) it in AD1481 (E41/420) and who, in all likelihood, rebuilt or remodelled the original medieval hall in the latest architectural style. The new structure came to the attention of Henry VIII who visited New Hall in 1510 and 1515, shortly before Ormond's death. Subsequently, the property passed to Thomas' daughter and thus into the Boleyn family through her husband Sir Thomas Boleyn, from whom Henry VIII acquired the hall in 1516, changing its name to the 'Palace of Beaulieu'. Shortly after 1518 he rebuilt the Ormond's medieval hall on a quadrangular plan with gatehouse in the south range, great hall in the east and chapel in the west ranges. Mary Tudor took residency at New Hall intermittently between 1532 and her ascendancy to the crown in 1553.
- 1.3.14 Evidence for a further moated manor is recorded at Belstead. This manor was occupied throughout the medieval period. By 1325 it was called Belestede, in 1354 it was recorded as Belestede Hall and by 1504 it was known as Belested Hall. The name is thought to derive from 'the site of the bell house' (P.H Reaney 1935).
- 1.3.15 Analysis of aerial photographs and geophysical survey identified a number of features within Zone A which, when investigated by trial trench evaluation, were found to comprise a possible enclosure ditch or moat. A cobbled surface (possibly representing a house platform or yard surface), pit and several further ditches were recorded within the enclosure. Pottery recovered from the features suggested an occupation date of the 12-13th century (ECC FAU 2009). These remains were interpreted as a medieval farmstead or manor, possibly the precursor to the later manorial site at Belstead Hall c.160m to the north-east of site 7.

Post-Medieval

- 1.3.16 The development of New Hall and its deer park dominated the landscape of the application site and the surrounding area until the park contracted in size and the fields were enclosed for agriculture in the early 18th century. As the deer park was reduced in size the former medieval manors or lodges developed into farms, creating an essentially agricultural landscape.

- 1.3.17 Since the medieval period, New Hall had been set within the largest deer park in Essex; once totalling some 1,500 acres. The EHER records that the enclosed area actually comprised four separate parks surrounding New Hall and its gardens. Within the Great or Old Park located to the north of New Hall. The remaining parks were known as the Red Deer Park located to east of New Hall, the Dukes Park (located further east beyond the study area; EHER 47226) and the New or Little Park situated to the south and west of New Hall. Zone A is located within this latter area.

Previous Archaeological Investigations

Geophysical Surveys

- 1.3.18 Geophysical magnetic susceptibility and detailed magnetometer surveys were carried out to evaluate the potential for important archaeological remains that may be buried within the Site. The magnetic susceptibility survey provided a rapid assessment of likely areas for previous settlement and industrial activity. The survey identified six areas of high potential, ten areas of medium potential and seven areas of low potential (Scott Wilson 2008). The magnetic susceptibility survey was followed by a detailed magnetometer survey of c.50% of the Beaulieu scheme. This survey provided a greater level of detail and identified individual features such as pits and ditches, field boundaries, buildings and structures, kilns or hearths and buried iron objects. The detailed magnetometer survey identified ten areas of high archaeological potential; six of medium potential and 19 of low potential (Scott Wilson 2008).

Trial trench Evaluation (2008)

- 1.3.19 A limited programme of targeted trial trench evaluation was undertaken between June and August 2008. The purpose of the trial trenching was to confirm the presence/absence and significance of archaeological remains at eight sites identified by an assessment of the combined results of the desk-based studies and non-intrusive surveys (Scott Wilson 2007).
- 1.3.20 The trial trenching confirmed the presence of archaeological remains dating from the late prehistoric to post-medieval periods. This included a Late Iron Age and Early Romano-British settlement (Site 8); an Iron Age ditch (Site 5); medieval rural settlement possibly indicative of a precursor to Belstead Hall (Site 7); a possible medieval/early post-medieval warrener's lodge associated with the former deer park (Site 10); early post-medieval moated enclosure (Site 11); Tudor fishpond and associated earthwork dam (Site 2); a brick making site comprising two scove or clamp kilns of possible Tudor date (Site 3) and evidence for associated quarrying activity (Site 4).

Beaulieu Minerals trial trench evaluation

- 1.3.21 A trial trench evaluation was undertaken in September/October 2011 to inform and support the planning application for the Beaulieu Minerals Extraction scheme. The evaluation identified a concentration of archaeological remains to the north-west of New Hall School. These remains appear to represent a rural settlement and possible metalworking activity dating from the Late Bronze Age through to the end of the Roman period. Metal detecting of the plough soil revealed several Early Roman coins and fragments of Early Roman brooches within the main area of activity.

Beaulieu Phase 1 Infrastructure Mitigation evaluation and excavations 2013

- 1.3.22 Recent archaeological trial trench evaluation of the proposed Essex Regiment Way roundabout, White Hart Lane junction and connecting access road identified four locations of significant archaeological remains (Stocks-Morgan, 2013).

- 1.3.23 Site 5, located within the footprint of the proposed Essex Regiments Way roundabout, identified part of a Middle Iron Age settlement comprised a single round-house, surviving only as the remains of an eaves-drip gully. Several small pits and postholes were identified outside the roundhouse and were likely to be associated with domestic activity contemporary with the building. This settlement was surrounded by a large oval enclosure.
- 1.3.24 In Area A1 a single east to west aligned field boundary ditch of possibly Late Iron Age date attests to a wider agricultural landscape of field systems. A second, probably medieval, ditch was encountered on a north-west to south-east alignment (Stocks-Morgan, 2013a).
- 1.3.25 Site 11 and Zone D1 identified evidence of two High Medieval house platforms and their surrounding enclosures. Thought to be a medieval settlement associated with Belstead Manor estate (Stocks-Morgan, 2013b).

1.4 Acknowledgements

- 1.4.1 The author would like thank Iain Williamson of AECOM (formerly URS) and Countryside Zest (Beaulieu Park) LLP who respectively commissioned and funded the archaeological work. The project was managed by Richard Mortimer and the illustrator was Severine Bezie. Thanks are also extended to Mary Andrews, Nick Cox, Jack Easen, Pat Moan, Kimberley Watts and Robin Webb who helped with the fieldwork. The project was monitored by Richard Havis and Alison Bennett of Essex County Council. The machining was undertaken by David of Danbury Plant Hire.

2 PROJECT SCOPE

- 2.1.1 This assessment deals only with the excavation carried out on areas designated as Zone A, within a larger phased development. The earlier evaluation data will be incorporated in to the results where relevant. Further assessments will be produced following any future work required on other parts of the development.

3 AIMS AND METHODOLOGY

3.1 Introduction

- 3.1.1 The main aim of the excavation was to preserve by record the archaeological remains present within the development area and to reconstruct the history and use of the site.
- 3.1.2 The current project will be incorporated within the wider archaeological investigations at Beaulieu. The research objectives that are applicable to this specific site are detailed below.

3.2 Regional Research Aims

There are a number of regional research objectives that have been identified by English Heritage (English Heritage, 1997) and incorporated into the Beaulieu Archaeological Investigation and Mitigation Strategy (URS, 2013) which provide a framework for investigation and can be applied to the archaeological evidence recovered at Beaulieu.

Bronze Age (2000BC to 700BC)

- The central theme identified for both the Neolithic and Bronze Age is the development of farming and the associated development and integration of monuments, field systems and settlement
- To refine the chronologies for the period and cross referencing of pottery typologies across the region, using the application of Bayesian modelling of carefully selected radiocarbon dates.
- To understand the variation in date and development of Bronze age field systems across the region
- To understand the inter-relationship between settlement types and monuments (possibly with specific reference to the Bronze Age sites at Great Holts Farm and Springfield Lyons)
- The identification of later Bronze Age pottery typologies linked to radiocarbon dates, notably with reference to the recognition of 'fine' wares and 'course' wares

Iron Age (700BC to 43 AD)

- The need to identify suitable means of dating Iron Age sites chronologically through absolute dating, regional pottery sequences and datable pottery assemblages
- A focus on developing a greater understanding of the development of the agrarian economy; this should include development of knowledge of the increase in agricultural production through the study of the landscape such as trackways, enclosures, drove routes and fields
- A need for site specific excavation to focus on settlement remains
- A further priority is the transition between the Bronze Age and the Iron Age in the region

- There should be further focus on Iron Age settlement chronology and dynamics, social organisation and settlement form and function in the Early and Middle Iron Age
- The processes of social and economic change during the Late Iron Age including the adoption of the Aylesford/ Swarling culture and the development of tribal polities
- The Iron Age / Roman transition
- Further research is required to understand the distribution, density and dynamics of Iron Age settlements.

The Medieval Period (AD 1066-1540)

- The study of medieval rural settlement diversity across East Anglia
- The characterisation of settlement forms, function, chronology, structure and the investigation rural settlement type and morphology.
- The understanding of agrarian regimes on the geology of the rural sites, through the use of environmental sampling
- The characterisation and chronology of medieval field systems and understanding how the size and shape of fields can be related to agricultural regimes.
- The study of the evolution of the medieval house and farmstead and agrarian economy.
- To Understand the form that farms take and the type of building present and whether functions can be attributed to them.

3.3 Site Specific Research Objectives

3.3.1 A number of site specific research objectives were identified based on the results of the evaluation (URS, 2013)

3.3.2 The site specific aims for site 7 are:

- Preserve by record the nature, extent and form of Iron Age and Medieval settlement and associated co-axial field systems
- To investigate whether an Early Iron Age boundary ditch encloses an area of nearby settlement or whether it simply forms part of a late prehistoric field system.
- To preserve by the record the extent, density, form, function, type, date, longevity and local / regional context of medieval settlement recorded at site 7.
- to investigate how medieval settlement at site 7 relates to the moated manorial site at Belstead Hall Farm to the north-east, the emerging deer park and estate of New Hall to the south-east
- to investigate how the late prehistoric / Iron Age settlement relates to the pattern of rural settlement in the wider Chelmsford and Chelmer Valley area and in relation to the sites 1,2 and 8

3.3.3 The site specific aims for Areas A2, A3 and A4 are:

- to preserve by record the nature, extent, date and form of the dispersed late prehistoric occupation activity recorded in trenches 13 and 48 and place it within the pattern of local and regional rural settlement
- To preserve by record the nature, extent, date and form of the possible Iron Age and medieval field systems

- To investigate the chronology, characterisation of Iron Age and medieval field systems to understand how these relate to the wider rural landscapes and agricultural practices of each period

3.4 Methodology

- 3.4.1 The methodology used was carried out in accordance with the Beaulieu Archaeological Investigation Strategy (URS 2013a), the Beaulieu Zone A Archaeological Mitigation Design (URS 2014) and an Archaeological Method Statement (Mortimer 2014).
- 3.4.2 Four excavation areas were opened, *targeting multi-period remains recorded during previous evaluation works (OA East Report No. 1591)*. The total area excavated is shown in table 1 below.

Excavation Area	Total area (sq m)
A2	748
A3	400
A4	406
Site 7	8558

Table 1: excavation area

- 3.4.3 Machine excavation was carried out by a 360° type excavator using a 2m wide flat bladed ditching bucket. under constant supervision of a suitably qualified and experienced archaeologist.
- 3.4.4 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 3.4.5 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and monochrome photographs were taken of all relevant features and deposits.
- 3.4.6 A total of forty-six bulk samples and two column (pollen) samples were taken, from deposits considered most appropriate for environmental sampling, while also considering feature type and period.
- 3.4.7 Site conditions were good and dry.

4 SUMMARY OF RESULTS

4.1 Introduction

Provisional Site phasing

4.1.1 For consistency with all previous and forthcoming reports features where dating is available it will be attributed to the following periods. Features have not been identified for each individual period during this phase of archaeological works, but have been included to allow comparisons in later reports. Features have been placed in phases based on stratigraphic and spatial relationships, alongside the use of artefact dating.

Neolithic (3500 – 2000 BC)	Early Neolithic (3500 – 2900 BC)
	Middle Neolithic (2900-2500 BC)
	Later Neolithic (2500 - 2000 BC)
Bronze Age (2000 – 700 BC)	Early Bronze Age (2000 - 1500 BC)
	Middle Bronze Age (1500 - 1000 BC)
	Later Bronze Age (1000 – 700 BC)
Iron Age (700 BC – AD 43)	Early Iron Age (700 – 200 BC)
	Middle Iron Age (200 – 50 BC)
	Later Iron Age (50 BC – AD 43)
Roman (AD 43 - 410)	
Saxon (AD 410 – 1066)	Early Anglo-Saxon (AD 410 – 650)
	Middle Anglo-Saxon (AD 650 – 850)
	Late Anglo-Saxon (AD 850 – 1066)
Medieval (AD 1066 – 1650)	Early Medieval (AD 1066 – 1200)
	High Medieval (AD 1200 – 1450)
	Transitional (AD 1450 - 1650)
Post-Medieval (AD 1650 - 1800)	
Modern (AD 1800 – present)	

Table 2: Chronology used in this report

4.2 Excavation area A2

4.2.1 A linear excavation, measuring 67m long and 5m wide, was excavated north-north-east to south-south-east ahead of a sewage pipeline being constructed. The results of the excavation are shown in figure 3.

Undated Prehistoric

4.2.2 Towards the centre of the trench lay a sub-circular pit (**526**), with steep sides and a flat base. It measured 1.05m in diameter and 0.18m deep. The fill was a mid yellow brown silty clay (**527**).

4.2.3 Thirty metres to the south was a circular pit (**525**), measuring 0.44m in diameter and 0.18m deep. This contained a charcoal rich silty clay (**524**), consistent with its use as a

fire pit. This pit is the same as pit **24** seen in evaluation trench 13. Although undated this feature is liable to be contemporary with the Late Bronze Age or Iron Age activity in this area.

Later Iron Age

- 4.2.4 At the south of the trench was a probable enclosure ditch (**502**) aligned east to west. The ditch had steep sides and a concave base, measuring 1.5m wide and 0.65m deep (see fig. 10 for section). This had a primary filling, 0.35m thick, of mid yellowish brown silty clay (503). This was overlain by a secondary deposit of charcoal rich material (504), 0.2m thick, which contained Late pre-Roman Iron Age pottery. Above this were tertiary deposits (505,506,507), totalling 0.4m thick.

4.2.5

Medieval

- 4.2.6 To the north of the excavation area an east-north-east to west-south-west ditch (**500,523**) was excavated. It had steep sides and a concave base measuring 0.8m wide. The depth increased towards the east ranging from 0.22m to 0.45m. No dating was retrieved during the excavation, but its alignment suggests that it is the same ditch excavated in Area A1 (**139**) which contained 12th/13th century Sible Hedingham pottery.
- 4.2.7 To the south of the excavation area a north-west to south-east ditch (517) was excavated. This ditch had gradual sides and a concave base, measuring 1.85m wide and 0.22m. It was later recut by ditch 521, 2.4m wide and 0.96m deep. The middle fill (519) contained one sherd of Mill Green ware (MG fabric 35) or Post Medieval Red earthenware (Fabric 40). This ditch was in line with the modern field boundary to the north-west and thought to be part of the medieval or post-medieval field system, which has been discontinued with agricultural intensification.

Geological/Modern

- 4.2.8 In the northern part of the excavation area lay a large pit, 50m in length (not shown on plan). A machine slot was excavated on the southern side of the feature down to a depth of 1.2m. This feature was filled by a brownish grey silty clay which contained frequent concrete blocks and occasional bricks. It is thought to be a geological hollow filled in, during the Late 20th century to aid ploughing.

4.3 Excavation area A3

- 4.3.1 Area A3 was located at the base of a gentle south-facing slope. The excavation measured 20m by 20m and within the area several discrete Late Bronze Age pits of unknown function were recorded (see fig. 4).

Late Bronze Age

- 4.3.2 In the northern part of the area lay a sub-circular pit (**543**) with concave sides and a concave base, measuring 0.23m in diameter and 0.06m deep. It was filled by greyish brown silty clay (544), which contained three sherds of Late Bronze Age pottery.
- 4.3.3 Six metres to the south-east was a sub-circular pit (**541**), with steep sides and a flat base, measuring 0.45m in diameter and 0.2m deep. It was filled by a greyish brown silty clay (542).

- 4.3.4 To the south-east lay a circular pit (**539**) measuring 0.32m in diameter and 0.2m deep. This pit has steep sides and a concave base which contained a greyish brown silty clay (540) and contained two sherds of Late Bronze Age pottery.
- 4.3.5 At the south-western corner of the area was oval pit (**546**) which had steep sides and a concave base. It measured 0.61m wide and 0.3m deep and contained a dark greyish brown silty clay (545).

Natural Features

- 4.3.6 A small natural gully (**536,538**) was recorded aligned south-west to north-east. This gully was slightly curvilinear in plan and had irregular sides and base, measuring on average 0.55m wide and 0.22m deep. It was filled by a dark grey clay (535,537). No finds were recovered from the fills.

4.4 Excavation area A4

- 4.4.1 Area A4 (20m by 20m) was located 100m to the east, along the base of the same gentle south facing slope. The excavation revealed three pits clustered to the centre of the excavation area. These pits are thought to be fire pits of Late Bronze Age or Early Iron Age date (see fig 4). No finds were recovered.
- 4.4.2 Pit **529** was circular in plan, with gradual sides and a concave base, measuring 0.55m in diameter and 0.1m deep. It contained a charcoal rich, dark greenish brown silty clay (528).
- 4.4.3 Adjacent, lay a circular pit (**531**), which was 0.6m in diameter and 0.16m deep. It had gradual sides and a concave base. It was filled by a mid brownish grey silty clay (530) which contained frequent charcoal and reddening of the surrounding natural, consistent with in situ heat.
- 4.4.4 To the south-east lay a pit (**533**) which was sub-circular in plan with a concave profile. It measured 0.48m in diameter and 0.14m deep. This was filled by a light greyish brown silty clay (532) which contained frequent charcoal. The natural around the edge of the pit showed evidence of scorching consistent with in situ burning.

4.5 Excavation Site 7

- 4.5.1 The excavation encountered multi-period remains throughout the excavation area. The results are listed chronologically below (see fig. 6).

4.5.2 Early – Middle Bronze Age

- 4.5.3 A sub-circular pit (**680**) was excavated to the north of the excavation area (see fig 7 for plan). This pit had steep sides and a concave base, measuring 1.3m in diameter and 0.4m deep. It was filled by a mid grey silty clay (679). It was undated, however it was truncated by the Middle Bronze Age ditch and therefore the earliest feature on site (see fig 10 for section).

4.5.4 Middle Bronze Age

- 4.5.5 In the Middle Bronze Age a substantial boundary ditch (**579,622,678**) was dug on a north-east to south-west alignment (see fig 7 for plan). It measured between 7.7m and 9m wide and 0.93m and 1.05m deep, with a shallow V-shaped profile (see fig 10 for section).
- 4.5.6 The ditch had a period of primary silting (578) which contained one sherd of Late Bronze Age pottery, weighing 1 gram, and which could potentially be intrusive. This was

followed by a period of secondary deposition (576) which contained eight sherds of Late Bronze Age pottery, which reflects the fact that the ditch was open and subject to natural infilling over a long period of time. An upper tertiary fill (567) contained several sherds of pottery including sherds of the Late Bronze Age, Iron Age and Roman periods, this again reflects the fact that the ditch would have remained as a depression long after its initial construction.

- 4.5.7 The presence of subsequent (Late Bronze Age) features tight against the western edge of the ditch, and their absence within a swathe c. 10-15m along its eastern edge, may suggest that a bank lay to the eastern side.

Late Bronze Age

- 4.5.8 Scattered along the northern and western sides of the excavation area were several sub-circular pits (**563, 585, 587, 646, 655, 718, 738**) (see fig 7 for plan). The pits ranged between 0.7m and 2.6m in diameter and between 0.12m and 1.2m deep. All of these pits had a similar filling sequence, with a lower fill, consisting of redeposited natural. Overlain by a dark brownish grey silty clay, which in most cases contained relatively large assemblages of Late Bronze Age pottery. The finds assemblages from these pits are presented below in table 3.

Pit	fill	Pottery (No.)	Other finds
563	566 (upper)	0	Loom weight
585	586 (middle)	76	
	736 (lower)	29	
	593 (lower)	10	Burnt flint
587	589 (lower)	157	
646	647 (upper)	156	
	648 (lower)	3	
655	-	-	
718	739 (upper)	406	Quern stone fragment
738	737 (single)	27	Saddle quern

Table 3: finds assemblages from Late Bronze Age pits

- 4.5.9 To the north-eastern corner of the excavation a cluster of three intercutting pits were encountered (**667, 740, 742**). These were similar in form to the previously described pits, with an average diameter of 1.9m and an average depth of 0.52m. The fill sequence was also alike with a redeposited natural lower fill, which was overlain by a dark greyish brown silty clay (see plate 2). The presence of three intercutting pits does highlight that the area was continuously used over a period of time. The finds assemblages retrieved from the pits are listed below in table 4, all of the datable pottery is of the Late Bronze Age, with a small percentage not closely datable.

Pit	fill	Pottery (No.)	Other finds
667	657 (upper)	160	
	658 (upper)	74	
	659 (middle)	95	
	660 (middle)	25	

	661 (middle)	4	
	662 (middle)	8	
	663 (middle)	1	
	665 (lower)	1	
	666 (lower)	4	
740	741 (lower)	34	126g burnt flint
	744 (middle)	40	
742	747 (upper)	20	240g burnt flint

Table 4: finds from pits 667, 740 and 742

- 4.5.10 To the south lay an oval pit (**681**), which had near vertical sides and a concave base. The pit measured 1.4m in diameter and 1m deep. This pit was filled by a mid orangey grey silty clay which contained sixteen sherds of Late Bronze Age pottery within its fill (682). The profile and depth of this pit suggested that it may have been a shallow well or water storage pit. A pollen column sample was taken from the basal fills.
- 4.5.11 A small assemblage of residual Late Bronze Age pottery was recovered from known medieval contexts and reflects the fact that the Late Bronze Age settlement debris would have been lying on the surface as well as being deposited within the pits.

Undated Prehistoric features

- 4.5.12 Towards the centre of the excavation area, truncating the upper fills of the Middle Bronze Age ditch was a circular pit (**569**). This pit had concave sides and a flat base, measuring 1m in diameter and 0.25m deep (see plate 1). The pit had an initial fill of charcoal rich material (573), 0.04m thick, which is suggested to be a burnt lining. This was overlain by a 0.2m thick layer of mid grey silty clay (568). No dating was recovered from the pit fills, however, the form suggests a Bronze Age or Iron Age date, it lies within a scatter of LBA features and its stratigraphic relationship with the Middle Bronze Age ditch - cutting high in the fill sequence but close to the edge of the feature - may suggest a Late Bronze Age date.
- 4.5.13 Along the western edge of the excavation lay a circular pit (**549**) (see fig 7 for plan). It had concave sides and a flattish base, measuring 0.85m in diameter and 0.2m deep. It contained a dark greyish black clayey silt (550), which was charcoal rich and had a moderate assemblage of burnt stones. This pit is undated but indicative of later prehistoric pits. The remains encountered were possibly related to the activity seen in area A2, rather than in site 7.
- 4.5.14 A further pit (**553**) was evident within the trench section immediately to the west. This had shallow sides and a flat base, measuring 0.75m wide and 0.12m deep. It was filled by a dark black, charcoal rich fill (552). Again this pit is undated but with similarities to Iron Age fire pits encountered in previous phases of archaeological investigation at Beaulieu.
- 4.5.15 To the east of the excavation a circular pit (**715**) was recorded, measuring 1.2m in diameter and 0.12m deep. It had concave sides and a flat base. It was filled by a charcoal rich, blackish grey silty clay (714). The surrounding natural was heavily scorched, showing evidence of in situ burning.

High Medieval Phase 1

- 4.5.16 The excavation revealed the layout of fields or paddocks during the medieval period, five separate boundary ditches were recorded (see fig 8 for plan). Two of these formed an enclosure in the north-western corner of the excavation (Field 1) and at the south, three ditches were laid out to create two further fields (Fields 2 & 3) with a wide entranceway into the western field and narrow one into the eastern.
- 4.5.17 The north-south ditch (**574,635,732**) which enclosed the eastern boundary of field one was steep sided with a concave base. It measured from between 2m wide at the southern end to 1.32m wide to the north. The depth ranged from 0.9m to 0.44m becoming shallower to the north. The ditch contained a secondary deposit of dark yellowish brown silty clay (634), which included seven sherds of Mill Green ware or Medieval orange sandy ware (Fabric 21).
- 4.5.18 The southern arm of the enclosure was formed by a ditch with a matching terminus (**557,674**) aligned west-north-west to east-south-east. This ditch had steep sides and a concave base. Its width ranged from 3.3m to 3.65m and was between 0.84m and 1.5m deep. It was filled by a sequence of secondary deposits (684,685,686), the central fill (685) contained four sherds of medieval Mill Green ware. A deliberate backfilling, consisting of charcoal rich material (687), was noted in the lower fill of the eastern terminus.
- 4.5.19 The northern boundary of Field 2 was formed by east-west ditch (**592,699**) which at its eastern end turned north for 13m before terminating. The ditch had steep sides and a concave base. It measured on average 2.34m wide and 0.84m deep. It had a primary light yellowish brown silty fill (591), 0.05m thick. This was overlain by a secondary mid yellowish brown silty clay fill (590), 0.75m thick. The slot at the terminus (**683**) produced seven sherds of decorated Mill Green ware and two fragment of quern stone.
- 4.5.20 Nine metres to the east of this terminus lay a further north to south ditch (**637,654**). This ditch was 1.9m wide and had a steep-sided western edge and a stepped eastern side with a concave base. The depth was shallower at the terminus, measuring 0.25m deep, then becoming 1.1m deep three metres to the south. The ditch had an episode of deliberate tipping of charcoal rich material (652), 0.2m thick, which was overlain by a secondary deposit (653), 0.8m thick.
- 4.5.21 The terminus (**637**) was filled by a series of secondary deposits, the uppermost fill contained one sherd of worn medieval sandy grey ware. The upper fill of the ditch slot contained nine sherds of Mill Green ware.
- 4.5.22 The eastern boundary ditch of Field 2 also created the western side of field three. This field was bounded to the north by a ditch (**633,645,672**), which had stepped sides and a concave base. Its maximum width was 2m wide and its depth ranged from 0.25m at the western terminus to 0.88m to the east.
- 4.5.23 Immediately to the west of enclosure ditch **654**, lay a circular pit (**650**). It had gradual sides and a flat base, measuring 1.4m in diameter and 0.2m deep. This pit was filled by a dark greyish brown silty clay (649) which contained CBM and Late medieval pottery.

High Medieval phase 2

- 4.5.24 During the Later Medieval period the area was remodelled (see fig 9 for plan), with a new enclosure (**582,706**) covering the north-western part of the site. The southern boundary was formed by a ditch (**582,547**) aligned west-north-west to east-south-east, with steep sides and a flattish base and measuring 0.9m wide and 0.3m deep. This stretch of enclosure ditch had a secondary deposit of light reddish brown silty clay (581)

followed by a tertiary filling of midden material, a dark reddish brown silty clay containing frequent CBM and oyster shells. The ditch contained 15 sherds of Mill Green ware, all of which were fresh and unabraded.

- 4.5.25 The corresponding north-north-east to south-south-west ditch (**706**) had concave sides and a concave base, measuring 1.25m wide and 0.48m deep. It contained 25 sherds of Mill Green and sandy grey wares. The south-eastern corner of the enclosure has been truncated both by the modern backfilling of a hollow and also by ploughing.
- 4.5.26 Towards the southern end of the enclosure, presumably utilising the hollow left by the earlier ditch terminus (**674,732**), a large square pit (**618**) was dug into the natural boulder clay. The purpose of the pit is unknown, but it may represent a well/watering hole or have been used for retting or a similar process; no environmental evidence was forthcoming from the bulk samples. The pit had steep sides and a flat base, measuring 6.5m across and 1.45m deep (see fig 10 for section). It was filled by a series of silty clay layers, one of which contained two sherds of early post-Medieval red earthenware. The pit contained a total of 37 sherds of pottery, mainly medieval grey wares, within its fills. The pit was subject to two episodes of reworking (**617,616**), both of which kept the same pit shape and profile, so this was probably to clean out and renew the pit. A pollen column sample was taken from the basal fills.
- 4.5.27 Pit **616** contained 5 sherds of medieval sandy grey ware (Fabric 20), from the same vessel. Pit **617** contained one sherd of Mill Green ware and two conjoining sherds of medieval sandy grey ware.
- 4.5.28 Cutting the south-west corner of **618** was pit **615**, oval in plan, 0.85m wide. The pit had concave sides and a flat base and was 0.35m deep. It was filled by a mid yellowish brown silty clay (623), which contained one sherd of mill green ware, however, given the abraded nature of the pottery it is likely to be residual.
- 4.5.29 To the north-east of the pit there were three narrow 'hedgelines'. The northern one (**640**) was aligned east to west and was 21m long, 0.23m wide and 0.1m deep and the southern (**611,638**) east to west turning towards the south. This had a total length of 22m and was 0.35m wide and 0.15m deep. A third (**602**) lay in-between the two where they diverged, splitting the possible exit into two parts. This was 12m in length. All the ditches/gullies were filled with a similar dark greyish brown silty clay. The second (**638**) contained eleven sherds of medieval sandy grey ware, mostly from one vessel.
- 4.5.30 The arrangement of the hedgelines formed a funnel, and if all three were contemporary, possibly to allow access in different directions, the narrow 'entrance' to the funnel at the east was 3m wide. Where split in two the southern exit was 9m wide and the western exit was 4.2m wide.
- 4.5.31 Between the southern exit of the hedgeline and the pit lay a rough metalled surface (700), laid using rounded cobbles (c.130mm) and gravel, but with no bonding material. The surviving surface was 19m by 8.5m (area 108m²) and was laid from the exit of the hedgeline 'funnel' up to and around the eastern side of the pit, adjoining the top of the pit to the south. 80 sherds of Mill Green ware were retrieved from this layer, many of which were worn suggesting they may have been incorporated into the surface.
- 4.5.32 A subsoil layer was present above the metalled surface from which a further 84 sherds of Mill Green ware and 2 sherds of medieval shelly ware (fabric 12) were recovered.
- 4.5.33 To the north-west of the excavation were two postholes (**560,562**), set three metres apart. These were both circular measuring 0.23m in diameter and 0.07m (**650**) and 0.12m deep (**652**). These were filled by a similar mid greyish brown silty clay fill. The

eastern posthole contained eleven sherds of mostly Mill Green ware and a couple of sherds of sandy grey ware. Given their proximity and similarity, it suggests that they are of a similar date and as yet unknown function.

Post-Medieval

- 4.5.34 Activity dating to the Post-Medieval period comprised a single north-south boundary ditch (see fig 10 for plan). The north-south ditch (**708**) lay in the eastern half of the excavation. Its width ranged from 0.53m to 0.65m and depth between 0.26m and 0.32m. It contained a dark grey silty clay (707), with deliberate tipping of midden material, containing 8 sherds of Mill Green ware, and ceramic building material. Although it contained no post-medieval finds it has been ascribed to the post-medieval period as it appears on the 1888 OS map.

Modern

- 4.5.35 Three pits (**690,692,695**) which were comparable in characteristics, lay to the north of the excavation area. They were oval in shape, with vertical sides and a flat base. They were filled with a dark greyish black clayey topsoil fill. Though undated, their fills clearly indicate a modern date.
- 4.5.36 Towards the centre of the excavation a large sub-circular feature was recorded. A machine-excavated slot through the feature showed it to be a geological hollow that had been filled in up to modern ground level. The infilling took place later in the 20th Century as asbestos was found low down within the fill sequence.
- 4.5.37 To the east was a curvilinear ditch (**671,717**), aligned north to south before turning towards the east. The excavated slot at the south (**671**) had stepped sides and a flat base, measuring 2.3m wide and 0.85m deep. This was filled by a series of secondary deposits (668,669,670). The excavated slot (**717**) to the north of the ditch had the same profile, but revealed a Victorian field drain set into the ditch, with no obvious cut indicating that it was contemporary with the infilling of the ditch

5 FACTUAL DATA AND ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

5.1 Stratigraphic and Structural Data

The Excavation Record

- 5.1.1 All hand written records have been collated and checked for internal consistency, and the site records have been transcribed onto an MS Access Database. Contexts will be ascribed to a phase dependant on the evidence found within them. The site plans and all relevant sections have been digitised in AutoCAD, finds will be drawn by hand. The quantification list of excavation records have been recorded in Table 5.

Type	Excavation
Context registers	6
Context numbers/sheets	248
Trench sheets	0
Plan registers	2
Section registers	2
Sample registers	11
Photo registers	6
Plans (1:20; 1:50)	63
Sections (1:10; 1:20)	74
Black and white films (36 exp)	2
Digital photographs	155

Table 5: quantification of excavation records

Finds and Environmental Quantification

- 5.1.2 A small to moderate finds assemblage was recovered during the excavation, reflecting its rural location. Pottery and CBM form the greatest components, with animal bone poorly represented due to preservation issues.
- 5.1.3 The bulk finds have been washed, bagged, marked (in accordance with SCCAS guidelines) and quantified by material type onto an MS Office Access database to allow integration with the stratigraphic record. These overall totals are summarised in Table 6 which also includes some data obtained from the evaluation reports; more detailed quantification is presented in the finds appendices.

Finds Category	Excavation Quantities	
	Weight (kg)	Number
Pottery	14.003	
CBM	9.158	
Animal bone	2.64	43
Flint	0.528	29
Shell	0.360	

Finds Category	Excavation Quantities	
	Weight (kg)	Number
Stone (worked)	2.999	4
Ceramic objects	0.340	1

Table 6: quantification of finds

5.2 Documentary Research

- 5.2.1 Research in documentary and cartographic evidence will be undertaken where appropriate to place the site into its wider context.

5.3 Artefact Summaries – statement of potential

Worked Stone

- 5.3.1 A total of four fragments from three contexts were recovered. One fragment was a saddle quern and the remaining three fragments were quern stones.

Statement of Potential

- 5.3.2 They have the potential to contribute to a general picture of activity on site as well as a growing body of data on querns in the south-east of England.

Prehistoric Pottery

- 5.3.3 A total of 1,639 sherds weighing 11,310g were collected from 19 excavated features (33 contexts). The pottery is fragmentary and no complete vessels were recovered. The sherds are mostly small and poorly preserved and the average sherd weight is 7g. The majority of the sherds are Later Bronze Age (1100-800BC) with a small quantity of earlier Iron Age pottery.

Statement of Potential

- A.1.1 The substantial pottery assemblage suggests settlement in the vicinity of the site in the Later Bronze Age, c.1100 to 800BC. The assemblage is typical of occupation debris including as it does a range of domestic forms including cooking and serving vessels. The presence of burnt residue on at least one sherd confirms its use for cooking and provides an opportunity for radiocarbon dating to be carried out. The mixed condition of the assemblage, which includes a large number of burnt sherds, is typical of Later Bronze Age pottery and consistent with pre-deposition middening.
- A.1.2 Several large Later Bronze Age assemblages have been examined in Essex including Lofts Farm in the 1980s and more recently Springfield Lyons and Mucking (Brown 1988; Brown 2013; Brudenell 2012). The pottery from these sites would provide useful *comparandi* for the present assemblage.
- A.1.3 The Iron Age pottery is comparable to pot from the recently published assemblage from the large middle Iron Age settlement at St Osyth (Germany 2007).

Medieval Pottery

- 5.3.4 A total of 308 sherds of pottery were recovered during the excavation from twenty contexts. The majority of the assemblage is attributable to the High Medieval period of the 13th to 14th centuries. Five contexts produced Early Medieval sherds (12th - 13th centuries).

Statement of Potential

- 5.3.5 This material forms part of an increasingly large and potentially important Medieval and Late Medieval pottery assemblage from the rural hinterland of Chelmsford and the environs of Belstead Manor and the Royal palace at New Hall. The assemblage will require further analysis following the completion of the excavation phase of the project when it is complete.

Ceramic Brick and Tile

- 5.3.6 A small assemblage of brick and tile weighing 9.158kg was recovered. The majority of the assemblage comprised tile, which dated to the Medieval period. The brick recovered dated to the medieval period. There is limited further potential for direct analysis of this specific material but it will be added to the database and included in the spatial and temporal analysis following completion of the excavation phase of the project.

5.4 Environmental Summaries

Faunal Remains

- 5.4.1 A small assemblage of animal bones was recovered by hand from the excavations (2.65kg) Of which, the majority were identifiable to species of cattle, sheep and pig. There is limited further potential for direct analysis of this specific material but it will be added to the database and included in the spatial and temporal analysis following completion of the excavation phase of the project.

Marine Mollusca

- 5.4.2 A small assemblage (0.375kg) of oyster shell (*Ostrea edulis*) was recovered from eleven medieval contexts. There is no further potential for analysis of this specific material but it will be added to the database and included in the spatial and temporal analysis following completion of the excavation phase of the project.

Environmental Remains

- A.1.4 The environmental samples taken from Site 7 indicate that preservation of plant remains is by carbonisation only (no evidence of waterlogging) and that the recovery of charred plant remains is poor. There is scant evidence of domestic occupation of the site in the Iron Age and it is not until the medieval period that there is any recovered evidence of preserved plant remains. Rivet wheat, barley and oats are cereals that were all commonly cultivated in medieval England and the samples are not considered worthy of any further analysis.

6 UPDATED RESEARCH AIMS AND OBJECTIVES

6.1 Regional Research Objectives

Late Bronze Age

- 6.1.1 Beaulieu as a whole has produced evidence for continuous occupation from the Bronze Age through into the Roman period, with Site 7 being an example of Later Bronze Age settlement, with the large assemblage of pottery from secure contexts. This sequence of securely dated sites could produce an important tool to address problems with settlement chronology in the Late Bronze Age / Early Iron Age.
- 6.1.2 Settlement remains from the Late Bronze Age in Essex are under-represented as there is difficulty in identifying potential sites. The settlement remains encountered at Site 7 will inform on settlement distribution and help to build a picture of settlement density at this period.

Medieval agricultural landscape

- 6.1.3 The development and any subsequent contraction of medieval settlement is currently under-represented for rural sites in Essex and alongside this the associated cause and effect this played with agricultural practices. The medieval remains on site highlight two distinct phases of agricultural activity, including the environmental remains will help build up a picture of economic and population change during the medieval period when taken alongside the settlement remains present on Zone D of the Beaulieu development.

6.2 Site Specific Research Objectives

- 6.2.1 The excavation encountered occupation dating to the Bronze Age and potentially the Early to Late Iron Age. This sequence of activity, when taken alongside the known Iron Age remains on Site 5,8 and 9 will help establish the chronology for settlement shift and density.
- 6.2.2 The Beaulieu development contains four known manorial sites, the closest to Site 7 being that at Belstead Hall. At present the origins of the moated manorial site is little understood, therefore the remains present will help establish a chronology for the manorial complex and help to inform upon its economic development and demise.
- 6.2.3 The site lies to the west of the New Hall manorial complex, which was transformed under the reign of Henry VIII into royal summer residence with expanded deer park. Establishing a chronology within this complex will help determine the effect the deer park had on social and economic practices, land use and land division within the park and its surroundings area.

7 REPORT WRITING, ARCHIVING AND PUBLICATION

7.1 Storage and Curation

- 7.1.1 Excavated material and records will be deposited with, and curated by, Essex County Council in appropriate county stores under the Site Code and county HER code SPBP14. A digital archive will be deposited with OA Library/ADS. ECC requires transfer of ownership prior to deposition. During analysis and report preparation, OA East will hold all material and reserves the right to send material for specialist analysis.

7.1.2 The archive will be prepared in accordance with current OA East guidelines, which are based on current national guidelines

7.2 Publication

7.2.1 The results from all phases of the project will form a site of regional significance, therefore publication in the East Anglian Archaeology monograph series appears appropriate. However, given the location of the site, the Oxford Archaeology monograph series is a viable alternative. Once the publication outlet is confirmed (following discussions with relevant parties), a preliminary synopsis will be prepared.

8 DISCUSSION AND CONCLUSIONS

8.1 Introduction

8.1.1 The discussion concentrates on features that are dated and can be grouped. It is presented as an overall chronological format to help set the findings into context within their wider landscape setting (see fig. 6 for plan).

8.2 Middle Bronze Age

8.2.1 The earliest activity on site probably dates to the Early Bronze Age. This is represented by a single pit (**680**), which, while undated by finds, is stratigraphically below the Middle Bronze Age ditch (see fig. 7 for plan). Further slight evidence for Early Bronze Age occupation comes from pottery found within the fills of later ditches.

8.2.2 A Middle Bronze Age boundary ditch (**579**) was aligned north-east to south-west in the west of the site 7. The ditch would appear likely to continue to both the north-east and south-west. The alignment of the ditch suggests that it would have run to the east of area A2, broadly parallel with it.

8.2.3 Further definition of what is presumably part of a much wider Middle Bronze Age field or enclosure system must be an important aim of any further evaluation and/or excavation work within the Beaulieu development.

8.3 Late Bronze Age

8.3.1 The truncated remains of several pits (**563,585,646,655,718,738,667**), related to late Bronze Age settlement activity were encountered (see fig. 7 for plan). The pits were of three distinct types: the first group were sub-circular and contained large pottery assemblages; the second was a possible charcoal lined pit (**569**); the third was a possible well or water storage pit (**581**). Further Late Bronze Age pits were encountered in areas A3 and A4. Settlement at this period is generally unenclosed (with rare exceptions such as the ringwork at Springfield Lyons), and often found in proximity to earlier, Middle Bronze Age, field systems and enclosures. Late Bronze Age settlement activity can be discrete, represented by small, localised sites or very extensive, covering many hectares.

8.4 Later Iron Age

8.4.1 An enclosure ditch (**502**) was recorded in area A2, which contained a large assemblage of Later Iron Age pottery. Two small fire pits (**525,526**) were present within the immediate area which may also date to this period. It is possible that they were part of a small settlement area which lay outside the current excavation area.

8.5 High Medieval

8.5.1 The medieval remains encountered are thought to represent ancillary activities to the manorial complex at Belstead. The first phase of medieval occupation at Site 7 saw the creation of small fields or enclosures (**592,637,633,557,574**), possibly as paddocks/pastures to hold livestock close to the Manor complex (see fig 7 for plan).

8.5.2 Subsequent remodelling, perhaps reflecting changes in agricultural regimes and priorities, climate change, ownership and general economic activity, saw the excavation of a large pit, possibly an animal watering station, or possibly for a more agri-industrial purpose. This comprised a large, square pit (**618**) with a cobbled surface on two sides (700) and potential 'corralling' structures (hedgelines) (**600,640**). One potential interpretation is that the pit functioned as a retting pit, however, unfortunately this part

of the development area has become significantly dewatered and no environmental evidence survived within the feature.

8.6 Significance

- 8.6.1 The large boundary ditch (579) recorded in Site 7 is the first Middle Bronze Age (MBA) feature to have been found at Beaulieu. Further work in the surrounding area may aid in establishing the wider MBA field and/or enclosure pattern, assuming that one exists. It would be rare for such a large ditch to exist in complete isolation.
- 8.6.2 The Late Bronze Age site recorded at Site 7 is one of several open settlements that have been identified along the Chelmer Valley, including possible sites identified further to the north-west on the Beaulieu minerals extraction site (URS 2013a). No structures were recorded, but the excavated pits contained large and relatively fresh ceramic assemblages and it has to be assumed that direct settlement, with roundhouse structures, was present within or close to the excavation area. Further evaluation and excavation targeting Late Bronze Age settlements is needed to clarify the nature and extent of this settlement.
- 8.6.3 The Later Iron Age settlement remains recorded in Area A2 is one of several identified within Beaulieu and along the Chelmer Valley (Stocks-Morgan, 2013a). These settlements would have existed within a larger agricultural landscape of open fields and dispersed settlement. The work at Beaulieu is already allowing us to build up a picture of shifting settlement patterns across the Early, Middle and Late Iron Age. Further work can only increase this.
- 8.6.4 The medieval remains present on site are likely to be an ancillary occupation area to Belstead manor. These remains, alongside further work planned to the north of the current excavation will help show the economic development and contraction this manorial complex over time.

APPENDIX A CONTEXT INVENTORY

Context	Same as	Cut	Area	Category	Feature type	Phase
500	523		A2	cut	ditch	medieval
501	522	500	A2	fill	ditch	medieval
502			A2	cut	ditch	Later Iron Age
503		502	A2	fill	ditch	Later Iron Age
504		502	A2	fill	ditch	Later Iron Age
505		502	A2	fill	ditch	Later Iron Age
506		502	A2	fill	ditch	Later Iron Age
507		502	A2	fill	ditch	Later Iron Age
508			A2	layer	topsoil	-
509			A2	layer	subsoil	-
510			A3	layer	topsoil	-
511			A3	layer	subsoil	-
512			A4	layer	topsoil	-
513			A4	layer	subsoil	-
514			7	layer	topsoil	-
515			7	layer	subsoil	-
516		517	A2	fill	ditch	-
517			A2	cut	ditch	medieval
518		521	A2	fill	ditch	medieval
519		521	A2	fill	ditch	medieval
520		521	A2	fill	ditch	medieval
521			A2	cut	ditch	medieval
522	501	523	A2	fill	ditch	medieval
523	500		A2	cut	ditch	medieval
524		525	A2	fill	pit	Later Iron Age
525			A2	cut	pit	Later Iron Age
526			A2	cut	pit	Later Iron Age
527		526	A2	fill	pit	Later Iron Age
528		529	A4	fill	pit	Prehistoric
529			A4	cut	pit	Prehistoric
530		531	A4	fill	pit	Prehistoric
531			A4	cut	pit	Prehistoric
532		533	A4	fill	pit	Prehistoric
533			A4	cut	pit	Prehistoric
534	502		A2	cut	ditch	Later Iron Age
535	537	536	A3	fill	Natural feature	-
536	538		A3	cut	Natural feature	-
537	535	538	A3	fill	Natural feature	-
538	536		A3	cut	Natural feature	-
539			A3	cut	pit	Late Bronze Age
540		539	A3	fill	pit	Late Bronze Age
541			A3	cut	pit	Late Bronze Age
542		541	A3	fill	pit	Late Bronze Age
543			A3	cut	pit	Late Bronze Age

Context	Same as	Cut	Area	Category	Feature type	Phase
544		543	A3	fill	pit	Late Bronze Age
545		546	A3	fill	pit	Late Bronze Age
546			A3	cut	pit	Late Bronze Age
547	562		7	cut	ditch	medieval phase 2
548		547	7	fill	ditch	medieval phase 2
549			7	cut	pit	Prehistoric
550		549	7	fill	pit	Prehistoric
551		549	7	fill	pit	Prehistoric
552		553	7	fill	pit	Prehistoric
553			7	cut	pit	Prehistoric
554		557	7	fill	ditch	medieval phase 1
555		557	7	fill	ditch	medieval phase 1
556		557	7	fill	ditch	medieval phase 1
557	674		7	cut	ditch	medieval phase 1
558			7	layer	natural	-
559		560	7	fill	posthole	medieval phase 2
560			7	cut	posthole	medieval phase 2
561		562	7	fill	posthole	medieval phase 2
562			7	cut	posthole	medieval phase 2
563			7	cut	pit	Late Bronze Age
564			7	cut	test pit	-
565		564	7	layer	natural	-
566		563	7	fill	pit	Late Bronze Age
567		563	7	fill	pit	Late Bronze Age
568		569	7	fill	pit	Prehistoric
569			7	cut	pit	Prehistoric
570		572	7	fill	Natural feature	-
571		572	7	fill	Natural feature	-
572			7	cut	Natural feature	-
573		569	7	fill	pit	Prehistoric
574	635,732		7	cut	ditch	medieval phase 1
575		574	7	fill	ditch	medieval phase 1
576		579	7	fill	ditch	Mid Bronze Age
577		579	7	fill	ditch	Mid Bronze Age
578		579	7	fill	ditch	Mid Bronze Age
579	622,678		7	cut	ditch	Mid Bronze Age
580		582	7	fill	ditch	medieval phase 2
581		582	7	fill	ditch	medieval phase 2
582	547		7	cut	ditch	medieval phase 2
583		584	7	fill	ditch	medieval phase 2
584	547		7	cut	ditch	medieval phase 2
585			7	cut	pit	Late Bronze Age
586		585	7	fill	pit	Late Bronze Age
587			7	cut	pit	Late Bronze Age
588		587	7	fill	pit	Late Bronze Age
589		587	7	fill	pit	Late Bronze Age

Context	Same as	Cut	Area	Category	Feature type	Phase
590		592	7	fill	ditch	medieval phase 1
591		592	7	fill	ditch	medieval phase 1
592	683,699		7	cut	ditch	medieval phase 1
593		585	7	fill	pit	Late Bronze Age
594			7	cut	natural feature	-
595		594	7	fill	natural feature	-
596			7	cut	natural feature	-
597		596	7	fill	natural feature	-
598			7	cut	natural feature	-
599		598	7	fill	natural feature	-
600			7	cut	natural feature	-
601		600	7	fill	natural feature	-
602	604,606		7	cut	ditch	medieval phase 2
603		602	7	fill	ditch	medieval phase 2
604	602,606		7	cut	ditch	medieval phase 2
605		604	7	fill	ditch	medieval phase 2
606	602,604		7	cut	ditch	medieval phase 2
607		606	7	fill	ditch	medieval phase 2
608		534	A2	fill	ditch	Later Iron Age
609		534	A2	fill	ditch	Later Iron Age
610		534	A2	fill	ditch	Later Iron Age
611	638		7	cut	ditch	medieval phase 2
612		611	7	fill	ditch	medieval phase 2
613			7	cut	posthole	-
614		613	7	fill	posthole	-
615			7	cut	pit	medieval phase 2
616			7	cut	pit	medieval phase 2
617	729		7	cut	pit	medieval phase 2
618	725		7	cut	pit	medieval phase 2
619		622	7	fill	ditch	Mid Bronze Age
620		622	7	fill	ditch	Mid Bronze Age
621		622	7	fill	ditch	Mid Bronze Age
622	579,678		7	cut	ditch	Mid Bronze Age
623		615	7	fill	pit	medieval phase 2
624		616	7	fill	pit	medieval phase 2
625		617	7	fill	pit	medieval phase 2
626		617	7	fill	pit	medieval phase 2
627		617	7	fill	pit	medieval phase 2
628		618	7	fill	pit	medieval phase 2
629		618	7	fill	pit	medieval phase 2
630		618	7	fill	pit	medieval phase 2
631		618	7	fill	pit	medieval phase 2
632		633	7	fill	ditch	medieval phase 1
633	645,672		7	cut	ditch	medieval phase 1
634		635	7	fill	ditch	medieval phase 1
635	574,732		7	cut	ditch	medieval phase 1

Context	Same as	Cut	Area	Category	Feature type	Phase
636		637	7	fill	ditch	medieval phase 1
637	654		7	cut	ditch	medieval phase 1
638	611		7	cut	ditch	medieval phase 2
639		638	7	fill	ditch	medieval phase 2
640			7	cut	ditch	medieval phase 2
641		640	7	fill	ditch	medieval phase 2
642		645	7	fill	ditch	medieval phase 1
643		645	7	fill	ditch	medieval phase 1
644		645	7	fill	ditch	medieval phase 1
645	633,672		7	cut	ditch	medieval phase 1
646			7	cut	pit	Late Bronze Age
647		646	7	fill	pit	Late Bronze Age
648		646	7	fill	pit	Late Bronze Age
649		650	7	fill	pit	Medieval phase 1
650			7	cut	pit	medieval phase 1
651		654	7	fill	ditch	medieval phase 1
652		654	7	fill	ditch	medieval phase 1
653		654	7	fill	ditch	medieval phase 1
654	637		7	cut	ditch	medieval phase 1
655			7	cut	pit	Late Bronze Age
656		655	7	fill	pit	Late Bronze Age
657		667	7	fill	pit	Late Bronze Age
658		667	7	fill	pit	Late Bronze Age
659		667	7	fill	pit	Late Bronze Age
660		667	7	fill	pit	Late Bronze Age
661		667	7	fill	pit	Late Bronze Age
662		667	7	fill	pit	Late Bronze Age
663		667	7	fill	pit	Late Bronze Age
664		667	7	fill	pit	Late Bronze Age
665		667	7	fill	pit	Late Bronze Age
666		667	7	fill	pit	Late Bronze Age
667			7	cut	pit	Late Bronze Age
668		671	7	fill	ditch	modern
669		671	7	fill	ditch	modern
670		671	7	fill	ditch	modern
671	717		7	cut	ditch	modern
672	633,645		7	cut	ditch	medieval phase 1
673		672	7	fill	ditch	medieval phase 1
674	557		7	cut	ditch	medieval phase 1
675		678	7	fill	ditch	Mid Bronze Age
676		678	7	fill	ditch	Mid Bronze Age
677		678	7	fill	ditch	Mid Bronze Age
678	579,622		7	cut	ditch	Mid Bronze Age
679		680	7	fill	pit	Mid Bronze Age
680			7	cut	pit	Mid Bronze Age
681			7	cut	pit	Late Bronze Age

Context	Same as	Cut	Area	Category	Feature type	Phase
682		681	7	fill	pit	Late Bronze Age
683	592,699		7	cut	ditch	medieval phase 1
684		674	7	fill	ditch	medieval phase 1
685		674	7	fill	ditch	medieval phase 1
686		674	7	fill	ditch	medieval phase 1
687		674	7	fill	ditch	medieval phase 1
688		674	7	fill	ditch	medieval phase 1
689		690	7	fill	pit	modern
690			7	cut	pit	modern
691		692	7	fill	pit	modern
692			7	cut	pit	modern
693		695	7	fill	pit	modern
694		695	7	fill	pit	modern
695			7	cut	pit	modern
696		683	7	fill	ditch	medieval phase 1
697		683	7	fill	ditch	medieval phase 1
698		699	7	fill	ditch	medieval phase 1
699	592,683		7	cut	ditch	medieval phase 1
700			7	layer	cobbled surface	medieval phase 2
701			7	layer	use	medieval phase 2
702		703	7	fill	gully	Post-medieval
703	708		7	cut	gully	Post-medieval
704		706	7	fill	ditch	medieval phase 2
705		706	7	fill	ditch	medieval phase 2
706	706		7	cut	ditch	medieval phase 2
707		708	7	fill	gully	Post-medieval
708	703		7	cut	gully	Post-medieval
709		711	7	fill	ditch	medieval phase 2
710		711	7	fill	ditch	medieval phase 2
711	706		7	cut	ditch	medieval phase 2
712		713	7	fill	pit	medieval phase 2
713			7	cut	pit	medieval phase 2
714		715	7	fill	pit	Prehistoric
715			7	cut	pit	Prehistoric
716		716	7	fill	ditch	modern
717	671		7	cut	ditch	modern
718			7	cut	pit	Late Bronze Age
719		718	7	fill	pit	Late Bronze Age
720		715	7	fill	pit	prehistoric
721	630	725	7	fill	pit	medieval phase 2
722	629	725	7	fill	pit	medieval phase 2
723		729	7	fill	pit	medieval phase 2
724	628	725	7	fill	pit	medieval phase 2
725	618		7	cut	pit	medieval phase 2
726	627	729	7	fill	pit	medieval phase 1
727	626	729	7	fill	pit	medieval phase 1

Context	Same as	Cut	Area	Category	Feature type	Phase
728	625	729	7	fill	pit	medieval phase 1
729	617		7	cut	pit	medieval phase 2
730		732	7	fill	pit	medieval phase 2
731		732	7	fill	pit	medieval phase 2
732	574,635		7	cut	pit	medieval phase 2
733		671	7	fill	pit	modern
734		729	7	fill	pit	medieval phase 2
735		729	7	fill	pit	medieval phase 2
736		585	7	fill	pit	Late Bronze Age
737		738	7	fill	pit	Late Bronze Age
738			7	cut	pit	Late Bronze Age
739		718	7	fill	pit	Late Bronze Age
740			7	cut	pit	Late Bronze Age
741		740	7	fill	pit	Late Bronze Age
742			7	cut	pit	Late Bronze Age
743		742	7	fill	pit	Late Bronze Age
744		740	7	fill	pit	Late Bronze Age
745		740	7	fill	pit	Late Bronze Age
746		740	7	fill	pit	Late Bronze Age
747		742	7	fill	pit	Late Bronze Age

APPENDIX B. FINDS REPORTS

B.1 Stone

By Ruth Shaffrey

Summary and Quantification

B.1.1 A total of 4 pieces of stone were retained during the excavation from Zone A.

Methodology

B.1.2 A rapid assessment of the stone was carried out in order to ascertain the range of artefacts and materials present and to determine the level of future works required. No recording was carried out.

Description

B.1.3 A single saddle quern (737, of Greensand) was recovered, as well as three further fragments of querns (lava from 696 and sandstone/Millstone Grit from 739).

Statement of Potential

B.1.4 None of the fragments are from contexts that have been phased at this stage, however, they do have the potential to contribute to a general picture of activity on site as well as a growing body of data on querns in the south-east of England.

Recommendations for further work

B.1.5 The objects should be recorded and compared to material of comparable phase from other sites in and around Chelmsford.

B.1.6 Tasklist

Task	Time
9 Recording Record all objects Enter into database and add phasing and context information	0.5
10 Report writing Write descriptive text, prepare catalogue Research local and regional comparative material Write report	1
11 Additional tasks Prepare database for archive Produce illustration briefs Editing	0.5
12 Illustrations	0.5
TOTAL	2 days (RS) 0.5 days (illustrator)

Table 7: tasklist for worked stone

B.2 Flint

B.2.1 The excavation resulted in the recovery of 3 struck flints and an assemblage of unworked burnt fragments, totalling 0.524kg. There is no potential for further work on this assemblage.

Context	Cut	Feature	Blade	Flake	Burnt Flint (no.)	Burnt Flint (wt:g)
593	585	Pit			4	48
676	678	ditch		2		
741	740	pit			4	126
744	740	pit			9	110
747	742	pit			8	240
Total				2	25	524

Table 8: flint from Zone A

B.3 Prehistoric Pottery

By Sarah Percival

Introduction and methodology

B.3.1 A total of 1,639 sherds weighing 11,310g were collected from 19 excavated features (33 contexts).. The pottery is fragmentary and no complete vessels were recovered. The sherds are mostly small and poorly preserved and the average sherd weight is 7g. The majority of the sherds are Later Bronze Age (1100-800BC) with a small quantity of Early Iron Age pottery from one feature (800-600BC). Very small and abraded sherds of medieval pottery were also present in some features.

Feature Type	Feature	Context	Spot Date	Quantity	Weight (g)
Ditch	547	548	Later Bronze Age	1	1
		574	575	Later Bronze Age	6
	579	576	Later Bronze Age	9	12
			Not Closely Datable	2	2
	584	583	Later Bronze Age	9	74
	622	619	Later Bronze Age	4	7
			Not closely Datable	5	25
	678	675	Later Bronze Age	6	22
			Medieval	2	2
			Not Closely Datable	2	5
			Roman	3	9
		676	Iron Age	4	13
			Later Bronze Age	2	1
			Not Closely Datable	2	1
677	Later Bronze Age	1	1		
699	698	Earlier Iron Age	1	2	
		Later Bronze Age	32	217	
Pit	539	540	Later Bronze Age	2	28
	543	544	Later Bronze Age	3	5
	585	586	Later Bronze Age	238	1622

Feature Type	Feature	Context	Spot Date	Quantity	Weight (g)
			Medieval	2	51
		593	Later Bronze Age	38	407
			Not closely Datable	10	10
		736	Later Bronze Age	29	448
	587	589	Not Closely Datable	2	8
			Later Bronze Age	155	1558
	646	647	Later Bronze Age	156	1113
		648	Later Bronze Age	3	79
	667	657	Later Bronze Age	160	953
		658	Later Bronze Age	73	339
			Not closely Datable	1	1
		659	Later Bronze Age	89	440
			Not closely Datable	6	14
		660	Later Bronze Age	24	131
			Not closely Datable	1	2
		661	Later Bronze Age	4	17
		662	Later Bronze Age	8	79
		663	Later Bronze Age	1	10
		665	Later Bronze Age	1	3
		666	Later Bronze Age	4	21
	671	733	Later Bronze Age	2	14
	681	682	Later Bronze Age	15	60
			Not closely Datable	1	3
	718	739	Later Bronze Age	406	1784
	738	737	Later Bronze Age	27	486
	740	741	Later Bronze Age	34	715
		744	Later Bronze Age	39	368
			Not closely Datable	1	2
	742	747	Later Bronze Age	20	193
Total				1646	11372

Table 9: Quantity and weight of pottery by feature

B.3.2 The assemblage was analysed in accordance with the Guidelines for analysis and publication laid down by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue was prepared. The sherds were examined using a binocular microscope (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types. Fabric codes were prefixed by a letter code representing the main inclusion present (F representing flint, G grog and Q quartz). Vessel form was recorded; R representing rim sherds, B base sherds, D decorated sherds and U undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration and abrasion were also noted. The pottery and archive are curated by OAE

Nature of the Assemblage

- B.3.3 The Later Bronze Age pottery is characterised by the extensive use of flint-tempered fabrics which form 91% of the total assemblage by weight. The flint has been heated and crushed to form white angular inclusions. The flint-tempering varies in size, sorting and quantity between fabrics and are mostly found within a fine clay matrix though some sherds also have added quartz sand. Rims from 34 vessels are present. Forms include coarse jars along with coarse and fine bowls and small fine cups. All are undecorated with the exception of one small scrap which is fingernail impressed. Common surface treatments include fingered or rough-wiped exteriors, whilst the fine vessels are smoothed or burnished. The condition of the Later Bronze Age sherds varies, with 4% of the sherds being heavily burnt post breakage. At least one vessel is represented by both burnt and unburnt sherds and one sherd is heavily encrusted with burnt residue on the interior which may be suitable for radiocarbon dating.
- B.3.4 A little over 96% of the Later Bronze Age assemblage was recovered from the fills of pits, whilst the remainder came from ditch fills.

Statement of Research Potential

- B.3.5 The substantial pottery assemblage suggests settlement in the vicinity of the site in the Later Bronze Age, c.1100 to 800BC. The assemblage is typical of occupation debris including as it does a range of domestic forms including cooking and serving vessels. The presence of burnt residue on at least one sherd confirms its use for cooking and provides an opportunity for radiocarbon dating to be carried out. The mixed condition of the assemblage, which includes a large number of burnt sherds, is typical of Later Bronze Age pottery and consistent with pre-deposition middening.
- B.3.6 Several large Later Bronze Age assemblages have been examined in Essex including Lofts Farm in the 1980s and more recently Springfield Lyons and Mucking (Brown 1988; Brown 2013; Brudenell 2012). The pottery from these sites would provide useful *comparandi* for the present assemblage.
- B.3.7 The Iron Age pottery is comparable to pot from the recently published assemblage from the large middle Iron Age settlement at St Osyth (Germany 2007).

Further Work and Method Statement

- B.3.8 A full report is required including complete descriptions of the fabrics and forms present and discussion of these in a local and regional context. Full phasing should be incorporated into the pottery catalogue to allow analysis of deposition and site formation processes. Radiocarbon dating of adhering residues would contribute to a discussion of the site and assemblage chronology and place it within the framework of known dated sites from the region.
- B.3.9 A maximum of ten sherds need illustration and a full illustrated sherd catalogue is required.

B.4 Medieval Pottery

By John Cotter

- 12.1.1 A total of 354 sherds of pottery were recovered, weighing approximately 2.73kg. By far the largest part of the assemblage comprises a number of Mill Green fabrics, with a few coarse greywares. Jugs are prevalent, with occasional jars and cook pots. Practically the entire assemblage can be dated to between 1250 and 1450, with potential to separate this into two phases. There are two sherds of slightly later material and one of slightly earlier.

12.1.2 When all excavation areas have been completed this material will form part of a large and significant assemblage of late Medieval to early post-Medieval ceramics and as such will require further analysis beyond spot-dating and cataloguing (see Table 10).

Context	Feature	Date	No.	Weight (g)	Comments
519	Ditch 521	14-16C?	1	27	Uncertain fine redware. Either hard-fired Mill Green ware (Fabric 35/MG), or early F40 (PMR)? Unglazed bo from lower handle junction of jug with one of a pair of large thumbed keying impression. Fresh
580	Ditch 582	c1275-1350	1	6	Fresh MG jug rim with AO (allover) white slip
581	Ditch 582	c1275-1400?	14	68	All fresh MG jug bos - mostly plain unslipped unglz. 1 jug neck with white slip band
623	Pit 615	c1275-1350	1	2	Bo MG jug with AO white slip
624	Pit 616	c1250-1400	5	20	1 vess. Bos from small F20 drinking jug or bottle?
627	Pit 617	c1250-1400	3	10	2 vess. Joining medieval grey ware F20 bos. 1x v worn MG?
628	Pit 618	c1475-1550?	2	94	Early F40? incl unglz jug rim/handle
632	Ditch 633	c1150-1300?	1	7	Fairly worn bo - poss neck/shoulder bo from jug or smallish jar. Poss F20? Fine grey sandy with v coarse angular flint inclusions
634	Ditch 635	c1250-1400	7	41	2 vess. Fresh rim & bos F20 cspot with squarish rim. Worn bos MG or F21 (med orange sandy) jug with trace white slip dec
639	Ditch 638	c1175-1400	11	129	All F20 grey ware. Mostly 1 large sagging cspot base in v coarse sandy fabric, sooted ext. scraps 1-2 other cspots
649	Pit 650	c1275-1350	11	64	Mostly Mill Green jugs. Incl bos from jug with white slip dec under clear glaze. Sag base. 1-2 scraps F20
651	Ditch 654	c1275-1400?	9	78	Bo, fresh. Prob all Mill Green (F35) jug bos but mostly unglazed & poss late med? Few with allover (AO) white slip
656	Pit 655	c1250-1400	1	5	F20 sagging base cspot
685	Ditch 674	c1275-1400?	4	136	Jug rim unglz prob coarse Mill Green with white slip line dec & rod handle, bos. 1x blocked F20 cspot rim - finer/lighter fabric - poss MG?
696	Ditch 683	c1275-1350	2	11	Joining bos. Unglazed Mill Green jug with part of painted white slip scroll

697	Ditch 683	c1250-1400	5	4	Scraps 2 vess. Incl prob MG with trace white slip dec/line. Other unglz MG scraps
700	layer	c1350-1450?	80	650	Nearly all 'developed' Mill Green ware (or early post-med-type Fabric 40/PMR?). Poss 15C or even early 16C?? Fabric v fine - mainly 2-3 fresh but v broken vess - thick-walled jars incl rims - one jar with allover int white deposit or possibly white slip?. Few sherds F21 incl prob 14/15C jug rim/handle. 1x bo sandy/shelly 12/13C
701	layer	c1350-1450?	87	520	Developed Mill Green ware? Same vessels as in (700) incl ?jar base with group of thumbed feet. Jug rim. 1-2 poss med F20. 1 scrap med shellyware (F12)
702	Ditch 703	c1250-1400	7	12	Scraps F20 & F21 or MG?
704	Ditch 706	c1250-1400	2	12	Bos F20
705	Ditch 706	c1275-1350	17	81	Fresh. Incl cupped MG jug rim (sooted ext) with traces reeded neck - poss metal copy form? Bos with AO white slip under sparse green glz. Fresh bos F20 from 1-2 vess
707	Ditch 708	c1250-1400	1	4	Worn bo F20
710	Ditch 711	c1275-1350	6	26	Bos & 1 sag base - prob all Mill Green, incl jug bo with AO white slip under green glz. Sooted cpot bos
712	Pit 713	c1275-1350	29	174	Fresh. Mix of prob Mill Green slip jug bos & F20 cpts incl rims. Horiz grooved dec on 1 bo F20
721	Pit 725	c1275-1350	8	32	Prob all MG jug bos. Some with AO wh slip. 1 sl coarser with red pellet dec on wh slip body
722	Pit 725	c1275-1350	9	198	Mill Green ware allover white slipped jug rim/rod handle - unglazed, fresh. Larger ?F21 strap handle. 1x F20
726	Pit 729	c1275-1400?	20	122	Fresh. Mix of prob Mill Green white slip jug bos, sparse glaze, & F20 cpts/jug bos in finer fabric
728	Pit 729	c1250-1400	2	75	Fresh F20 grey ware (or reduced MG?) lower handle junction from jug with narrow oval/rod handle. Joining sherds
731	Pit 732	c1275-1350	7	122	Fresh. Bos MG jugs incl 1 with Rouen-style slip dotted dec under green-flecked glz. 1 with AO white slip. Fresh late blocked F20 cpot rim & prob flaring walled bowl bo
TOTAL			354	2731	

Table 10: Medieval pottery

B.5 Ceramic Building Material

12.1.3 Twenty-eight contexts produced Ceramic Building Material (CBM) weighing a total of 9.16kg. The vast majority of this material was Medieval roof tile, in a hard, orange-red sandy fabric. While the material is not intrinsically interesting, or worthy of further analysis, the assemblage will be collated with those from all earlier and subsequent excavations within the Beaulieu development and will be analysed and reported upon both spatially and temporally.

Context	Area	Weight (kg)	Type
575	7	0.041	Tile: orange to red sandy fully oxidised
581	7	0.77	Tile: orange to red sandy fully oxidised
590	7	0.094	Tile: orange to red sandy fully oxidised
627	7	0.086	Tile: orange to red sandy fully oxidised
628	7	0.166	Tile: orange to red sandy fully oxidised
629	7	0.465	Tile: orange to red sandy fully oxidised
630	7	0.055	Tile: orange to red sandy fully oxidised
632	7	0.477	Tile: orange to red sandy fully oxidised
634	7	0.007	Brick: Hard orange sandy
636	7	0.181	Tile: orange to red sandy fully oxidised
642	7	0.049	Tile: orange to red sandy fully oxidised
643	7	0.277	Tile: orange to red sandy fully oxidised
649	7	0.12	Tile: orange to red sandy fully oxidised
651	7	0.086	Tile: orange to red sandy fully oxidised
656	7	0.029	Tile: orange to red sandy fully oxidised
668	7	0.145	Tile: Hard orange sand fully oxidised.
673	7	0.153	Tile: orange to red sandy fully oxidised
685	7	1.044	Tile: orange to red sandy fully oxidised
696	7	0.13	Tile: orange to red sandy fully oxidised
700	7	1.5	Tile: orange to red sandy fully oxidised
701	7	0.317	Tile: orange to red sandy fully oxidised
702	7	0.041	Brick: Hard orange sandy
707	7	0.064	Brick: Hard orange sandy
721	7	0.72	Tile: orange to red sandy fully oxidised
722	7	1.717	Tile: orange to red sandy fully oxidised
724	7	0.174	Tile: orange to red sandy fully oxidised
726	7	0.106	Tile: orange to red sandy fully oxidised
728	7	0.144	Tile: orange to red sandy fully oxidised
28		9.16kg	

Table 11: Ceramic Building Material by context

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Faunal Remains

By Chris Faine

C.1.1 Two point six four kilograms of animal bone was recovered from the excavation. Bones were recorded using a version of the criteria described in Davis (1992) and Albarella & Davis (1994). Initially all elements were assessed in terms of siding (where appropriate), completeness, tooth wear stages (also where applicable) and epiphyseal fusion. Completeness was assessed in terms of percentage and zones present (after Dobney & Reilly, 1988). The assemblage consisted of 43 fragments of which 23 were identifiable to species. The assemblage contained cattle, sheep, horse and pig remains. The majority (NISP: 15), consisted of cattle remains. These largely consisted of lower elements (metapodia, tibia and radii), along with smaller numbers of upper limbs, Two fragmentary maxillae were recovered from contexts **536 & 537**. Sheep/goat remains were recovered from 3 contexts, consisting of 2 tibiae from contexts **504 & 522**, and a partial radius from context **700**. Horse remains consisted of a mandible from an animal around 7-9 years of age from context **505**, along with a partial metacarpal and spine from contexts **527 & 730** respectively. Both show pathology, with the proximal metacarpal being fused to its carpal bone, and the spine (all lumbar vertebrae) being completely fused along the dorsal surfaces. Both are indicative of animals either ridden or used as draught animals. A young adult pig humerus and tibia were recovered from contexts **503 & 505** respectively.

	NISP	NISP%	MNI	MNI%
Cattle (Bos)	15	65	8	53.4
Sheep / Goat (Ovis/Capri)	3	13	3	20
Horse (Equus)	3	13	2	13.3
Pig (Sus scrofa)	2	9	2	13.3
	23	100	15	100

Table 12: Species distribution for the assemblage

D.1.2 While there is limited further potential for direct analysis of the faunal material itself, this assemblage will be added to the database and included in the spatial and temporal analysis following completion of the excavation phase of the project.

C.2 Marine Mollusca

Context	Area	Weight (kg)
556	7	0.002
561	7	0.027
580	7	0.01
581	7	0.044

624	7	0.024
697	7	0.007
700	7	0.14
701	7	0.086
705	7	0.009
721	7	0.008

Table 13; Oyster shell by context

- C.2.1 There is no further potential for analysis of this specific material but it will be added to the database and included in the spatial and temporal analysis following completion of the excavation phase of the project.

C.3 Environmental Samples

By Rachel Fosberry

Introduction

- C.3.1 Thirty-eight bulk samples were taken from features within the four excavated areas at Zone A Housing at Beaulieu, Chelmsford, Essex in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations. Features sampled in Areas A2, A3 and A4 were mainly Late Iron Age pits and ditches thought to be associated with domestic settlement. Features sampled in the northern area (Site 7) include pits, ditches and postholes that formed part of a Bronze Age settlement and features relating to medieval activity.

Methodology

- C.3.2 Many of the samples had a high clay content and were pre-treated with a solution of sodium carbonate. Subsequently one bucket (approximately ten litres) of each of the samples was processed by tank flotation using modified Siraff-type equipment with the intention of processing the remainder of the sample dependent on the findings of this initial assessment. The floating component (flot) of the samples was collected in a 0.25mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 14. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands and the authors' own reference collection. Nomenclature is according to Stace (1997). Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

- C.3.3 For the purpose of this initial assessment, items such as seeds, cereal grains and legumes have been scanned and recorded qualitatively according to the following categories

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

Items that cannot be easily quantified such as charcoal have been scored for abundance

+ = rare, ++ = moderate, +++ = abundant

Results

C.3.4 The results are discussed by area and by phase:

Area A2

C.3.5 Samples were taken from pits **525** and **526**. Sample 70, fill 527 of pit **526** contains a moderate amount of charcoal whereas Sample 71, fill 524 of pit **525** contains sparse charcoal only despite the latter being described as a possible fire pit with charcoal evident on excavation. Occasionally charcoal in samples is so degraded that it actually dissolves during processing with very little material retained in the flot.

Area A3

C.3.6 Four samples were taken from Late Bronze Age pits **543** (fill 544), **541** (fill 542), **539** (fill 540) and **546** (fill 545) none of which contain any preserved remains other than sparse charcoal. Several pottery sherds were recovered from the residue of Sample 76, fill 540 of pit **539**.

Area A4

C.3.7 Samples were taken from pits **531** and **533** both of which showed evidence of in situ burning and contain moderate amounts of charcoal.

Area 7

Late Bronze Age

C.3.8 Five pits were sampled; Pit **563** contained a loom weight in the upper fill 566 but there are no preserved plant remains. Pit **585** contains a single wheat (*Triticum* sp.) grain and pottery in upper fill 586 (Sample 88), the lower fill 593 did not contain preserved remains. Pit **646** similarly did not contain preserved remains. Samples 94 and 95 were taken from fills 657 and 659 of pit **667** and a single oat grain is present in the upper fill 657. If these features had been used for waste disposal it is unlikely that they included hearth waste. Pit **569** differs from the other pits in this area in that it contained a burnt basal layer 573 (Sample 85) comprised purely of wood charcoal below a silty clay fill 568 (Sample 84) that also contained a significant amount of charcoal. There may have been some post-depositional mixing of the two contexts.

Prehistoric

C.3.9 Pit **549** contains a wood charcoal and burnt flint-filled deposit 550 (Sample 80) which is suggestive of a potentially later Iron Age fire-pit.

Medieval Phase 1

C.3.10 Boundary ditch **633** contains a single wheat grain in upper fill 632 (Sample 91). Ditch **654** contained a deliberate deposit of charcoal-rich material in fill 652 (Sample 92) that contains a few poorly-preserved charred grains and a single rachis (stem) fragment of rivet wheat (*Triticum turgidum*).

Medieval Phase 2

C.3.11 Enclosure ditch **582** contained an obvious midden deposit 580 (Sample 87) comprised of domestic and culinary waste. Charred plant remains in the form of cereal grains (predominantly wheat) are abundant and there are also occasional seeds of weeds such as ribwort plantain (*Plantago lanceolata*) and cleavers (*Galium aparine*). Hedgeline 611, filled by deposit 612 (Sample 90) contains a single charred wheat grain.

C.3.12 Pit 713 contained possibly significant plant assemblages from fill 712 (sample 105) comprising wheat grains and rachis fragments, barley (*Hordeum vulgare*) rachis, a bean (Fabaceae) fragment, and a single dock (*Rumex* sp.) seed as possible evidence of the final stages of cleaning cereal grains prior to cooking.

C.3.13 The single fill 561 of posthole **562** (Sample 82) contains ten charred cereal grains. Charred grain can accumulate in postholes whilst the post is still in place as they were frequently swept or blown in the void surrounding the post. Alternatively they can enter the hole during disuse, particularly if the post was removed. The presence of grain in posthole **567** suggests it was part of a domestic structure or in an area in which cooking hearth waste was discarded.

C.3.14 Samples were taken from two phases of a watering hole (**617** and **618**). Sample 108, fill 723 of pit **618** contains a moderate assemblage of free-threshing wheat with occasional grains of barley, rye (*Secale cereale*) and oats (*Avena* sp.) suggesting that it is most likely to date to the medieval period. The possibility of the pit being used as a retting pit was investigated as a hypothesis, however, there is no direct evidence of the suggested use of this pit for flax retting. Seeds and stems of flax are unlikely to survive unless the deposit was waterlogged, which it wasn't. The charred assemblage recovered is likely to represent the subsequent use of the pit for rubbish disposal. Pit **617** did not contain any preserved remains.

Sample No.	Context No.	Cut No.	Feature Type	Area	Phase	Volume processed (L)	Flot Volume (ml)	Cereals	Charaff	Legumes	Weed Seeds	Charcoal	Flot comments	Pottery
75	535	536	ditch	A3	0	10	2	0	0	0	0	0	no preservation	
86	566	563	pit	7	6		1	0	0	0	0	0	no preservation	0
83	576	579	ditch	7	6	9	1	0	0	0	0	+	sparse charcoal only	0
84	568	569	pit	7	6	10	60	0	0	0	#	++ +	charcoal rich. Single goosefoot seed	0
85	573	569	pit	7	6	10	180	0	0	0	0	++ ++	charcoal rich	0
88	586	585	pit	7	6	7	1	#	0	0	0	+	single wheat grain	+
89	593	585	pit	7	6	7	1	0	0	0	0	+	sparse charcoal only	0
94	657	667	pit	7	6	10	5	#	0	0	0	++	single oat grain	+

95	659	667	pit	7	6	9	2	0	0	0	0	++	sparse charcoal only	+	
96	662	667	pit	7	6	8	1	0	0	0	0	++	sparse charcoal only	+	
101	682	681	pit	7	6	9	1	0	0	0	0	+	sparse charcoal only	+	
104	647	646	pit	7	6	10	0	0	0	0	0	0	no preservation	+	
111	733	671	pit	7	6	7	1	0	0	0	0	+	sparse charcoal only	+	
70	524	525	pit	A2	9	5	10	0	0	0	0	++ +	fine charcoal	0	
71	527	526	pit	A2	9		1	0	0	0	0	+	sparse charcoal only	0	
72	528	529	pit	A4	9	8	0	0	0	0	0	0	0	0	0
73	530	531	pit	A4	9	8	15	0	0	0	0	++ +	charcoal rich	0	
74	532	533	pit	A4	9	9	30	0	0	0	0	++ +	charcoal rich	0	
76	540	539	pit	A3	9	8	1	0	0	0	0	0	no preservation	++	
77	542	541	pit	A3	9	9	1	0	0	0	0	+	sparse charcoal only	0	
79	544	543	pit	A3	9	6	1	0	0	0	0	+	sparse charcoal only	0	
78	545	546	pit	A3	9	10	1	0	0	0	0	+	sparse charcoal only	0	
80	550	549	pit	7	9	8	30	0	0	0	0	++ +	moderate charcoal	0	
106	714	715	pit	7	9	5	50	0	0	0	0	++ +	charcoal rich	0	
91	632	633	ditch	7	16.1	10	2	#	0	0	0	+	single wheat grain	0	
92	652	654	ditch	7	16.1	7	10	##	#	0	#	++	wheat grains – T.turgidum rachis	0	
107	687	674	ditch	7	16.1	6	10	#	0	0	#	++	oats x 2	+	
81	559	560	post hole	7	16.2	2	1	0	0	0	0	+	sparse charcoal only	0	
82	561	562	post hole	7	16.2	5	2	##	0	0	0	++	Occasional wheat and oat grains	0	
87	580	582	ditch	7	16.2	8	25	###	0	0	#	++ +	abundant wheat with occasional oat and barley	+	
90	612	611	ditch	7	16.2	8	5	#	0	0	0	+	single wheat grain	0	
102	704	706	ditch	7	16.2	10	80	#	0	0	0	0	occasional mixed cereals	++	
103	707	708	gully	7	16.2	9	10	0	0	0	#	0	single cleaver seed	0	
105	712	713	pit	7	16.2	10	30	##	0	#	#	++ +	wheat grain and rachis, barley rachis, bean fragment, dock seed	++	
108	723	618	pit	7	16.2	4	10	##	##	0	#	++	mixed cereals incl oats, wheat, rye, barley and chaff	0	
109	728	617	pit	7	16.2	8	5	0	0	0	0	++	sparse charcoal only	0	
110	731	732	pit	7	16.2	10	25	#	0	0	0	+	single oat grain	0	
97	670	671	ditch	7	19	9	1	0	0	0	0	0	no cpr	0	

Table 14: Environmental samples from Zone A

Discussion

- C.3.15 The environmental samples taken from Site 7 indicate that preservation of plant remains is by carbonisation only (no evidence of waterlogging) and that the recovery of charred plant remains is poor. There is scant evidence of domestic occupation of the site in the Bronze Age and it is not until the medieval period that there is any recovered evidence of preserved plant remains. Rivet wheat, barley and oats are cereals that were all commonly cultivated in medieval England and the samples are not considered worthy of any further analysis.

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Websites consulted

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APPENDIX E. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	<input type="text"/>		
Project Name	<input type="text"/>		
Project Dates (fieldwork) Start	<input type="text"/>	Finish	<input type="text"/>
Previous Work (by OA East)	<input type="text"/>	Future Work	<input type="text"/>

Project Reference Codes

Site Code	<input type="text"/>	Planning App. No.	<input type="text"/>
HER No.	<input type="text"/>	Related HER/OASIS No.	<input type="text"/>

Type of Project/Techniques Used

Prompt

Please select all techniques used:

<input type="checkbox"/> Field Observation (periodic visits)	<input type="checkbox"/> Part Excavation	<input type="checkbox"/> Salvage Record
<input type="checkbox"/> Full Excavation (100%)	<input type="checkbox"/> Part Survey	<input type="checkbox"/> Systematic Field Walking
<input type="checkbox"/> Full Survey	<input type="checkbox"/> Recorded Observation	<input type="checkbox"/> Systematic Metal Detector Survey
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Remote Operated Vehicle Survey	<input type="checkbox"/> Test Pit Survey
<input type="checkbox"/> Open-Area Excavation	<input type="checkbox"/> Salvage Excavation	<input type="checkbox"/> Watching Brief

Monument Types/Significant Finds & Their Periods

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

Monument	Period	Object	Period
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Project Location

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District	<input type="text"/>	<input type="text"/>
Parish	<input type="text"/>	
HER	<input type="text"/>	
Study Area	<input type="text"/>	National Grid Reference <input type="text"/>

Project Originators

Organisation	<input type="text"/>
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Project Design Originator	<input type="text"/>
Project Manager	<input type="text"/>
Supervisor	<input type="text"/>

Project Archives

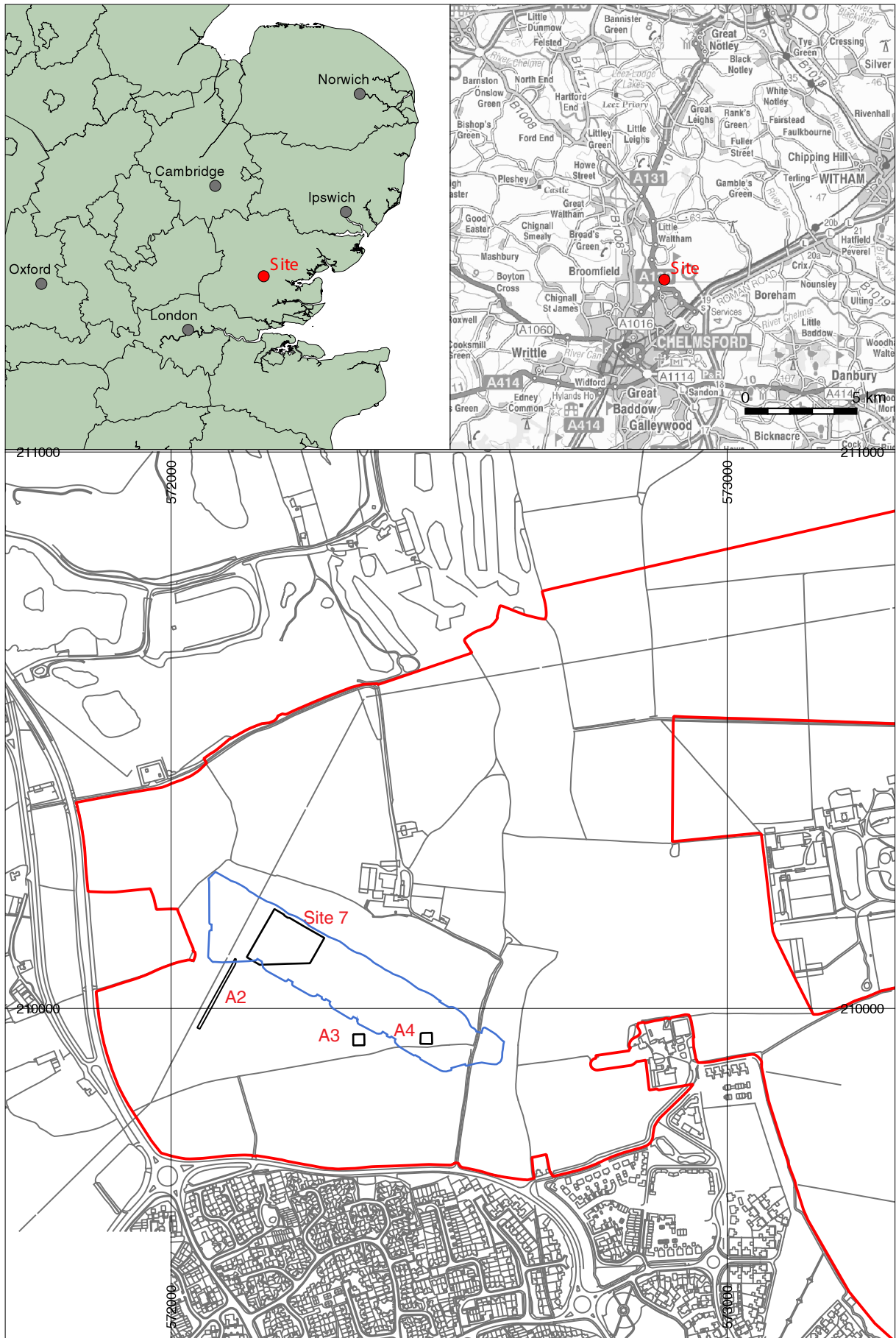
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Archive Contents/Media

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Digital Media	Paper Media
<input type="checkbox"/> Database	<input type="checkbox"/> Aerial Photos
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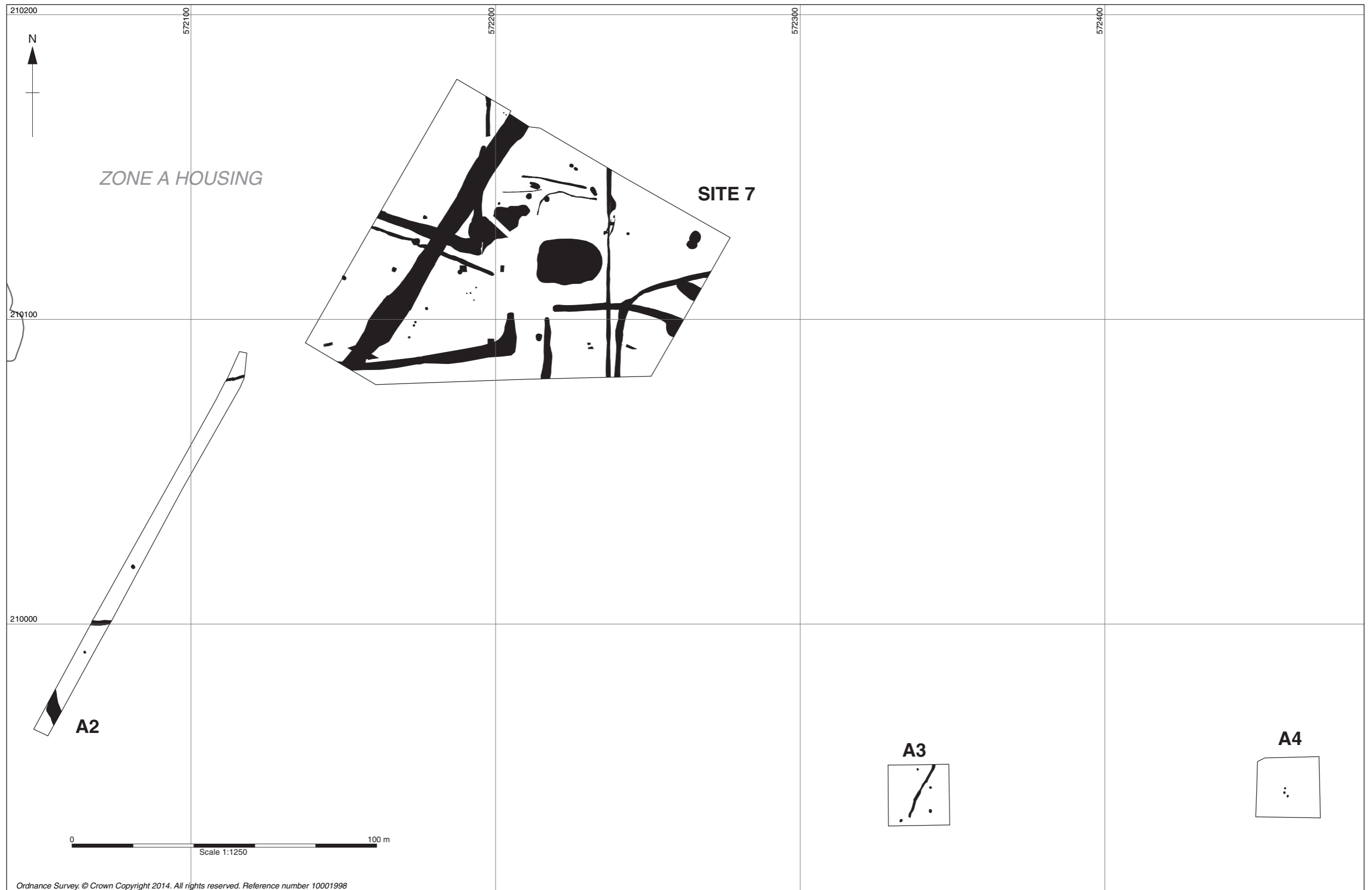
Notes:



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Figure 1: Site location showing archaeological trenches (black), Zone A boundary (blue), and development area (red)

0 1:10000 500 m



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Figure 2: Location of excavation areas (A2, A3, A4, site 7)

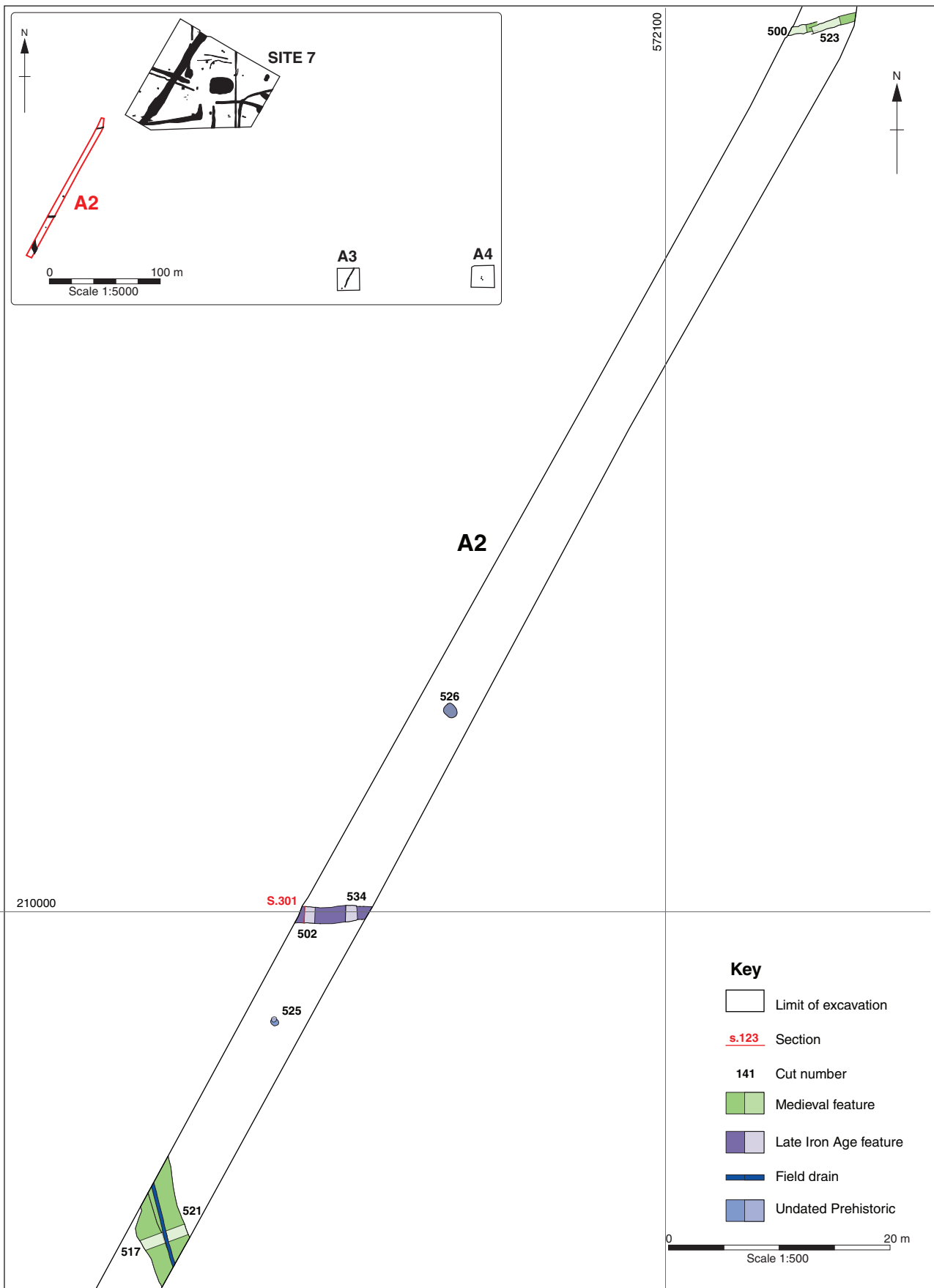


Figure 3: Plan of A2

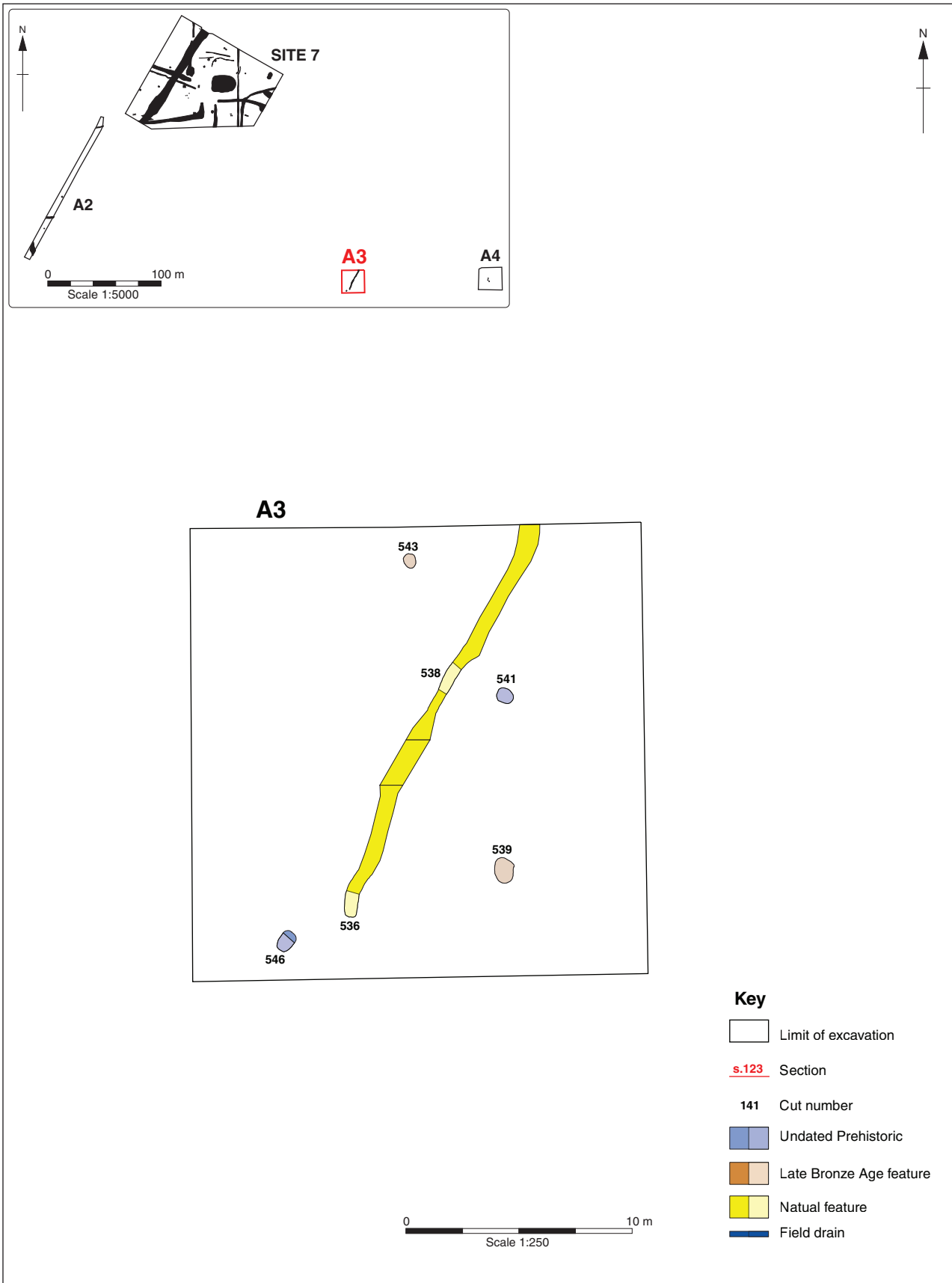


Figure 4: Plan of A3

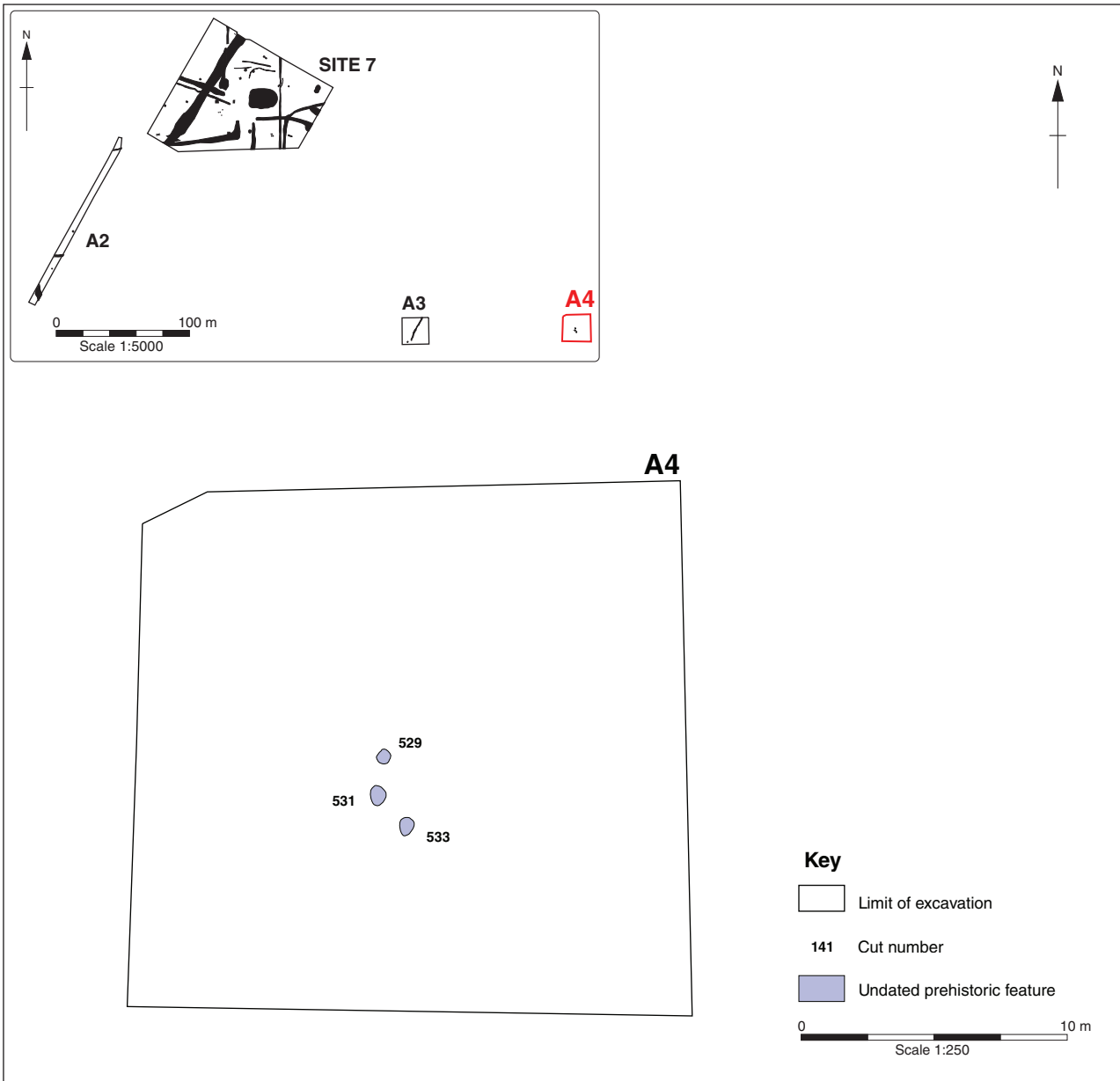


Figure 5: Plan of A4

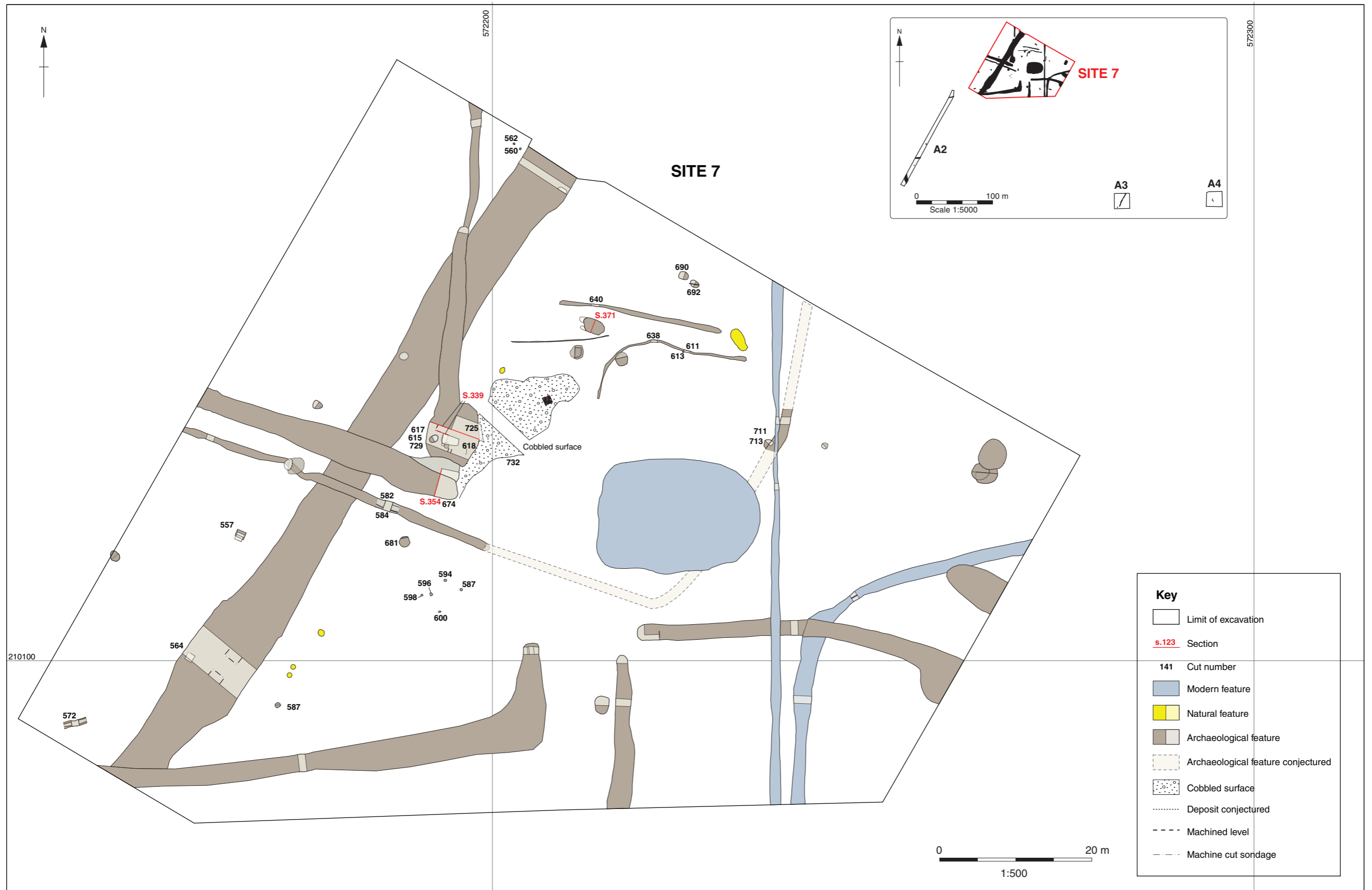


Figure 6: Plan of site 7

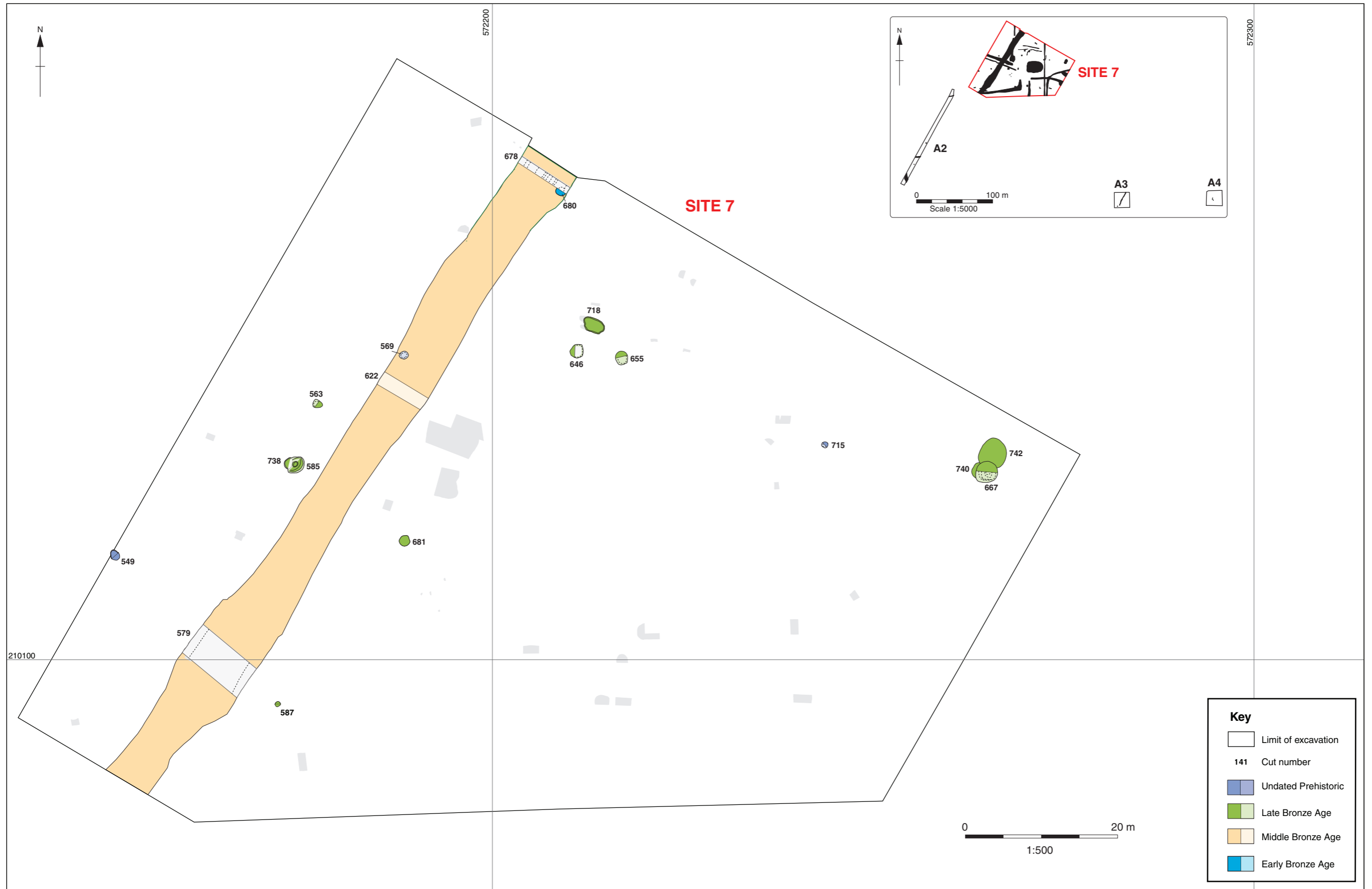


Figure 7: Site 7: Prehistoric remains



Figure 8: Site 7: Medieval Phase 1



Figure 9: Site 7: Medieval Phase 2

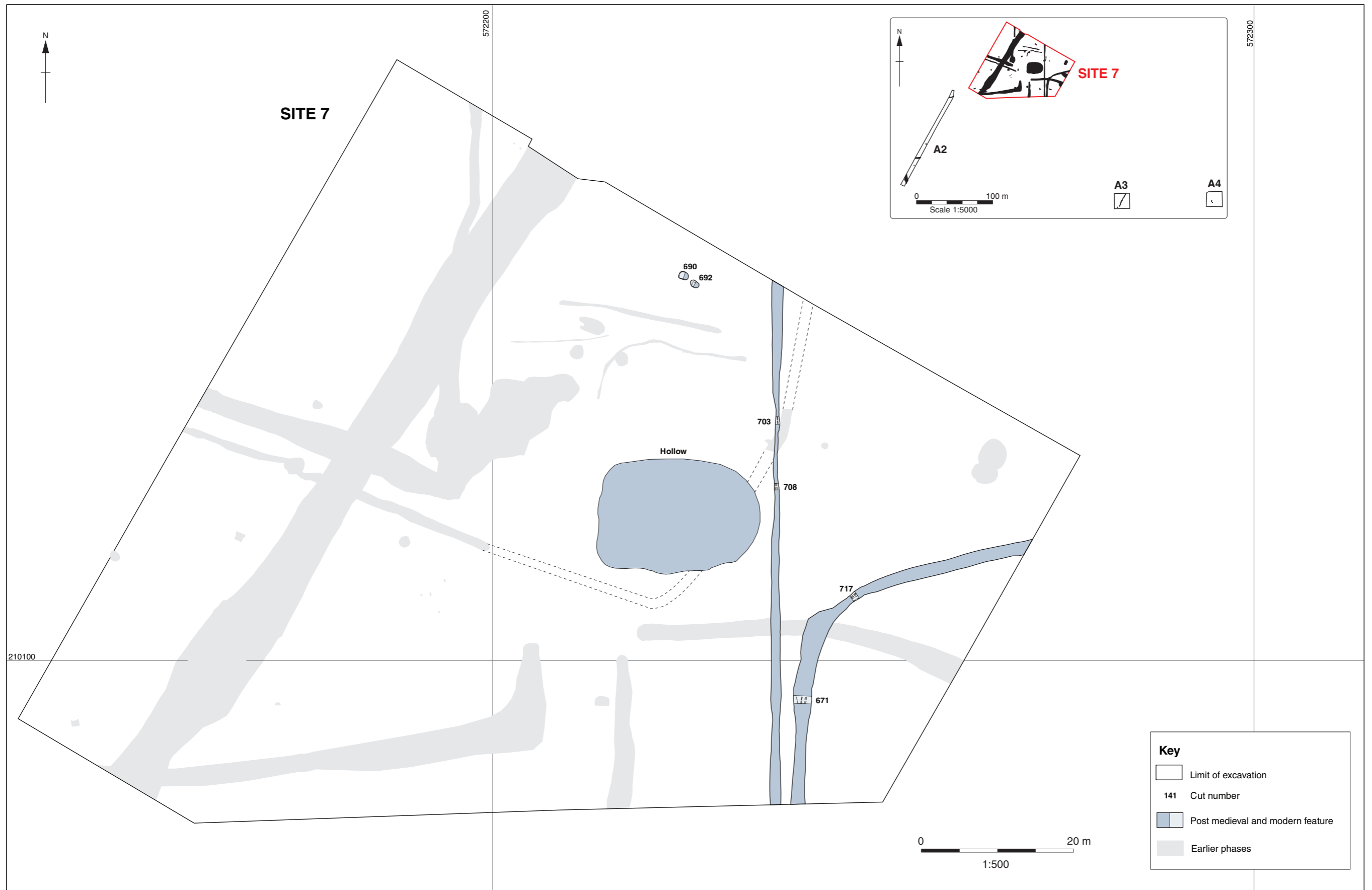


Figure 10: Site 7: Post Medieval and Modern

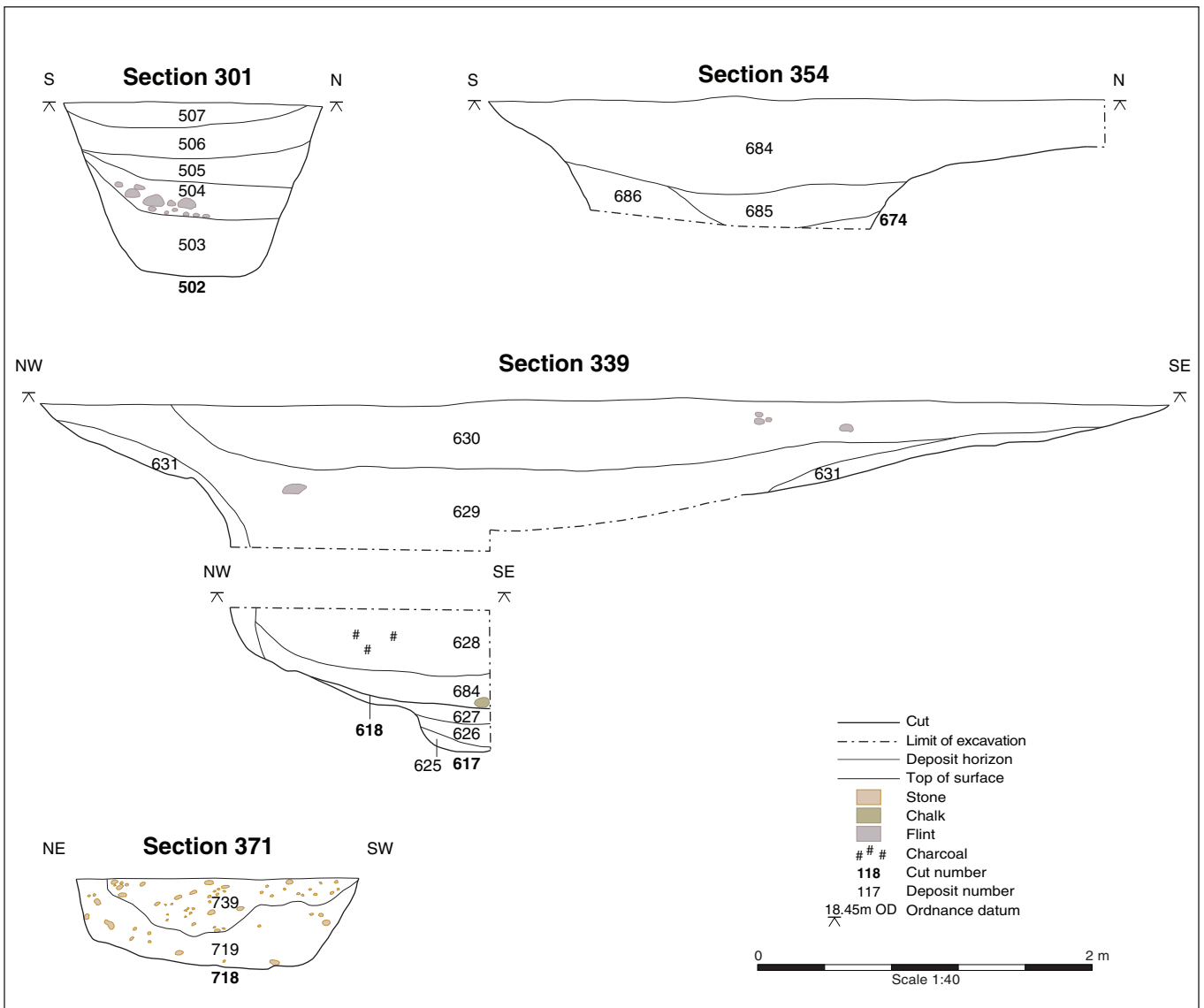


Figure 11: Selected sections