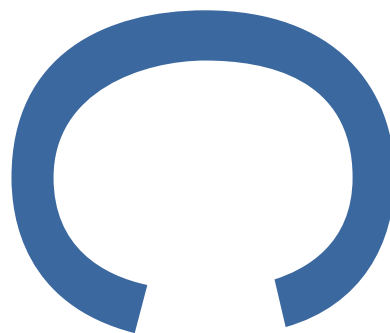


**LAND OFF CHURCH ROAD AND  
PLANTATION ROAD, BOREHAM,  
ESSEX, CM3 3EA  
POST-EXCAVATION ASSESSMENT  
AND ANALYSIS**

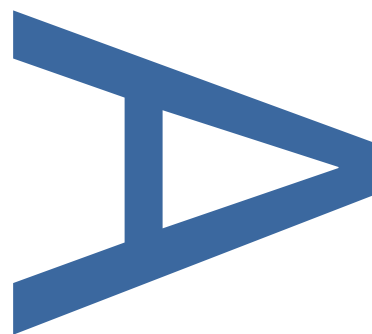


**LOCAL PLANNING AUTHORITY:  
CHELMSFORD BOROUGH COUNCIL**

**SITE CODE: BOPR18**

**REPORT NO: R13581**

**FEBRUARY 2019**



**PRE-CONSTRUCT ARCHAEOLOGY**

## **Land off Church Road and Plantation Road, Boreham, Essex, CM3 3EA. Post-Excavation Assessment and Analysis**

**Local Planning Authority:** Chelmsford Borough Council

**Planning Reference:** TBC

**Central National Grid Reference:** NG TL 75930989

**Site Code:** BOPR18

**Report No.** R13581

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## ABSTRACT

*Between 4th and 20th June 2018, Pre-Construct Archaeology Ltd carried out an archaeological excavation on the site off Church Road and Plantation Road, Boreham, Essex. The excavation was centered on two areas with high archaeological potential. The work was commissioned by CgMs Consulting Ltd on behalf of Bloor Homes.*

*The excavation revealed a cremation cemetery. A total of 21 un-urned cremations were excavated, enclosed by a boundary ditch. The cremations were dated by radiocarbon dating to between 826 and 889 BCE.*

*An associated system of possible late pre-historic field boundaries, possibly dating between the Bronze Age and Iron Age, and a trackway were also identified. The field system and trackway continued in use throughout the Roman and Saxon periods and post-medieval and modern field boundaries were recorded, still on the same alignment. Roman and Saxon activity on site was also evident in the form of a large Saxon watering hole and residual Roman ceramic building material. No settlement evidence was identified. A late 19th century refuse pit was excavated along with a late 20th century boundary ditch.*

*All artefact assemblages were fully analysed for this report and no further work is required, with the exception of species identification of wood charcoal. It is proposed that the findings will be published in the Transactions of the Essex Society for Archaeology and History, focussing on the late Bronze Age/early Iron Age cremation cemetery and field system, the multi-period nature of this field system and setting the site into its regional context.*

## **1 INTRODUCTION**

- 1.1 An archaeological excavation was undertaken by Pre-Construct Archaeology Limited (PCA) on land off Church Road and Plantation Road, Boreham, Essex, CM3 3EA, NG TL 75930989 between 4th and 20th of June 2018.
- 1.2 The archaeological work was commissioned by CgMs Heritage (Part of RPS) on behalf of Bloor Homes.
- 1.3 The site lies at the eastern edge of Boreham, at the corner of Plantation Road and Church Road (Figure 1). Prior to excavation the site was agricultural land.
- 1.4 An archaeological evaluation was undertaken by PCA in April 2018 (Learmonth 2018, Figure 2) and revealed prehistoric and early medieval activity. A boundary ditch containing sherds of early medieval pottery, a cremation and a large Saxon pit were excavated and were significant enough to warrant further work.
- 1.5 The excavation was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by Aileen Tierney of PCA (Tierney 2018). The aim of the excavation was to 'preserve by record' any archaeological remains present in those areas of the site which would be affected by ground works associated with the new development.
- 1.6 The report describes the results of the excavation, places the site and identified remains in their local landscape and archaeological context, and assesses their significance against relevant regional research agendas. The archive will be deposited at Braintree Museum.

## **2 GEOLOGY AND TOPOGRAPHY**

### **2.1 Geology**

- 2.1.1 The site is recorded by the British Geological Survey on London Clay. Overlying the London Clay are glaciofluvial deposits of Mid-Pleistocene Sand and Gravel in the south of the site, a band of Diamicton Lowestoft Formation across the middle of the site and a band of Brickearth deposits of Clay, Silt and Sand across the north of the site.

### **2.2 Topography**

- 2.2.1 The site lies on the northern valley slope of the River Chelmer. The northernmost part of the site is approximately level at 39.5m AOD. The site then slopes southwards down to approximately 35m AOD in the south of the site.
- 2.2.2 The Boreham Brook, a tributary of the River Chelmer, flows approximately 500m south of the study site. No water courses cross the site.

### **3 ARCHAEOLOGICAL BACKGROUND**

- 3.1 The proposed development lies approximately 150m south-east of the Roman Road/Plantation Road Conservation Area and approximately 150m east of the Church Road Conservation Area.
- 3.2 Recent investigations on the gravel terraces of the Chelmer valley approximately 600850m south-east of the study site recorded evidence of prehistoric settlement and ceremonial activity (including a hinge and four ring ditches) dating from the Neolithic to the Iron Age (46723 TL76490881 and 8860 TL66092).
- 3.3 Closer to the site, an archaeological watching brief on the construction of a water pipeline on the south bank of the Boreham Brook near Church Road approximately 500m south of the study site, recorded a scatter of worked flint dating to the Neolithic or early Bronze Age. The scatter contained a high proportion of tools suggesting the possible site of a flint working area (47632 TL75160953).
- 3.4 A substantial late Bronze Age hoard of metal work was found at Plantation Road approximately 50m west of the study site (6179 TL75881007). Further finds, possibly associated with the hoard were found in the vicinity of Plantation Road approximately 100m west of the study site (6180 TL758100 and 6181 TL758100).
- 3.5 The route of the Roman road from Chelmsford to Colchester follows the route of Main Road which lies approximately 250m north of the study site (5568 TL729083). However, the study site is thought to lie beyond the scope of any road-side activity or settlement.
- 3.6 Archaeological investigations at Greater Beaulieu Park approximately 500m north west of the study site recorded evidence of a Late Iron Age-Early Roman settlement to the north of the Roman road (47635 TL73620995).
- 3.7 Roman brick, recorded in the fabric of the Medieval church at Boreham,



suggest a Roman building may once have been located close by (5716).

- 3.8 Boreham is mentioned in the Domesday Survey of 1086 comprising land for 29 households divided into three manors.
- 3.9 St Andrews Church was originally built in the late 11th or early 12th century, but the remains of an earlier Saxon church have been recorded within the building fabric (5717 and 5718 TL756096). The Church lies approximately 300m west of the study site and would have formed the focus of the early settlement at Boreham.
- 3.10 Six manors may have existed at Boreham by the 13th century, one of which was Old Hall (Burgess and Rance 1988). The early Medieval manorial complex of Old Hall is thought from recent investigations to have been located on the site of the later Medieval Old Hall farmhouse (30310 TL75870952 and 47542 TL75900955) which lies approximately 100m south-east of the study site. Crop marks of possible enclosures recorded in the field to the south-east of the study site may relate to the early Medieval manorial complex (5758 TL761095). In particular a linear crop mark may be evidence of part of an historic field system.
- 3.11 During the Post-Medieval period, the settlement of Boreham continued to concentrate around the church on either side of Church Road. A further hamlet developed on the corner of Plantation Road and Main Road most likely due to the regular trade along the main road from London to Colchester. The site during these periods comprised agricultural land outside the core of any settlement activity. Crop marks of linear features have been recorded in the field adjacent to the study site and interpreted as former field boundaries (8857 TL763097).
- 3.12 The evaluation undertaken on the site revealed a low density of archaeological features scattered throughout the evaluation trenches, the majority containing no or very few finds. Two foci of activity were identified. One was located around Trench 10 which contained a small Iron Age ditch

and a cremation. The other was around Trenches 14 and 15 where a small ditch containing Bronze Age pottery was revealed, and a large, but shallow pit with an Anglo-Saxon finds assemblage was excavated near the eastern edge of excavation (Learmonth 2018).

- 3.13 Excavation areas 1 and 2 were designed to reveal more archaeological information in relation to those two foci of activity.

## **4 METHODOLOGY**

### **4.1 General**

- 4.1.1 The excavation comprised two areas of a combined 0.36ha in size, Area 1 focussed on the features revealed in evaluation Trench 10 and Area 2 focussed on Trenches 14 and 15 (Figures 3-5, Plate 1 and Plate 2). These were determined to be the most archaeologically significant areas and potential areas in which settlement activity would be the greatest. During the course of the excavations Area 1 was extended northwards in order to reveal the full extent of the cremation cemetery.

### **4.2 Excavation methodology**

- 4.2.1 Ground reduction during the excavation was carried out under archaeological supervision using a 21 ton 360° tracked mechanical excavator fitted with a 2m wide toothless ditching bucket (Plate 2). Topsoil and subsoil deposits were removed in spits down to the level of the undisturbed natural geological deposits where potential archaeological features could be observed and recorded.
- 4.2.2 Exposed surfaces were cleaned by trowel and hoe as appropriate and all further excavation was undertaken manually using hand tools.

### **4.3 Recording and Finds Recovery**

- 4.3.1 The limits of excavations, heights above Ordnance Datum (m OD) and the locations of archaeological features and interventions were recorded using a Leica 1200 GPS rover unit with RTK differential correction, giving three-dimensional accuracy of 20mm or better.
- 4.3.2 Deposits or the removal of deposits judged by the excavating archaeologist to constitute individual events were each assigned a unique record number (often referred to within British archaeology as 'context numbers') and recorded on individual pre-printed forms (Taylor and Brown 2009). Archaeological processes recognised by the deposition of material are signified in this report by round brackets (thus), while events constituting the

removal of deposits are referred to here as 'cuts' and signified by square brackets [thus]. Where more than one slot was excavated through an individual feature, each intervention was assigned additional numbers for the cutting event and for the deposits it contained (these deposits within cut features being referred to here as 'fills'). The record numbers assigned to cuts, deposits and groups are entirely arbitrary and in no way reflect the chronological order in which events took place. All features and deposits excavated during the evaluation and excavation are listed in Appendix 1. Artefacts recovered during excavation were assigned to the record number of the deposit from which they were retrieved.

- 4.3.3 Metal-detecting was carried out during the topsoil and subsoil stripping and throughout the excavation process. Archaeological features and spoil heaps were scanned by metal-detector periodically. Only objects of modern date were found and were not retained for accession.
- 4.3.4 High-resolution digital photographs were taken of all relevant features and deposits and were used to keep a record of the excavation process. In addition, monochrome photographs were taken of significant features.

#### **4.4 Sampling Strategy**

- 4.4.1 Discrete features were half-sectioned, photographed and recorded by a cross-section scaled drawing at an appropriate scale (either 1:10 or 1:20). Where large or significant finds assemblages were present, features were subsequently 100% excavated for finds recovery.
- 4.4.2 Linear features were investigated by means of regularly-spaced slots amounting to 25% of their lengths. Where stratigraphic relationships between features could not be discerned in plan, relationship slots were also excavated and these were recorded as part of the GPS survey and noted on the relevant context sheets.

#### **4.5 Environmental Sampling**

- 4.5.1 A total of 12 bulk samples (generally 20-40 litres in volume) were taken from

pits and ditches to extract and identify micro- and macro-botanical remains. The aim of this sampling was to investigate the past environment and economy of the site, the diet of the ancient inhabitants and the agricultural basis of the settlement. An additional aim of the sampling was to recover small objects that are not readily recovered by hand-collection, such as metalworking debris and bones of fish and small animals. These samples were taken from sealed deposits.

## 5 QUANTIFICATION OF ARCHIVE

### 5.1 Paper Archive

Context register sheets	9
Context sheets	154
Plan registers	0
Plans at 1:50	0
Plans at 1:20	0
Plans at 1:10	1
Plans at 1:5	0
Section register sheets	4
Sections at 1:10 & 1:20	70
Trench record sheets	0
Photo register sheets	13
Small finds register sheets	1
Environmental register sheets	4

### 5.2 Digital Archive

Digital photos	194
GPS survey files	1
Digital plans	0
GIS project	0
Access database	1

### 5.3 Physical Archive

Struck flint	57
Burnt flint	45
Prehistoric Pottery	196 sherds, 742g
Other Pottery	18 sherds, 314g
Ceramic building material (CBM) and stone	261, 9.87kg
Glass	1
Briquetage	0
Small Finds	26
Slag	0
Animal bone	190
Shell	0
Environmental bulk samples	12
Monolith samples	0
Other samples (cremation spits)	58
Other samples (radiocarbon)	7
Black and white films	0
Colour slides	0

## **6 ARCHAEOLOGICAL RESULTS**

### **6.1 Overview**

- 6.1.1 The excavations revealed an early Iron Age cremation cemetery set in a contemporary system of enclosures, including an E-W aligned trackway, dating from the early-mid Bronze Age and extending in use into the Iron Age period and possibly beyond (Figures 3-6).
- 6.1.2 A large but shallow pit, dating to the Anglo-Saxon period was located at the eastern edge of Area 2 (Figure 4). A small number of residual Anglo-Saxon pottery sherds was found in the northern trackway ditch of the earlier enclosure system.
- 6.1.3 A small number of isolated and undated postholes, pits and ditches were scattered across the proposed development site (Figures 2-4). These could be features contemporary with the prehistoric, Anglo-Saxon or post-medieval landscape.

### **6.2 Early Bronze Age to Late Iron Age period**

#### **Enclosure system and trackway**

- 6.2.1 A c.5.5m wide trackway (Trackway 1) and enclosure system (Boundary groups 3-7) were recorded extending over both areas on a N-S and E-W alignment (Figure 5, Figure 6). The southern boundary of the trackway was re-defined at least once (Boundary 2). The boundary and trackway ditches were generally 0.5-0.6m wide and 0.04-0.21m deep and not always continuous. It is likely that they were considerably horizontally truncated.
- 6.2.2 The northern trackway ditch, Ditch 2, contained a mixed assemblage of Late Bronze Age, Late Iron Age, Roman, Saxon and post-medieval pottery, CBM, animal bone and early Roman lava quern, suggesting that the trackway and possibly the field system were in use over a long period of time. The amount of material in Ditch 2 could also suggest that the ditch was used as a rubbish dump in the Saxon period. The southern trackway ditch, Ditch 3, contained

one fragment of late Bronze Age pottery. Ditches 10 and 11 of the enclosure system, located on Area 2) contained a relatively large assemblage of late Bronze Age pottery.

- 6.2.3 The trackway and a north-south aligned boundary ditch of the field system, Boundary 3, delimited a cremation cemetery comprised of 21 cremations, Cremation Group 1 (discussed below).
- 6.2.4 One small structure, comprising four postholes (Posthole Group 1) and a small pit [230], forming a possible rectangle was located to the north of Ditch 2, the northern trackway ditch. No pottery was retrieved from the postholes, but the pit contained one very small fragment of prehistoric pot (1g) that was not dateable. The pit also had charcoal-rich fill and its edges showed in-situ burning. It may have been a small fire pit. The function of the structure is unclear.

#### Trackway 1

- 6.2.5 Trackway 1 is a c. 5.5m wide trackway on an east-west alignment. It is represented by Ditches 2 and 3.

#### Boundary 2

- 6.2.6 Boundary 2 runs Parallel with Trackway 1 and may function to re-define the trackway. The boundary is 12.2m in length and is represented by Ditches 4 and 5.

#### Boundaries 3-7

- 6.2.7 Boundary 3 is curvi-linear on a north-west to north east-south west alignment. This boundary is respected by Cremation Group 1 and may be the boundary for the cemetery. It extends by 44.8m, dissected by Trackway 1, with a clear terminus at its northern end. It is represented by Ditches 6 and 7. Located in Area 1.
- 6.2.8 Boundary 4 is a heavily truncated boundary ditch. Not much of it survives, only extending by 3.5m, on a north-south alignment, Ditches 8 and 9 make up



this boundary. Located in Area 1.

- 6.2.9 Boundary 5 is represented by Ditches 10 and 11, it is >30m in length, extending beyond the limit of excavation in the west. Boundary 6 may represent its eastern terminus. Boundary 5 is on an east-west alignment and located in Area 2. Ditch 10 contained a relatively large assemblage of late Bronze Age pottery (51 fragments from two segments). Ditch 11 contained one small fragment of Bronze Age pottery.
- 6.2.10 Boundary 6 is a small terminus located in Area 2. It protrudes from the northern limit of excavation and extends by >4.6m before terminating in the south in alignment with Boundary 5. It extends beyond the limit of excavation in the north. This boundary is represented by Ditch 12 and is on a north-south alignment.
- 6.2.11 Boundary 7 is represented by parallel and intercutting Ditches 14 and 15. This boundary is on a N-S east alignment and extends by >4.5m before terminating in the south and extending beyond the limit of excavation in the north. Similar to Boundary 6 its southern terminus is in line with Boundary 5. This may be a more substantial boundary as it was re-defined at least once.

Ditch 2: Slots [123], [220], [218] + [216] (Section 108 Figure 7, Section 138 Figure 8)

Ditch 2 was on an east-west alignment and makes up the northern edge of Trackway 1. The ditch extending 12m, 0.4m-0.6m wide and 0.05m-0.15m deep. The ditch had a rounded profile with moderately sloping concave sides and a concave base, a single fill consisting of a firm mid-greyish brown silty clay with frequent charcoal inclusions. It is likely that this represents a rubbish deposit within the ditch. The ditch was 100% excavated.

The ditch was 100% excavated and the finds are assigned to segments [216], [218] and [220]. The fills contained a medium-sized assemblage of fragmented and abraded Roman tile, three small fragments early Roman Niedermendig lava quern and two fragments of Saxon pottery (AD 700-850). Segment [123] contained 11 fragments of post-medieval CBM. The ditch segments contained 6 fragments of

Later Bronze Age pottery, 108 fragments of Late Iron Age pottery and 5 fragments of Roman pottery

**Ditch 3: Slots [125], [203], [207], [215] + [247] (Section 153 Figure 8)**

Ditch 3 was on an east-west alignment and makes up the southern edge of Trackway 1. The eastern end of Ditch 3 starts beyond the eastern limit of excavation and terminates near to the western limit of excavation. The extent of this feature is 44m in length, 0.39-0.63m wide and 0.12-0.21m deep, with moderately concave/straight sloping sides and a concave base. There was a single fill consisting of a firm mid-brownish grey silty clay. Slot [207] contained 1 fragment of late Bronze Age pottery.

**Ditch 4: Slots [127], [239] + [245] (Section 149 Figure 8)**

Ditch 4, part of Boundary 2 was on an east-west alignment. The ditch starts with the terminus located at the eastern end of the ditch and extends by 16m until it meets Ditch 3 towards the western limit of excavation. A relationship slot [247] was excavated to test the relationship between Ditches 3 and 4 and Ditch 4 integrates with rather than being truncated by Ditch 3. Ditch 4 dimensions are between 0.43m-0.5m wide and 0.15m deep. It has a rounded profile with moderate sloping concave sides. The feature has a single fill consisting of a firm mid orange brown silty clay and yielded no finds.

**Ditch 5: Slots [201] + [205] (Section 205 Figure 8, Plate 3)**

Ditch 5, makes up a part of Boundary 2 was on an east-west alignment, it is 12m in length, between 0.33m-0.44m in width and 0.04m-0.11m deep. The remaining part of Boundary 2 has been heavily truncated. Ditch 5 had moderately sloping concave sides with a concave base, it had a single fill consisting of a firm mid-greyish Brown silty clay and yielded no finds.

**Ditch 6: Slots [223], [229], [237], [321]+[347] (Section 148 Figure 8)**

Ditch 6, part of Boundary 3, was on a north-south alignment and extended for 29.4m, it was 0.34m-0.86m wide with a depth of 0.04m-0.18m. Ditch 6 had moderately sloping concave sides with a concave base and had a single fill consisting of a Mid-Greyish Brown silty clay. Slot [237] had a degraded copper object within its fill.

#### Ditch 7: Slot [225] (Section 142 Figure 8)

Ditch 7 was the continuation of Boundary 3 and this continuation curves slightly to the west, re-aligning Ditch 7 to south-west north-east. Ditch 7 was 7.6m in length, 0.8m in width and 0.3m in depth, it had moderate sloping concave sides with a concave and had a single fill consisting of a Mid-Orange Brown silty clay with frequent charcoal inclusions. No finds.

#### Ditch 8: Slot [263]

Ditch 8 forms the northern part of Boundary 4 and is heavily truncated due to agriculture. It has a length of 1.4m, width of 0.61m and a depth of 0.11m. Ditch 8 had moderately sloping concave sides and a concave base, it had a single mid-orange brown silty clay fill and produced no finds.

#### Ditch 9: Slot [209]

Ditch 9 forms the southern part of Boundary 4 and again is very truncated due to modern agricultural activity. Ditch 9 is on a north-south alignment and extends for 1m with a width of 0.2m and a depth of 0.04m. It had gently sloping concave sides with a concave base and a single fill consisting of a firm mid orangey brown silty clay, it yielded no finds.

#### Ditch 10: Slots [117], [305] + [345] (Section 106 Figure 8)

Ditch 10 forms part of boundary 5, located in Area 2, it has a length of 6.9m, a width of 0.2m-0.6m and a depth of 0.04m-0.2m. Ditch 10 had moderately sloping concave sides and a concave base, only a single fill was determined, consisting of a firm light grey to dark orangey brown silty clay with regular charcoal inclusions. Combined 54 sherds of Later Bronze Age pottery were found in slots [117] and [305].

#### Ditch 11: Slots [303] + [354]

Ditch 11 was a continuation of Boundary 5, it was 8m long, 0.34m wide and 0.15m deep. It was on an east-west alignment, it had moderately sloping straight sides with V Shaped profile and a single fill consisting of a mid-orange grey silty clay with slot [303] producing 1 fragment of Later Bronze Age pottery.

#### Ditch 12: Slot [307]

Ditch 12 protruding from the northern limit of excavation and terminating at 4.5m, is

on a north-west alignment and is 0.55m wide and 0.06m deep. The ditch makes up the known entirety of Boundary 6 and is strongly suspected to be the part of the field system which makes up most of Area 1. Ditch 12 had moderately sloping straight sides and a flat base, a light greyish brown silty clay and there were no finds recovered.

#### Ditch 13: Slot [293] (Section 174 Figure 8, Plate 4)

Ditch 13 was on a north west-south east alignment, it extends by 3m approximately until it goes beyond the northern limit of excavation. Ditch 13 is part of Boundary 7. It was 1.34m wide and 0.24m deep with moderately sloping concave sides and a concave base, a single fill consisting of a dark grey brown silty clay was recorded and no finds were recovered.

#### Ditch 14: Slot [295] (Section 174 Figure 8, Plate 4)

Ditch 14 on a north-south alignment and similarly to Ditch 13 which truncates Ditch 14, extends by 3m before extending beyond the northern limit of excavation. Ditch 14 was 2.04 m wide and 0.16m deep with moderately sloping concave sides and a flat base, a single fill consisting of a dark brownish grey silty clay. Two fragments of CBM were found including a fragment of residual Roman tegula.

#### Posthole Group 1 (structure): [227], [232], [234], [248] + [250] (Figure 6, Figure 8)

Posthole Group 1 is a small group of 4 postholes located in the western corner of Area 1, although there is no clear shape to them, they were obviously part of a structure. The dimensions range from 0.20m-0.22m wide and between 0.04m-0.12m deep. They all have a similar size and shape, with steep sloping straight sides to a flat base. They all have similar single fills, consisting of mid grey silty clay with infrequent charcoal inclusions and yielding no finds.

#### Pit [230]

Pit [230] was a circular pit located in Area 1, the diameter of this feature was 0.55m and it had a depth of 0.12m, Pit [230] had moderately concave sloping sides with a concave base and a single fill consisting of a charcoal rich dark greyish brown silty clay with no finds. There was some burning in situ which suggests this feature was a small fire pit. Pit [230] is located 2m West of Posthole Group 1. This feature was 100% excavated and an environmental sample was taken. Sample <62> contained

a large amount of charcoal but no seeds or grains.

### **Cremation cemetery**

- 6.2.12 A cremation cemetery comprising Cremation Group 1 was located in Area 1. A small number of pottery sherds were retrieved from the cremation fills and radiocarbon dating of seven of the cremations yielded late Bronze Age to late Iron Age dates, ranging from 826 to 889 BCE (Appendix 5).
- 6.2.13 The cemetery respected Boundary 3 in the west and the northern ditch of Trackway 1 in the south. The field system and trackway are therefore most likely contemporary with the cemetery. For a detailed discussion of the cremation cemetery see Tierney below (Section 7.8).

Cremation Group 1: [171], [255], [260], [264], [267], [270], [273], [275], [276], [278], [281], [282], [284], [287], [289], [325], [327], [329], [331], [339], [341] + [343]. (Plate 6 and Plate 7)

Cremation Group 1 was a cremation cemetery located in Area 1. There were 21 unurned cremations in total, ranging in dimensions from 0.24m-0.55m and with varying depths of 0.04m-0.26m. All had a single fill ranging from mid to dark greyish brown silty clay, mid to dark brownish grey silty clay. No finds were recovered from the initial excavation but 1 fragment of pottery from cremation [284] were found during the processing of the cremation fills. This was too small to be dateable. To the west of the cremation cemetery was Boundary 3 which the cremations seemed to respect. To the south there was Trackway 1 which the cemetery also seemed to respect.

## **6.3 Saxon period**

- 6.3.1 Several isolated pits could be dated to the Saxon period. One large but shallow pit [120]=[319] may have functioned as a possible watering hole (Figure 4, Sections 107 and 114 on Figure 7, Plate 8). It had naturally silted fills, and one, most likely deliberately backfilled, central rubbish deposit (121)=(318) which contained a small number of residual late Iron Age and Roman pottery (4 fragments in total), residual Roman CBM, 8 fragments of Saxon pottery, a Saxon iron knife blade, a silver sceatta dating to AD c.700-

740 (Plate 9), pottery dating to AD 500-700, a small amount of animal bone, fragments of lava quern, and a ceramic loomweight. Environmental samples (sample nos <3> and <46>) taken from the deposits contained abundant charcoal but no cereals or seeds.

6.3.2 A smaller, isolated pit [139], recorded 68m to the south in Trench 19, contained an two abraded fragments of early Roman tegula (Section 115 Figure 7). It is possible that this pit, too, dates from the Saxon period, together with some of the undated pits and postholes (see Section 6.5), scattered across the proposed development site.

6.3.3 Northern trackway Ditch 2 contained a medium-sized assemblage of fragmented and abraded Roman tile, three small fragments early Roman Niedermendig lava quern and two fragments of Saxon pottery (AD 700-850). The ditch was 100% excavated and the finds are assigned to segments [216], [218] and [220]. The material shows that the trackway was in use from the prehistoric period throughout the Roman and into the Saxon period.

#### Pit [319] = [120]

Pit [319] = [120] was a large circular pit, possibly a water hole, located in Area 2 and had a diameter of 5.66m and a depth of 0.84m. Pit [319] + [120] had moderately sloping concave sides and a concave base. There were 3 fills, lower fill (348) being 4.94m wide and 0.30m deep, consisted of a naturally silted mid yellow grey silty clay, it had x fragments of bone and x fragments of slag. Central fill (121)=(318) was a deliberately backfilled deposit consisting of a dark greyish brown silty clay with very frequent charcoal inclusions, this was 5.22m wide and 0.34m deep and produced eight sherds of Saxon pottery (AD 400-850) pottery, 28 fragments of early Roman CBM (50-160AD), c. 90 fragments of animal bone, 2 small fragments of Niedermendig lava quern, a ceramic loomweight, one abraded piece of daub, two broken iron blades and a silver sceatta dating to AD c.700-740. Upper, naturally silted fill (317) produced six sherds of Saxon pottery (Ad 400-850).

Fill (348) was a naturally silted primary fill, being 5.6m wide and with a thickness of 0.2m, consisted of a mid yellowish grey silty clay with infrequent charcoal inclusions and yielded no finds.

#### Pit 139

Pit [139] was >3.50m in diameter and 0.35m in depth. It extended beyond the limit of excavation in the south-west and only its eastern edge may have been revealed in the trench. It contained a naturally silted orange brown, silty sandy clay fill (140) which included two fragments of early Roman CBM (50-160AD).

### **6.4 Post-medieval to modern period**

- 6.4.1 One large ditch, Boundary 8 (Ditch 15), extended 40m E-W across the site and beyond the limits of excavation. The ditch was perpendicular to existing field boundaries and is post-medieval to modern in date.
- 6.4.2 A large pit [166], possibly a quarry pit or former pond was excavated in Trench 11. The pit was >5m in diameter and 2.20m deep. It extended beyond the limits of excavation. The pit had three fills (167), (168) and (169). The lowest fill (167) contained 2 fragments of Roman CBM, while the middle (168) and upper fills (168) and (169) contained medieval to post-medieval CBM, datable to between 1480-1900AD and one fragment of post-medieval pottery.
- 6.4.3 Pit [332] on Area 1 was modern in date and contained a modern oil drum lid together with decaying wood. It represents discard of modern agricultural materials.

#### Ditch 15: Slots [133], [165] + [323] (Section 113 Figure 7)

Ditch 15, located in Area 1 and also recorded in Trenches 6 and 9 to the west, runs on an east-west alignment. Extending more than 40m before it goes beyond both the east and west limit of excavation, Ditch 15 was 1.23m wide and 0.54m deep, it had steep sloping straight sides with a flat base and had a single fill consisting of a dark greyish brown clayey silt which yielded modern material such as broken beer bottles and modern factory-made brick fragments. It also contained 1 residual fragment of Roman pottery. The glass was discarded.

#### Pit [135], [137], [332] (Section 114 Figure 7, Plate 11)

Pit [332], excavated as two segments [135] and [137] in the evaluation, was a large circular pit, it was 3.2m in diameter and had a depth of 0.69m. It had steep sloping concave sides with a flat base. There were 3 fills in total. Fill (333) consisted of a

mid reddish brown silty clay, it was 1.02m+ in width and 0.15m in depth, it had preserved wood present, lime mortar and modern ceramics. Fill (334) was a light grey silty clay with dimensions of 1.6m+ in width and with a depth of 0.53m, no finds. Fill (335) was a mid-greyish brown silty clay and within this fill a modern oil drum lid was found along with wood. Pit [332] represents modern agricultural activity in the form of a refuse pit.

## **6.5 Undated**

### **Scattered ditches, pits and postholes**

- 6.5.1 Several isolated features, scattered across the evaluation trenches and within the two excavation areas, were undated. These were Boundary 1, Pit Groups 1 and 2, and ditches [109], [111] (Section 103 Figure 7), [143], [145], pits [107], [141], [147], [212], [241], [256], [299], pit [308] postholes [129], [131] (Sections 111 and 112 Figure 7), [152], [155] and [162].
- 6.5.2 Boundary 1 on Area 1 is a small truncated ditch (Ditch 1) aligned north-south. It is truncated by Trackway 1 and may be one of the earliest of ditches on site. It is also possible that it is more similar in nature and function to Pit Group 1, than to being an actual boundary.
- 6.5.3 Ditch segments [143] and [145] represent the same ditch, excavated in Trenches 2 and 3, on a NE-SW alignment in the north-eastern part of the site, while ditches [109] and [111] represent a re-cut boundary excavated in Trench 20 in the south-western part of the site (Plate 10). Both ditches are on a different alignment to the prehistoric and modern field systems and may therefore date from a different period.
- 6.5.4 Posthole Group 2 on Area 2 comprises three postholes that form three sides of a possible square structure c.6m by 5m in extent (Figure 6, Figure 8). The postholes straddle Ditch 11 of Boundary 6 and either pre-date or post-date the boundary system. It is possible that they are contemporary with large Saxon Pit [210]=[319].
- 6.5.5 The function of the remaining pits and postholes is unclear. They have no



discernible form or function and it is possible that they were part of scattered prehistoric, Saxon or post-medieval activity.

#### Pit Group 1: [253], [259], [269], [350] + [352]

Pit Group 1 represents a small cluster of 3 elongated N-S aligned pits located in the centre of Area 1. The function of these pits are unclear but are situated just to the south of Cremation Group 1. They were similar in size and shape, being on average 3m long, 0.32m-0.85m wide and 0.06m-0.19m deep. The pits all had moderately sloping concave sides with concave bases and with single fills consisting of a mid-brownish grey silty clay. Slot [269] produced one fragment of CBM. These features may be the remnants of geological features such as hedgerows or shrubbery.

#### Pit Group 2: [314] + [316]

Pit Group 2 are 2 pits located to the north-east of Area 1. The function of these pits are unknown although they were first suspected to be inhumations due to the shape in plan and location of them being situated next to Cremation Group 1. They were oval in plan with pit [314] being 2.08m long x 0.49m wide x 0.12m deep and pit [316] being 2.46m long x 0.66m wide x 0.09m deep. They both had moderately sloping concave sides with a concave base and similar fills consisting of a mid-greyish brown clayey sand. Pit [314] had a posthole was truncated by a posthole [312]. No finds were recovered from any of the features and environmental samples taken yielded no human bone. Environmental samples taken from the pit fills produced a moderate amount of charcoal, small amounts of charred seed and grain (Samples <40> and <41>).

#### Ditch 1: Slots [211] + [243]

Ditch 1 was aligned north-south and extended for 4.2m. Measuring between 0.35m-0.42m wide and between 0.04m-0.11m deep, Ditch 1 had moderately sloping concave sides with an uneven base. As the Ditch extends north it becomes shallow where it terminates. The ditch had a single fill consisting of a firm mid-greyish brown silty clay with slot [211] producing two sherds of Roman pottery.

#### Pit [107]

Pit [107] was located at the northern end of Trench 23. It was 1.10m in diameter and 0.22m deep with a concave profile. Fill (108) was mid grey brown silty clay with

occasional charcoal flecks and small stones. It contained no finds.

#### Pit [141]

Pit [141] was located in Trench 3 and measured 1.06m in length, 0.45m in width and 0.28m in depth. It had moderately sloping sides and a concave base. Fill (142) was a medium orange brown silty clay with occasional small stones. It contained no finds.

#### Pit [147]

Pit [147] was located in Trench 2 and was 1.05m in diameter and 0.14m deep with a concave profile. Its fill (148) was a medium orange brown silty clay with occasional stones. It contained no finds.

#### Pit [212]

Pit [212] was a circular pit, it was 0.98m in diameter and had a depth of 0.12m. It had moderately concave sloping sides with a concave base, there was a single fill consisting of a dark grey silty clay with frequent charcoal inclusions and no finds were recovered. The Pit was located in Area 1 and situated between Ditches 2 and 3.

#### Pit [241]

Pit [241] was a small circular pit located in the south-west part of Area 1, the feature had been truncated by Ditch 3. The pit was 0.65m in diameter with a depth of 0.18m. It had moderately sloping concave sides and a concave base, there was a single fill consisting of a dark brownish grey silty clay and yielded no finds.

#### Pit [256]

Pit [256] was a sub-circular pit with moderately straight sloping sides and an uneven base. It had a single fill consisting of a light greyish brown silty clay and yielded no finds. The diameter was 0.8m with a depth of 0.05m. Although this feature may well be geological, it is situated within the Cremation Group 1 boundary.

#### Pit [299]

Pit [299] was located in Area 2. With a diameter of 1m and a depth of 0.20m, it was a sub-circular feature with moderately sloping concave sides and a concave base, it had a single fill consisting of mid brownish grey silty clay with infrequent charcoal

inclusions and produced x fragments of worked flint weighing xg.

#### **Pit [308]**

Pit [308] was a circular feature located in Area 2. It had a diameter of 1.5m and a depth of 0.30m. Pit [308] had moderately sloping concave sides and a concave base and had 2 fills, fill (309) consisted of a dark greyish brown silty with very frequent charcoal inclusions and burnt clay. It was 1.38m in width and had a depth of 0.3m and yielded no finds. Fill (310) was 1.2m wide and had a depth of 0.22m it consisted of a mid-greyish brown silty clay with infrequent charcoal inclusions and produced no finds. Pit [308] was situated in the middle of Posthole Group 2 and is considered contemporary with this activity. Sample <39> of fill (309) contained a large amount of charcoal but no seeds or grains.

## 7 THE FINDS AND ENVIRONMENTAL EVIDENCE

### 7.1 Flint

**By Barry Bishop**

#### Introduction

- 7.1.1 Archaeological investigations at the above site resulted in the recovery of moderate quantities of struck flint and unworked burnt stone. A full catalogue of the material arranged by individual contexts is presented in Appendix L01; this should be consulted for information relating to detailed spatial and contextual variations in the assemblage. This report summarises that information, describing the general characteristic of the assemblage and its distribution across the site and comments on its archaeological significance.

#### Quantification

- 7.1.2 In total, 57 pieces of struck flint were recovered, the majority (79%) comprising flakes and flake fragments measuring less than 15mm in maximum diameter ('micro-debitage'), the high proportion of these being the result of comprehensive sample sieving that was undertaken (Table 1). The struck flint was found in small quantities, nearly all from a series of pits and ditches with three pieces being recovered from the fills of cremation burials.
- 7.1.3 The unworked burnt stone was also recovered as small fragments and in low quantities from a variety of features including pits, ditches and cremations burials.

Type	No.	Decortication flake	Decortication blade	Chip >15mm	Flake	Non-prismatic blade	Flake fragment <15mm	Flake core	Conchoidal chunk	Burnt stone (no.)	Burnt stone (wt: g)
		1	1	36	5	1	9	1	3	45	238

Table 1: Quantification of the struck and burnt flint

### Unworked Burnt Stone

- 7.1.4 The unworked burnt stone all consists of flint that has been heated to a variable but generally intense degree, causing it to change to a red or grey-white colour and become 'fire-crazed'. It was found widely scattered and in low densities across a variety of features, consistent with it being 'background' waste from ground-set hearth use in the area.
- 7.1.5 A small quantity, amount to 18 pieces weighing a total of 63g, was found within the fills of the cremation burials. The quantities recovered and the variable degree of shattering suggest that only a small number of pebbles may have been involved, and that these had become included within the cremated remains incidentally rather than through any deliberate use of flint in the cremation process. It also indicates that as well as cremated human remains, the fills of the cremations contained extraneous material, presumably including soil containing the flint, from around the pyre.

### Struck flint

- 7.1.6 The raw materials used for the struck flint assemblage comprise fine-grained 'glassy' flint of a wide variety of colours, hues and texture. Cortex, which is commonly present, is either rough but weathered or rolled smooth, and heavily recorticated thermal surfaces also present. Although the flint is generally of good quality, its knapping potential is limited by the frequency of internal thermal flaws. The mix of different flint types and the state of the raw materials indicate that they were most likely to have been obtained from the glacial tills that cover the site or from the alluvial deposits that are present close by (BGS 2010).
- 7.1.7 The condition of the assemblage is variable; there is a high breakage rate but majority of pieces are in either a good or only slightly chipped condition. This would indicate that they had not moved far from where originally discarded but no in situ flintworking was identified and most if not all of the pieces are likely to have been residually deposited. Three pieces, all small, came from the fills of cremation burials but none of these pieces had been burnt, and again it is

likely that these had been residually incorporated within the fills.

7.1.8 No typologically diagnostic or retouched pieces are present but, taken together, the assemblage is technologically homogeneous and the product of a simple core and flake technology. This would be typical of later prehistoric industries and the assemblage is particularly reminiscent of later second and first millennium BC industries (cf Ford and Bradley 1984; Herne 1991; Young and Humphrey 1999; Ballin 2002; Humphry 2003). The flakes tend to be broad and thick and often have wide and markedly obtuse striking platforms, comparable to Martingell's 'squat' flakes (1990; 2003). The single core recovered is a small rounded cobble that has had a few flakes randomly removed from several directions using unmodified cortical striking platforms. Although a large proportion of the assemblage comprises micro-debitage, which is usually generated in large quantities during knapping and tool making, there are no densities present which would indicate any particular knapping foci.

7.1.9 In addition to the struck flint, a conically shaped alluvially rolled flint cobble weighing 196g was recovered from ditch [218] (Ditch 2). This has a natural perforation near its 'top' and it is reminiscent and could have been used as a loomweight, although, apart from some possible wear around its perforation, there is no direct evidence for having been used as such.

#### Discussion

7.1.10 Although only a small and (largely) redeposited assemblage, the struck flint indicates activity during the later Bronze Age or Iron Age that goes beyond its use as a cremation cemetery during the latter period. Most pieces were found singly or, at most, in small quantities and the assemblage was widely scattered across many features. This reflects a pattern frequently seen in later prehistoric flintworking practices, where for the most part flint was only knapped when needed, used immediately and casually discarded in and around the settlements and field-systems within which they were used (Edmonds 1995, 186). The flintwork recorded here can therefore be

interpreted as representing domestic or agricultural subsistence activities and suggests the presence of later prehistoric settlements in the vicinity. Struck flint dated to the Bronze Age/Iron Age has been found elsewhere along Plantation Road (SMR 6181), as well as three Bronze Age socketed axes and a hoard (SMR 6179, 6180).

## 7.2 Prehistoric pottery

**By Sarah Percival**

7.2.1 A total of 196 prehistoric sherds weighing 742g were collected from thirteen features (Table 2). The assemblage comprises 62 sherds, 311g of Later Bronze Age pottery, 45 sherds, 307g Later Iron Age and 72 sherds, 105g Late Iron Age. Eight sherds, 12g are Roman and nine sherds 7g are not closely datable. A total of 133 sherds weighing 266g came from samples. The pottery is very poorly preserved with a mean sherd weight of 3g, with most sherds being small and abraded.

Feature type	Feature	Context	Spot date	Quantity	Weight (g)
Cremation	284	285	Not closely datable	1	2
	331	330	Not closely datable	6	4
Ditch 10	117	118	Later Bronze Age	49	265
	305	304	Later Bronze Age	5	4
Ditch 11	303	302	Later Bronze Age	1	9
Ditch 1	211	210	Roman	2	1
Ditch 2	123	124	Later Iron Age	6	25
	218	217	Later Iron Age	3	9
		219	Late Iron Age	58	69
			Later Bronze Age	6	20
			Later Iron Age	12	100
	220	221	Late Iron Age	14	36
			Later Iron Age	21	147
			Roman	5	6
Ditch 3	207	206	Later Bronze Age	1	13
Pit	120	121	Later Iron Age	2	9

			Roman	1	5
	230	231	Not closely datable	2	1
	319	318	Later Iron Age	1	17
Total				196	742

Table 2: Quantity and weight of pottery by feature

## Methodology

- 7.2.2 The assemblage was analysed in accordance with the guidelines for analysis and publication recommended by the Prehistoric Ceramic Research Group (PCRG 2010). The total assemblage was studied and a full catalogue 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 type: F representing flint, G representing grog and Q representing quartz. Vessel form was recorded: R representing rim sherds, B representing base sherds, D representing decorated sherds and U representing undecorated body sherds. The sherds were counted and weighed to the nearest whole gram. Decoration, condition, food residues and sooting were also noted. The catalogue was recorded using Microsoft Excel 2010.

## Later Bronze Age

- 7.2.3 A total of 62 Post Deverel-Rimbury sherds weighing 331g were collected from fills of ditches 2,3, 10 and 11 (Table 2). The MSW is very small at just 4g reflecting the residual and redeposited context of recovery. The assemblage contains one small rim from a stubby ellipsoid jar with flattened rim similar to examples found within the Later Bronze Age assemblage from Loft's Farm (Brown et al. 1988, fig.15, 46). The rim is in grog tempered fabric more typical of the earlier Bronze Age. The remainder of the assemblage, which comprises undecorated body and base sherds, is made of flint-tempered fabrics characteristic of Post Deverel-Rimbury pottery of the region (Table 3). An abraded body sherd with very coarse flint-temper could be either Earlier Neolithic or Post Deverel-Rimbury.



Fabric	Description	Quantity	Weight (g)
F1	Common fine angular flint (<0.25mm) in fine clay matrix	37	219
F2	Common medium angular flint (>0.25mm-1.00mm) in fine clay matrix	6	13
F3	Common coarse angular flint (>1.00mm-3.00mm) in fine clay matrix	6	30
G1	Vacuous fine fabric with sparse sub-rounded grog (>0.25mm-1.00mm)	1	3
QF3	Sandy clay with common coarse angular flint (>1.00mm-3.00mm)	11	33
F3VC	Common vert coarse angular flint (3.00mm+) in fine clay matrix	1	13
Total		61	298

Table 3: Quantity and weight of Later Bronze Age pottery by fabric

### Iron Age Pottery

- 7.2.4 The Iron Age assemblage comprises 117 sherds weighing 412g and including rims from a maximum of eleven vessels. The assemblage is characterised by the use of fine sandy reduced fabrics some with oxidised surfaces (Table 4) which are typical of later Iron Age assemblages from Essex (Drury 1978, 56; Every and Biddulph 2007, 43). The Iron Age includes many small scrappy sherds recovered from samples and has a low MSW of 3g.

Spot date	Fabric	Description	Quantity	Weight (g)
Later Iron Age	Q1ox	Common fine quartz sand dark core and pale orange surfaces	59	72
	SRW	Sandy reduced ware	2	6
	SRWox	Sandy reduced ware dark core and pale orange surfaces	11	27
Late Iron Age	MQ1	Common fine quartz sand with moderate fine mica	6	25
	Q1	Common fine quartz sand	11	86
	Q1ox	Common fine quartz sand dark core and pale orange surfaces	23	169
	SOW	Sandy oxidised ware	5	27
Total			118	425

Table 4: Quantity and weight of Iron Age pottery by fabric

- 7.2.5 Rims are present from a maximum of eleven vessels (Table 5), these being principally S profile jars with everted rims (form D) comparable to Little Waltham form F11( Drury 1978, fig.38) or ellipsoid jars with upright rims (form

A) equivalent to Little Waltham form F4 (Drury 1978, fig.38). One rim has a round rim terminal but is too small to classify to vessel type. No vessels are decorated.

Vessel type	Form	Quantity	Weight (g)	Vessel count by rim
Jar	A	30	224	7
Jar	D	10	51	3
Total		117	412	10

Table 5: Quantity and weight of Iron Age pottery by form

7.2.6 The Iron Age pottery was mostly recovered from ditches (Table 6) with three recovered from pits. Pit [319] contained a single rim sherd from a sinuous form D jar and pit [120] which contained three small body sherds in sandy fabric.

Feature type	Quantity	Weight (g)	Vessel Form	Vessel count by rim
Ditch 2	114	386	A	7
			D	2
			Unclassified	1
Ditch 3	1	13		
Pit	3	26	D	1
Total	118	425		11

Table 6: Quantity and weight of Iron Age pottery by feature

## Discussion

7.2.7 The small flint-tempered assemblage is made of fabrics comparable to Later Bronze Age pottery found at Mucking and Lofts Farm (Brudenell 2016, table 3.4; Brown et al. 1988, 264) and more locally at Springfield Lyons (Brown 2013, 98). The assemblage is small but represents a range of vessels including both fine and coarse wares typical of Post Deverel-Rimbury pottery, though the small assemblage size and scarcity of rim sherds prohibits detailed analysis. The pot is likely to be broadly contemporary with the cremations found at the site which produced radiocarbon dates of between 826-889BC.

7.2.8 The later prehistoric pottery is typical of later Iron Age pottery most notably from Little Waltham some 6km north west of Boreham where a range of jar forms in analogous sandy fabrics were dated to mid-3rd to mid-1st centuries

BC (Drury 1978, 10, periods II and III).

### 7.3 Anglo-Saxon and post-medieval pottery

#### By Berni Sudds

- 7.3.1 A total of 18 sherds of post-Roman pottery, weighing 314g, were recovered from the evaluation and excavation phases. The numerical codes designated to fabrics are taken from the post-Roman pottery codes for Essex (Cunningham 1985, Cotter 2000). Where fabrics could not be assigned to an existing fabric number a temporary mnemonic code was created, based upon the period of the pottery and common inclusion types. A summary of the pottery types represented is presented in Table 7 and a catalogue of the pottery by context appears below in Table 8. The majority of the small assemblage is of Early to Middle Saxon date, comprising 15 sherds from seven separate vessels (293g), with the remaining three sherds (21g) being of post-medieval date.

Essex fabric code	Common name	Date range		SC	ENV	Weight
1	Anglo-Saxon vegetable-tempered ware	400	850	11	4	121
1C	Anglo-Saxon vegetable and sand-tempered fabric	400	850	1	1	113
ESQI	Early-middle Saxon quartz and igneous tempered ware	400	850	1	1	6
8	Ipswich ware	700	875	2	1	53
40B	Post-medieval red earthenware	1550	1700	1	1	2
48A	Chinese porcelain	1590	1900	1	1	16
51B	Red earthenware flowerpot	1750	1900	1	1	3

Table 7: Post-Roman pottery types

No: sherd count; ENV = estimated number of vessels; Wt = weight in grams

#### Saxon pottery

- 7.3.2 The small assemblage of Saxon pottery is comprised predominantly of organic tempered wares (Fabric 1 & 1C), well-paralleled locally and regionally (Tyler and Major 2005; Hamerow 1993). With the exception of a single simple rim from pit [319]=[120], they are all body or body/base sherds. The firing of

these vessels is variable, but they often exhibit dark grey or black cores and have grey, greyish-brown or orange-brown surfaces. None are decorated but the majority have a smoothed finish. In addition to this material a single sherd was recovered from the same pit, in fill (121) during the evaluation, tempered with sub-rounded to angular quartz (up to 2mm), sandstone and sparse igneous rock and flint inclusions (Fabric ESQI). All these vessels are handmade and clamp-fired. Two sherds of Ipswich-type ware (Fabric 8) were also recovered, both body sherds from the same vessel, one recovered from ditch [218] and the other unstratified.

7.3.3 It has long been assumed that organic-tempered wares were produced locally to where found, which in many instances may be the case given the ready availability of the necessary materials, but more recent research from London has suggested that it was also traded, or at least moved over some distance, so caution should be exercised in assigning a source (Hamerow 1993, 27-31; Blackmore 2012, 172-3; Sudds 2005, 219). The source of the igneous tempered sherd is also difficult to determine. In the past much of the Saxon pottery containing igneous rock recovered from the Midlands down to London has been sourced to the nearest outcrop of granite, namely the Mountsorrel granodiorite in the Charnwood Forest area of Leicestershire (Williams and Vince 1997). There is, however, a growing body of evidence to suggest that the production of pottery containing igneous rock may have been taking place across a much broader region, including southern and eastern England, where the granite is obtained from glacial till drift (Sudds 2005, 220; Blackmore 2008, 178-9; Blinkhorn pers comm.). Indeed, the presence of other inclusions in the sherd, including the sandstone and flint, suggest a source in the Mountsorrel area is unlikely. The fabric of the Ipswich-type ware vessel indicates a source in Ipswich.

7.3.4 In terms of dating, the longevity of handmade and clamp-fired Saxon pottery production in the region is well-known, dating from the 5th to possibly the 9th century. In the absence of diagnostic traits, namely form and decoration, the mineral tempered sherd could date to any time within this range. It has also

been suggested that organic-tempered pottery remained the dominant type in Essex into middle Saxon period (Cotter 2000, 23), although research has shown that across much of central, eastern and southern Britain organic tempered ware increases in importance during the 6th to 8th century, becoming most prevalent in assemblages in the 7th century (Anderson 2003; Blackmore with Vince 2008, 179 and 2012, 233; Cotter 2000, Hamerow 1987, 1993; Sudds 2005, 216; Wade 2009, 109). As for the Ipswich-type ware, beyond Ipswich, a date from c.720 to c.850 is generally favoured (Blinkhorn 2012, 8).

7.3.5 Pit [319]=[120], containing only organic-tempered vessels, could date from 5th to 9th century, although a date from the 6th – 7th / 8th century is perhaps more likely. The mineral-tempered sherd from fill (121) can only be broadly dated from the 5th to 9th century. It is possible the sherd is contemporary with the organic-tempered wares on site, although as found in isolation, could be earlier.

7.3.6 Ditch [218] also contained an organic-tempered vessel but the additional presence of the Ipswich-type sherd, would suggest it was filled in post c.AD 720. Pit [120], containing just

#### Post-medieval pottery

7.3.7 Three sherds of post-medieval pottery were recovered, including a black-glazed red earthenware from pit [166], a fragment of flowerpot from ditch [165] and a Chinese porcelain bowl from pit [332].

#### Potential and recommendations

7.3.8 As small and generally featureless the pottery has little intrinsic merit as an assemblage. The primary significance of the material is to provide dating evidence for the features from which it was recovered and consequently contemporary activity in the immediate area. The village of Boreham has Saxon origins and a large Early Anglo-Saxon cemetery was excavated a kilometre to the west at Springfield Lyons, where organic-tempered wares are

well-paralleled (Tyler and Major 2005). No igneous rock tempered pottery was identified amongst the latter assemblage, however, and presence of Ipswich-type ware would suggest that activity in the vicinity, although potentially dated from as early as the 5th, extends into the 8th century. The post-medieval pottery can be well-paralleled in the region.

7.3.9 No further analysis of the assemblage is required, although a brief summary of the Saxon pottery should form part of any future publication.

Cxt	Cut	Category	Essex Fabric Code	SC	ENV	Wt	Comments	Date range		Spot date
0			8	1	0	26	Body sherd. Fresh break. G1/ SIPS fabric. Possibly handmade THETI storage jar. Sherd from same vessel in context (219).	720	875	-
121	120	Pit	ESQI	1	1	6	Small body sherd. Sparkling quartz. Black core and inner surface. Brown outer surface.	400	850	400 - 850
164	165	Ditch	51B	1	1	3	Body sherd. Roman?	1750	1900	1750 - 1900
169	166	Pit	40B	1	1	2	Body sherd. Degraded internal black glaze?	1550	1700	1550 - 1700
219	218	Ditch	1C	1	1	113	Fresh break. Lower body or possibly base sherd. Thick walled. External sooting. Grey and black core, orange-brown surfaces.	720	875	720 - 850
219	218	Ditch	8	1	1	27	Body sherd. Fresh break. G1/ SIPS fabric. Possibly handmade THETI storage jar. Sherd from same vessel	720	875	720 - 850

							recovered as unstratified			
317	319	Pit	1	6	1	69	Body sherds from the same vessel. Grey and brown core, brown outer surface and grey to greyish brown inner surface. Smoothed surface finish	400	850	500 - 700
318	319	Pit	1	1	1	19	Body sherd. Dark grey core, orange surface. Inside surface worn. Smoothed outer surface finish.	400	850	500 - 700
318	319	Pit	1	1	1	7	Fresh break. Simple rim, slightly everted (tapering to top). Dark grey core, orange/brown surfaces. Smoothed surface finish.	400	850	500 - 700
318	319	Pit	1	3	1	26	Body sherds. Abraded/worn surfaces. Same vessel. Dark grey body, mid-grey outer surface.	400	850	500 - 700
333	332	Pit	48A	1	1	16	Body sherd from a rounded bowl with internal landscape pattern?	1590	1900	1590 - 1900

Table 8: Post-Roman pottery by context

.Cxt = context; No = sherd count; ENV = estimated number of vessels; Wt = weight in grams

## 7.4 Ceramic Building Material and Worked Stone

### By Amparo Valcarel

- 7.4.1 A medium size assemblage of ceramic building material (CBM) and stone (261 examples; 9.87 kg) was collected from an evaluation and excavation at Church Road and Plantation Road, Boreham (BOPR18) was reviewed in order to provide a list of spot dates and to identify the form and fabric of building material. The material came from several fill of ditches, pits and post-holes.

- 7.4.2 Examples of Roman, late medieval and post-medieval building materials are well represented reflecting the multi-phase occupancy of this site. Some of the Roman material has undoubtedly been dumped from a nearby building. The material was collected mainly from fills of postholes, ditches and pits.
- 7.4.3 All of the building material, stone and daub from this site was in a fragmentary condition, with no complete examples present.
- 7.4.4 The distribution of CBM and stone by feature is given in Section 15.

#### Methodology

- 7.4.5 The application of a 1kg masons hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10).
- 7.4.6 As Boreham, lies relatively close to London, the decision was made to compare the fabrics from this group with the PCA Reference Collection held in Brockley. This four digit fabric collection is in accordance of the Museum of London classification. This proved to have limitations as some of the fabrics are clearly local using the underlying boulder clay which is not present in London. The absence of a reference collection made it necessary to consult documents (Ryan 1996). The stone fabric matched with the Museum of London series, designating the appropriate MoL 4digit code. Where the stone fabric had no exact match, the fabric was prefixed by the generic 3120; followed by a;b;c; thus 3120a; 3120b; 3120c.

#### Daub (51 examples, 212 g.)

- 7.4.7 The daub fragments recovered from fills (121), (124), (221) (309) and (318) are very small and abraded. The condition of the material is variable, but the majority is in small non-diagnostic pieces. They either represent burnt clay or material from a timber-framed wattle and daub structure. A fragment from (132) has a rounded surface and is probably derived from a loom weight.



Roman (46 fragments, 3.44 kg.)

- 7.4.8 All the Roman material is in a fragmentary and abraded condition, dominated by flattened brick and tile with just a handful of tegulae and imbrex (5 examples, 741g). Some examples resemble the sandy coarse London fabric 3006 (AD50-160) and Radlett fabric 3023 (AD50-120). Given the large number of flat bricks and tile present and the lack of roofing material it is probable that this assemblage has been brought in from another site for reuse as construction materials, rather than building occupation.

Late medieval and post-medieval (1450-1800) 31 examples 3.92 kg

- 7.4.9 Roofing tiles (22 fragments, 824 g.)
- 7.4.10 2273 type: sandy fabric with abundant-frequent coarse quartz (peg tile) (8 examples, 307 g)
- 7.4.11 2276 type: Hard, well fired fine texture with abundant quartz (peg tile) (14 examples, 517 g)
- 7.4.12 Peg tiles made of a sandy abundant-coarse opaque quartz fabric have a fine to medium grade moulding sand suggesting perhaps that they were post-medieval peg tiles, although 2273type fabric is dated in London to the 12th and 13th century. With no existing reference collection of peg tile fabrics, one cannot pinpoint more accurate dates for manufacture, but in keeping a 1300-1600 AD date seems probable. Peg tiles made of 2276 have medium moulding sand. It is comparable to the common London sandy 2276 fabric (1480-1900), but having the occasional glassy and quartz inclusions.

Bricks (9 fragments, 3.1 kg)

- 7.4.13 Bricks 3033 type are very similar to the London sandy productions, except with occasional black iron inclusions. The four examples (168) are poorly made and have kiln marks and dark green glazed surface, possibly from an accidental kiln heat. These marks are associated with the second half of the 17th century in Essex (Ryan,1999).

Undatable fragments (58 fragments, 387 g.)

- 7.4.14 A cluster of undiagnostic examples of ceramic building material were recovered from numerous contexts. The fragments are small and undiagnostic, most of them less than 3 cm across, and so are completely undateable.

Stone

- 7.4.15 A few examples of quern made of Niedermendig lava stone with no dimensions preserved, were collected from fills (121) (167) (219) (221) and (268). Normally this stone is associated with the Roman period, although was less common in medieval and post-medieval dates. In general, all the fragments are small and abraded. Quartzite and fine laminated sandstone found in fill (285) of cremation [284] are natural.

Iron Age Phase (2 examples, 18 g)

- 7.4.16 A quartzite and a fine-grained laminated sandstone were collected from fill (285) of cremation pit [284]. The fragments have no worked surfaces and probably came from the erratic group within the boulder clay.

Saxon (185 examples, 3.54 kg)

- 7.4.17 A medium size assemblage of material was found in this phase from fill of Ditches 2 and 14 and two pits [120]=[319] and [139]. The majority of the material is from undiagnostic fragments (either in form or fabric) with less than 3 cm (56 examples, 362 g) and small daub fragments (38 examples, 201 g). The daub is too small to diagnose its function. The building material recovered is characterised by early Roman fabrics such as sandy (3006, 2459a) dated 50-160AD and Radlett (3023), dated 50-120AD. Bricks and tiles are the main form, with less quantity of roofing elements (imbrex and tegula). Fills (219) and (221) of Ditch 2 have preserved the major amount of material. A single intrusive post-medieval peg tile was found from fill (124) of Ditch 2 [123].

- 7.4.18 Stone is only represented by small and abraded Niedermendig lava querns,

with no surface preserved from fill (121) of Pit (120) and fills (219) and (221) of Ditch 2.

- 7.4.19 The material collected from this phase is typically Roman. The fact that no Roman features were excavated suggest that the material is redeposited from a building(s) nearby.

Post-medieval (28 examples, 3.76 kg)

- 7.4.20 This phase has preserved a small amount of building material in fill of pits and ditches. The main form is represented by peg tiles made of fabrics 2273 and 2276. Two brick samples made of sandy fabric 3033 was collected from fill (168) of Pit [166]. The material recovered from fill (167) of Pit [166] contains residual Roman material such as tile ridge and a fragment of Niedermendig lava quern stone.

#### Conclusions

- 7.4.21 The building materials assemblage from BOPR18 merely reinforces multi-period activity at this site as seen from other material types. The material recovered from the excavation at Boreham mainly came from fill of pits and ditches dated Saxon and post-medieval. Although no Roman features were excavated a medium size of material was recovered especially from Saxon fills, suggesting that the ceramic material came from buildings outside the limits of this site.
- 7.4.22 This assemblage contains a small quantity of quern stone types, nearly all of which can be dated to the Roman period. Lava quern stones were produced in a large number at the Mayen quarries in the Rhineland from the Iron Age to late 19th century. During the Roman period stones from this source were widely exported across the British Isles, especially in the southeast of England and Sussex. The exportation of lava declined in the 3rd and 4th centuries, and the trade to Britain has ceased by the end of the Roman period and did not become re-established until the middle Saxon period, continuing into the medieval and post-medieval periods.

7.4.23 All of the ceramic building material and daub from this site was in a fragmentary condition, with no complete examples present. Clearly Roman and post-medieval activity can be pinpointed from the roofing tile and brick. It seems probable, given the poor condition of the Roman ceramic building material assemblage and the absence of walls/structures, that much of it was reclaimed from redeposited episodes elsewhere, and probably came from the Roman Road/Plantation Road Conservation area, located 150m south west of the excavation. It is probable that the 2273-type fragments are early post-medieval rather than medieval. The poorly made red bricks with stack marks along the margin are somewhat comparable in form, size and fabric to Ryan's late 17th-early 18th bricks (Ryan, 1999). Some examples should be retained (see database record).

## **7.5 Industrial Debris**

**By David Starley**

7.5.1 A total of 300g of material was submitted for identification. This was visually examined with the aid of a hand lens, streak plate and magnet. The material was classified into the standard categories used by the specialist, based on those developed at the former English Heritage Ancient Monuments Laboratory.

7.5.2 Table 9 presents a listing of the findings for the assemblage, divided by debris type.

### **Classification**

7.5.3 None of the material examined was identified as unambiguously deriving from iron or non-ferrous metal extraction or working. However, several categories suggested that they had been subjected to some form of heating, which could have been metallurgical. The most convincing of these were a few small fragments of vitrified hearth / furnace lining. The fabric of these was an orange clay which had been fiercely heated on one side to a grey colour, indicating reducing conditions.

7.5.4 Material from two contexts was classified as burned stone. The few grams from ditch fill (221) were attracted to a magnet, showing that the heating conditions had acted on the iron content of the stone to turn it to magnetite. In the absence of metallurgical slag it can only be assumed that this was an accidental product or waste product, not an intended one. The other context (338) was a fill associated with cremations and this material, along with associated charcoal and fired clay most probably derived from his activity. A bag of gravel-like stone from the fine sieve residues of context (221) and ferruginous concretions from various contexts were of no metallurgical significance. The very small quantities of fine flake-like natural concretions from context (340) were not recognisable to the specialist but are not thought to be linked to metallurgical activities. The only potential metalworking debris was a piece of fired clay which may have been part of hearth or furnace lining but in the absence of any diagnostic slag might be associated with the cremations or even a domestic hearth.

#### Conclusions

7.5.5 Visual examination of the possible industrial debris from Boreham failed to identify any clear evidence that metalworking activities were being undertaken within the excavated site. No further work on the debris is justified.

Context	Sample	Identification	Context detail	Mass (g)	Comments
221	5 <2mm	Stone	Ditch fill	232	Very occasional Magnetic
221	5	Burned stone	Ditch fill	2	
224	60	Ferruginous concretion	Ditch fill	13	
304	63	Ferruginous concretion	Ditch fill	6	
317		Vitrified hearth/furnace lining	Pit fill	18	Reduced-fired
338	51	Charcoal	Cremation Fill	<1	
338	51	Ferruginous concretion	Cremation Fill	20	

Context	Sample	Identification	Context detail	Mass (g)	Comments
338	51	Burned stone	Cremation Fill	5	
338	51	Fired Clay	Cremation Fill	4	
340	54	Natural concretion	Cremation Fill	<1	Unknown derivation
Total				300	

Table 9: Industrial debris by context

## 7.6 Small finds, metalwork and glass

### By Ruth Prior

- 7.6.1 The assemblage recovered from the evaluation and excavation is made up of sixteen objects of metalwork, glass, and ceramic. They are listed by material and date in Table 10. Ten of the objects were collected from nine contexts; whilst a further six objects were retrieved from unstratified layers.
- 7.6.2 Five of the objects were recovered from features dated to the Saxon period, and were predominantly from the fills of pits and ditches.
- 7.6.3 The finds have been recorded below and a full listing is provided in the catalogue. They have been examined with the aid of low powered magnification and with the assistance of radiographs. The radiographs will be deposited with the archive.
- 7.6.4 The condition of the copper and iron objects is poor, with all demonstrating degrees of corrosion.

Material:	Silver	Copper alloy	Iron	Glass	Ceramic
Period:					
Saxon	1	1	2		1
Post Medieval	3	2			
Uncertain Date		1	4	1	
Totals:	4	4	6	1	1

Table 10: Object quantities by material and date

## Iron Age

- 7.6.5 Two objects, one of glass and one of iron, were retrieved from fills of Iron Age cremations during the processing of the soil samples. It is not possible to identify the original object for the small glass shard that was found in spit 3 in the Iron Age cremation [289]. Whilst it could be the remnants of a grave good deposited with the cremation, it could also be from a later, intrusive item. Similarly, the small fragment of iron from cremation [284], is not identifiable.

## GLASS

- 7.6.6 Fill 288 of cremation [289], sample <28>, spit 3.
- 7.6.7 Glass shard, pale yellow in colour, triangular in plan, thin rectangle in section. The exterior surfaces are iridescent.

## IRON

- 7.6.8 Fill 285 of cremation [284], sample <29>, spit 3.
- 7.6.9 Small fragment of iron, sub-rectangular in plan and section; tapers in depth.
- Saxon
- 7.6.10 Five objects were retrieved from the site that indicate activity during the Saxon period, either directly on the site or within the vicinity. The ceramic loomweight retrieved during the evaluation phase of work, points to the production of textiles, whilst the two iron objects suggests domestic activities such as butchering or other craft activities. From the same pit as the loomweight, a silver, early medieval penny was also retrieved.

## SILVER

Contribution by Murray Andrews

- 7.6.11 SF1, from fill 119 of pit [120], Trench 15.
- 7.6.12 The coin from Church Road and Plantation Road is an anonymous early medieval silver penny, issued during the Secondary Phase of the Anglo-Frisian 'sceatta' coinage; its specific type, Series K, is conventionally dated to

AD c.700-740, Grierson and Blackburn 1986, 188. Produced in great numbers in the northern Low Countries, probably at the North Sea emporia of Dorestad and Domburg, Series K pennies are readily distinguished by their highly stylised designs, combining a characteristic 'Porcupine' motif on the obverse with a mixture of geometric shapes or pseudoletters contained within a square standard on the reverse. These devices ultimately derive from the models of late Roman and early Anglo-Saxon coinage. The specimen from Church Road and Plantation Road belongs to an enigmatic subset of Series K, Abramson's Group 97, employing a mirrored design of linear and pellet ornaments within a reverse standard; an extremely close parallel to this coin, which may constitute a die-duplicate, is known as a metal-detector find from the Canterbury area, Allen, Leins, and Moorhead 2009, 267, no. 134.

7.6.13 Series K pennies are some of the most commonly encountered early medieval coin finds from east and southeast England, with nearly half of the pennies identified at the 'North West Essex' productive site, for example, belonging to this series alone, Bonser and Carter 2008, 94. Op den Velde and Metcalf, 2011, 108 note a disparity between the frequency with which these coins occur in English contexts and their comparative scarcity as Dutch finds, which probably reflects their function as an 'export coinage' used to pay for imported English goods from the turn of the eighth century. The discovery of such a coin on an Essex site is fully consistent with the established understanding of monetary circulation during this period, and its discovery within the fill of a large Saxon pit is similarly consistent with its interpretation as an 'accidentally lost' coin. In view of its substantially unworn condition, it is highly likely that such a loss would have occurred within the first half of the eighth century.

7.6.14 Penny (or 'Sceat'). Secondary Phase, Series E, Secondary Variety (North 45var.; Abramson 97var.). Obverse: Quilled crescent ('Porcupine') coiled r. Reverse: Beaded standard enclosing geometric design with central pellet and annulet. Possible die-duplicate with Allen, Leins and Moorhead 2009, 267, no. 134, Die axis indeterminate. Unworn. Weight 0.8g.



## CERAMIC

- 7.6.15 From fill 121 of pit [120], Trench 15.
- 7.6.16 A single ceramic object was collected from the evaluation. Following the typology for loomweights outlined by Hurst, 1959, 23-5, and utilised by Riddler, 2004, 20, it is possible to identify the loomweight as a fragment of a bun-shaped loomweight, where the central perforation has a smaller diameter than the clay ring (ibid, fig. 21, nos. 4 – 5).
- 7.6.17 Bun-shaped loomweights are known from Middle and Late Saxon contexts. They are contemporary with intermediate loomweights in the 8th and 9th centuries but are known to continue in use into the 9th – 10th centuries, Riddler, 2004, 22. The loomweight from BOPR18 is comparable to fragments of bun-shaped loomweights found on the late Saxon settlement excavated at Springfields Lyon, which is located a kilometre to the west of Boreham, Major, 2005, 168, fig. 107, nos 1 and 3. The fragments at Springfields Lyon have been dated to between the 7th and 9th centuries AD.
- 7.6.18 The loomweight therefore provides further dating evidence for the Saxon pit in which it was found, albeit imprecise. It was found with additional datable material, including pottery and a silver sceatta that has been dated more securely to c.700 – 740AD.
- 7.6.19 Loomweight fragments: one large piece and ten smaller fragments. The large fragment is a section of a circular weight with the remains of a central perforation measuring c. 34mm in diameter. The fabric is orange with a dark brown core; sandy with occasional inclusions of flint and quartz. There are possible deliberate, indentations on upper surface.

## COPPER ALLOY

- 7.6.20 SF26, unstratified.
- 7.6.21 An unstratified copper alloy ring was recovered during the excavation; its penannular form with tapering terminals is a type that is not uncommonly

found in Roman contexts and has been interpreted as an ear-ring dating between the 1st and 4th centuries AD, Allason-Jones, 1989. However, similar rings have also been collected from early Medieval contexts and have been interpreted as both finger-rings and ear-rings. Seven examples of undecorated finger-rings with tapering terminals that overlap were found at Middle Harling in Norfolk, Rogerson, 1995, 57, fig. 38, nos 26-32. Further examples are also known from Late Saxon contexts at Thetford, Goodall, 1984, fig. 110, nos 17, 19-21. The terminals of SF26 are now splayed apart; had they originally overlapped the diameter of the ring would have been less than 10mm, perhaps more indicative that this particular ring was an ear-ring.

- 7.6.22 Finger-ring or ear-ring: simple open hoop, oval in cross-section with terminals that taper to a point at both ends. It is crescent shaped in plan.

#### IRON

- 7.6.23 Two iron tools were recovered from the same fill of pit [310]. SF6 is a whittle-tang knife blade and has been classified following the system devised by Evison, 1987, 113 and subsequently revised by Drinkall, Drinkall and Foreman, 1998, 279-84. It belongs to Type A, a form where both the cutting edge and the back are roughly parallel before converging to the tip. Examples of Type A are illustrated from the Flixton cemetery, Riddler, 2012, fig. 7.15. Although the knife from Boreham is missing its tip, it can still be noted that the blade length is short, with the surviving length measuring 52.2mm. This is not unusual; Riddler, 2006, 15, notes that the blade lengths from the cemeteries at Saltwood, where Type A was dominant, ranged from 54 to 230mm. In terms of dating, Type A is the most commonly encountered knife form in the early Anglo-Saxon period but as it occurs throughout the Anglo-Saxon period it cannot be closely dated, Riddler, 2012, 127. The second iron object from the pit is also a tanged tool, though the thickness of the blade indicates a function other than that of a knife.

- 7.6.24 Knife blade: two co-joining fragments of a whittle-tang knife with blade that has a lenticular-shaped section. The tang is centrally placed on the blade. The

blade appears to have both a slightly curved back and cutting edge, however the object is masked by corrosion products. It is a Type A form.

SF6, fill 318 of pit [319].

- 7.6.25 Tool: two fragments of the same elongate object. It is roughly triangular in plan with one of the longitudinal edges being straight and the other curved, both tapering to a tip. In cross-section the object is rectangular; at the tip more square. SF20, fill 318 of pit [319].

#### Post-Medieval

- 7.6.26 Three silver coins and two copper alloy objects were recovered during the excavation. All are unstratified. The coins were found scattered across the site and not as a small group. The post-medieval objects add little to the understanding of the function of the site, but rather are items commonly found of this date on rural sites due to the practice of night soiling.

#### SILVER

- 7.6.27 SF21, unstratified: Elizabeth I, 1558-1603. Groat. Folded in half along the centre.
- 7.6.28 SF22, unstratified: James I, 1603-1625. Half-groat. Folded in half along the centre.
- 7.6.29 SF23, unstratified: Elizabeth I, 1558-1603. Groat. The mint mark is the cross crosslet (1560-1), North (1991) No.1986.

#### COPPER ALLOY

- 7.6.30 Shoe buckle fragment: cast, elaborate frame consisting of two interlaced ribbons decorated with punched circles on the front. It has traces of white metal on the exterior surface - possibly tinned. It is comparable to the decorative buckle illustrated in Whitehead, 1996, 109, no.701 dating between c. 1720 and 1790. SF24, unstratified.
- 7.6.31 SF25, unstratified: Purse bar arm. Cast, section of the arm of a possible purse bar. The arm is circular in cross-section and curves rearwards, with a square

head terminal that has lozenge facets. The arm has a central moulded rib, after which it is truncated.

Uncertain date

- 7.6.32 Five objects were recovered of uncertain date; one of copper alloy and four of iron, two of which are nails.

#### COPPER ALLOY

- 7.6.33 Fill 236 of ditch [237], Trench 1: Unidentified object heavily corroded, deteriorating to a powdery texture. The head is sub-rectangular in profile and triangular in plan; it has a protrusion (?shank). The head has a lenticular shaped impression on one side.

#### IRON

- 7.6.34 Fill 136 of pit [135], Trench 10: Nail with a shank that is square in section; encrusted and corroded.
- 7.6.35 Fill 221 of ditch [220], sample <5>, Trench 1: Nail with a flat, sub-square head and tapering shank. Shank is square in cross section and ends with a bent tip. Corroded.
- 7.6.36 Fill 219 of ditch [218], sample <57>, Trench 1: Unidentified fragment of iron sheet, sub-rectangular in plan, lenticular in cross-section. It is possibly from a fitting or mount as the x-ray suggests it may have a central rivet.

#### Discussion

(contribution by Murray Andrews on the significance of the silver sceatta)

- 7.6.37 This small assemblage of material primarily reflects activity on the site during the Saxon period, with few fragmented objects from the Iron Age cremations and small quantities of much later material from post-medieval night-soiling practises.
- 7.6.38 The objects found within the Saxon features at Church Road and Plantation Road are comparable to those from assemblages of similar rural settlements

within the vicinity, such as at the late Saxon settlement at Springfield Lyons, Tyler and Major, 2005, 163 - 168. They reflect small scale domestic activities and a single item of personal adornment.

- 7.6.39 The silver sceatta, SF1, is a key element of the archaeological data from the site, and provides important evidence for the dating of discrete features on the site. In addition, it provides further evidence for coin circulation and economic activity in Essex and the wider North Sea region during the early medieval period. Finally, the coin possesses intrinsic significance as a specimen of an enigmatic subset of Series K, and may be an exact die-duplicate of a similar find from near Canterbury.

## **7.7 Animal Bone**

**By Kevin Rielly and Karen Deighton**

### Methodology

- 7.7.1 The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. The sample collections were washed through a modified Siraf tank using a 1mm mesh and the subsequent residues were air dried and sorted. A concerted effort was undertaken to refit as many bones as possible, noting the actual number of fragments prior to refitting.

### Description of faunal assemblage

- 7.7.2 The evaluation of the site provided a total of 19 bone fragments, reducing to 11 after refitting. These were taken from the hand collected (a cattle maxillary molar) and sieved contents (a sheep-size tooth and 8 cattle-size fragments) of fill (121) in pit [120] Trench 15, as well as the sieved contents (a calcined cattle-size fragment) of fill (124) from ditch [123] Trench 10. All of these bones

were rather fragmented although otherwise in good condition.

- 7.7.3 Both deposits provided Late Iron Age potsherds, these forming the exclusive dating contents of (124), while (121) also provided a small number of Roman sherds.
- 7.7.4 During the excavation, Animal bone was collected by hand from fills of ditch [218] and pit [319]. This was supplemented by material from sample residues (mesh size 2mm and 10mm). The samples involved were collected from possible cremations.
- 7.7.5 Fragmentation was extremely heavy with all bone at the small fragment stage. Severe erosion was also encountered. Both these factors rendered bone from most contents classifiable only as indeterminate mammal. The exception was the cattle tooth encountered in context [219]. Bone fragments were calcined with the exception of material from context [317].

Context	Cut	Feature	Indet
121	120	Pit	6
124	123	ditch	2
219	218	ditch	41
317	319	pit	70
318	319	pit	20
Total			131

Table 11: Hand collected bone by context

Context	Cut	Sample	Feature	Bos	Indet	Total
219	218	46	Ditch	2	7	9
219	218	57	ditch		40	40
221	200	5	ditch		8	8
309	308	39	pit		2	2
Total				2	57	59

Table 12: Bone from samples

## Conclusions and recommendations for further work

- 7.7.6 This collection appears to be reasonably well dated, clearly indicative of

evidence for Iron Age and most probably Saxon animal usage. However the quantities are very small and the bones are highly fragmented. Add to this the noted fragmentation and it can be observed that the bones offer very limited evidence for animal usage in this area during these occupation periods. No further work is recommended on the current assemblage due to its small size and poor preservation.

## **7.8 Human Bone**

**By Aileen Tierney**

### Introduction

- 7.8.1 Nineteen Late Bronze Age to Early Iron Age un-urned cremation deposits were discovered during the two phases of archaeology works on this site. One cremation burial was first identified during the evaluation at the north-eastern end of Trench 10 (Learmonth 2018). A further eighteen were uncovered as part of the excavation, all located within c. 25 m of each other suggesting the presence of an organised cemetery with a number of ditches appearing to delineate the extent of this cemetery. Two further 'cremation burials' were identified on site within this grouping but did not contain any cremated bone.
- 7.8.2 The bone deposits examined varied in weight, preservation and fragmentation. This meant that age and sex could not be ascertained for all the burials, but more importantly it highlighted the variability in pyre technology and general funerary practices represented at this site.
- 7.8.3 Seven bone subsamples were selected for radiocarbon dating and included bone from cremation burials at various locations across the cemetery and a selection of those displaying differential preservation. All seven subsamples date to the Late Bronze Age to Early Iron Age (Appendix 8).

### Methodology

- 7.8.4 The remains were excavated in accordance with the ClfA guidelines (McKinley and Roberts, 1993). All cremation burials suffered a level of truncation. Due to the nature of un-urned burials, it is not possible to fully

ascertain the level of truncation. Context numbers and environmental sample numbers were allocated for each spit of the cremation and each cremation was 'spitted' uniformly. Additional sample numbers were allocated when the radiocarbon dating samples were selected.

7.8.5 All spits were wet sieved through a 0.5mm sieve, and the residues passed through a stack of 10mm and 5mm mesh sieves. All the bone was extracted for analysis. The <5mm residue was retained and identifiable bone and any artefacts extracted by the author. The largest skull and long bone fragments were recorded. Osteological analysis follows procedures for cremated bone outlined by McKinley (2004).

7.8.6 General methods used in the osteological evaluation of all human skeletal material are those of Buikstra and Ubelaker (1994). An assessment of age was based on the stages of dental development and eruption (Bass, 1995) and epiphyseal union, and on the degree of dental attrition (Brothwell, 1981). The age categories used in this report are listed below:

Infant	0-4 years
Juvenile	5 - 12 years
Sub-adult	13 - 18 years
Young adult	19 - 25 years
Middle adult	26 - 44 years
Mature adult	45 years +

7.8.7 All the cremated bone was identified macroscopically in terms of part of the skeleton (e.g. skull, axial, upper limb, lower limb and unidentified long bone). Identification of elements allowed for minimum number of individuals (MNI) analysis. The colour of the bone and any pathologies were also noted. The



presence of grave goods, pyre goods or pyre debris was recorded.

## Results

- 7.8.8 The cremation burials were located in the eastern area of the site c. 150m south of the northern limit of excavation and vary in proximity from each other from just under a metre up to a gap of 10m (Figure 5). They will be discussed from west to east and north to south.

### Cremation burial [343]

- 7.8.9 The bone extracted from this un-urned cremation deposit (depth: 0.11m) weighed 3g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. There was very little variation in the colour of the bone (mostly buff white), only one element displayed a pale grey colour in the interior of the bone, which demonstrates an efficient firing.
- 7.8.10 The largest long bone fragment was 10.01mm and was from the uppermost spit (Table 13). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as fair, suggesting a low level of surface abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the uniform colour of this bone assemblage could support the former of the two options. The low levels of charcoal identified (Turner, Section 7.9) in this cremation burial is suggestive of a pyre left to cool overnight or potentially a bone deposit that was winnowed when it was removed from the pyre. The bone was examined for the presence of fissures or warping to assess the potential thermal shock associated with winnowing but due to the small bone assemblage, no supporting evidence could be found. The carbonised archaeobotanical non-cereal specimens identified will also be dealt with further in relation to pyre construction and ritual in the discussion.

- 7.8.11 The complete bone deposit (3g; subsample <77>) was sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (826 BCE ± 28; SUERC-81872 (GU48740); Appendix 8 Table 15)

Cremation burial [331]

- 7.8.12 The bone extracted from this un-urned cremation deposit (depth: 0.15m) weighed 249.5g. The remains have been identified as a juvenile-subadult due to identification of a partially fused epiphysis of a distal phalanx. There was significant variation in the colour of the bone, more so in Spit 1, which demonstrates a less than efficient firing.
- 7.8.13 The largest skull vault fragment was 19.52mm, with the longest long bone fragment measuring 34.57mm (Table 14). 38.57% of the bone fragments in this cremation were >10mm (Table 14). A number of elements were able to be refitted which would lower the level of fragmentation. Nevertheless, this low figure is consistent with an unprotected bone deposit where various processes can have an adverse effect on the bone preservation and associated fragmentation. Despite this the bone preservation was good with fragmented elements displaying sharp edges. Skull fragments and long bone fragments were easily recognisable with 29 identifiable tooth fragments recovered.
- 7.8.14 Spit 2 and Spit 3 of this cremation deposit share similarities including a consistent colour and the presence of bones which were able to be refitted. It is possible that they represent a separate deposit with the first spit potentially representing a later deposition from another firing. If this is the case, the percentage of bone in the greater than 10mm fraction would increase to 34.29%. It is likely that this bone deposit represents the deliberate deposition of the cremated bone. Over 50 pieces of wood were identified within this sample as being viable (>4mm in width or length) for a species ID (Turner, Section 7.9). This information can potentially inform us about the local woodland of the time with an insight into what fuel was used, how it was treated and many other cremation industry variabilities.

- 7.8.15 A fragment of humerus shaft (2.5g; subsample <75>; Spit 1) was sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (849 BCE  $\pm$  28; SUERC-81635 (GU48738); Appendix 8 Table 15).

Cremation burial [341]

- 7.8.16 The bone extracted from this un-urned cremation deposit (depth: 0.04m) weighed 0.5g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. There was very little variation in the colour of the bone which demonstrates an efficient firing.

- 7.8.17 The largest long bone fragment was 6.28mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as fair, suggesting a low level of surface abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the uniform colour of this bone assemblage supporting the former of the two options. While there were less than 100 wood charcoal specimens within this sample, there were more than 50 pieces of wood were viable (>4mm in width or length) for species ID (Turner, Section 7.9). This information can potentially inform us about the local woodland of the time with an insight into what fuel was used, how it was treated and many other cremation industry variabilities. Additionally, the difference in prevalence between the charcoal pieces and the fragments of cremated human bone in this instance needs to be explored further. The carbonised archaeobotanical non-cereal specimens identified will also be dealt with further in relation to pyre construction and ritual in the discussion.

Cremation burial [329]

- 7.8.18 The bone extracted from this un-urned cremation deposit (depth: 0.09m) weighed 8g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. There was very little variation in the

colour of the bone (mostly buff white) which demonstrates an efficient firing.

7.8.19 The largest skull vault fragment was 12.15mm, with the longest long bone fragment measuring 21.12mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as good. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance. This deposit is interesting due to the lack of charred archaeobotanical material with only a small quantity of charcoal found in the flint. This, in addition to the sizeable fragments of cremated human bone, could potentially suggest a deposit where elements were carefully separated and collected.

#### Cremation burial [325]

7.8.20 The bone extracted from this un-urned cremation deposit (depth: 0.07m) weighed 5g. Due to the small quantity of bone, it was not possible to allocate a precise age bracket or sex to this individual; visible suture lines suggest a young adult. There was variation in the colour of the bone (white, buff and grey) which demonstrates a less than efficient firing.

7.8.21 The largest skull vault fragment was 9.79mm, with the longest long bone fragment measuring 12.08mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as fair suggesting a low level of surface abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the lack of uniformity in colour of this bone assemblage potentially supports the latter of the two options. The low levels of charcoal identified (Turner, Section 7.9) in this cremation burial is suggestive of a pyre left to cool overnight or potentially a bone deposit that was winnowed when it was removed from the pyre. The bone was examined for the

presence of fissures or warping to assess the potential thermal shock associated with winnowing but due to the small bone assemblage, no supporting evidence could be found.

#### Cremation burial [339]

- 7.8.22 The bone extracted from this un-urned cremation deposit (depth: 0.14m) weighed 100.5g. The remains have been identified as adult due to the fused distal epiphysis of the humerus. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing. Occasional unidentified elements were grey, blue or black indicating that these elements experienced a lower or less consistent heat treatment.
- 7.8.23 The largest skull vault fragment was 18.03mm, with the longest long bone fragment measuring 46.69mm; both from the second spit (Table 14). 29.35% of the bone fragments in this cremation were >10mm (Table 14). A number of elements were able to be refitted which would lower the level of fragmentation. Nevertheless, this figure is consistent with an unprotected bone deposit where various processes can have an adverse effect on the bone preservation and associated fragmentation. Despite this the bone preservation was good with fragmented elements displaying sharp edges. Skull fragments and long bone fragments were easily recognisable. It is likely that this bone deposit represents the deliberate deposition of the cremated bone.
- 7.8.24 The lower than average weight may suggest that a certain quantity was retained and dispersed among the family as occurs with token cremation burials. Alternatively due to the colours presence, it may be that the firing and clearance was carried out by the family as opposed to an experienced person familiar with the industry which could explain the lack of temperature control on the pyre and the inefficient collection of all the skeletal elements. This deposit is interesting due to the lack of charred archaeobotanical material with only a small quantity of charcoal found in the flot. This, in addition to the sizeable fragments of cremated human bone, could potentially suggest a

deposit where elements were careful separated and collected, supporting the suggestion of the cremation process being executed by someone less familiar with managing the variabilities.

- 7.8.25 A fragment of tibia shaft (3g; subsample <76>; Spit 2) was sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (895 BCE  $\pm$  28; SUERC-81636 (GU48739); Appendix 8 Table 15).

#### Cremation burial [284]

- 7.8.26 The bone extracted from this un-urned cremation deposit (depth: 0.12m) weighed 9g. Due to the small quantity of bone, it was not possible to allocate a precise age bracket or sex to this individual although general size suggests adult. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of some of the fragments as human or animal. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing.

- 7.8.27 The largest long bone fragment was 12.06mm and the largest cranium fragment was 12.07mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as fair suggesting a low level of surface abrasion. The small quantity of bone and the uniform colour is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members. There were no wood specimens viable for species ID but carbonised archaeobotanical non-cereal species were identified (Turner, Section 7.9). These remains will be dealt with further in relation to pyre construction and ritual in the discussion.

#### Cremation burial [278]

- 7.8.28 The bone extracted from this un-urned cremation deposit (depth: 0.08m) weighed 8g. Due to the small quantity of bone, it was not possible to allocate

an age bracket or sex to this individual. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing.

- 7.8.29 The largest long bone fragment was 11.22mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as good. A moderate quantity of charcoal was identified as part of this deposit. The small quantity of bone and the uniform colour is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members.

#### Cremation burial [276]

- 7.8.30 The bone extracted from this un-urned cremation deposit (depth: 0.15m) weighed 2.5g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing.
- 7.8.31 The largest long bone fragment was 13.81mm and was from the uppermost spit (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. These percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as good. The small quantity of bone and the uniform colour is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members. The low levels of charcoal identified (Turner, Section 7.9) in this cremation burial is suggestive of a pyre left to cool overnight or potentially a bone deposit that was winnowed

when it was removed from the pyre. The bone was examined for the presence of fissures or warping to assess the potential thermal shock associated with winnowing but due to the small bone assemblage, no supporting evidence could be found.

#### Cremation burial [270]

- 7.8.32 The bone extracted from this un-urned cremation deposit (depth: 0.1m) weighed 63g. The remains have been identified as a young – middle adult due to the identification of clearly visible suture lines. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing. Occasional unidentified elements were chalky white indicating that these elements underwent a very high temperature for a long period of time.
- 7.8.33 The largest skull vault fragment was 26.54mm, with the longest long bone fragment measuring 12.42mm; both from the uppermost spit (Table 14). 30% of the bone fragments in this cremation were >10mm (Table 14). This low figure is consistent with an unprotected bone deposit where various processes can have an adverse effect on the bone preservation and associated fragmentation. Despite this the bone preservation was good with fragmented elements displaying sharp edges. Skull fragments and long bone fragments were easily recognisable. The high prevalence of skull fragments noted in this cremation is of interest. It is likely that this bone deposit represents the deliberate deposition of the cremated bone. The lower than average weight may suggest that a certain quantity was retained and dispersed among the family as occurs with token cremation burials. There were no wood specimens viable for species ID but carbonised archaeobotanical non-cereal species were identified (Turner, Section 7.9). These remains will be dealt with further in relation to pyre construction and ritual in the discussion.
- 7.8.34 Two fragments of skull vault (2.5g; subsample <72>; Spit 1) were sent for radiocarbon dating which returned a Late Bronze Age to Early Iron Age date (823 BCE  $\pm$  28; SUERC-81629 (GU48735); Appendix 8 Table 15).



Cremation burial [289]

- 7.8.35 The bone extracted from this un-urned cremation deposit (depth: 0.12m) weighed 122.5g. The remains have been identified broadly as adult due to the presence of permanent dentition. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing. Occasional unidentified elements were chalky white indicating that these elements underwent a very high temperature for a long period of time.
- 7.8.36 The largest skull vault fragment was 21.01mm, with the longest long bone fragment measuring 17.14mm; both from the second spit (Table 14). 27% of the bone fragments in this cremation were >10mm (Table 14). This is a very low figure, consistent with an unprotected bone deposit where various processes can have an adverse effect on the bone preservation and associated fragmentation. The bone preservation ranged from fair to good with fragmented elements displaying sharp to dulled edges. Skull fragments and long bone fragments were easily recognisable. The high prevalence of skull fragments (cranium comprised 78% of the total bone in Spit 2) noted in this cremation is of interest. It is likely that this bone deposit represents the deliberate deposition of the cremated bone. The lower than average weight may suggest that a certain quantity was retained and dispersed among the family as occurs with token cremation burials. Both cereal and non-cereal specimens were identified in this deposit, although the cereal grains were not diagnostic enough (Turner, Section 7.9). The non-cereal specimens will be dealt with further in relation to pyre construction and ritual in the discussion.
- 7.8.37 Two fragments of skull vault (3g; subsample <74>; Spit 2) were sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (847 BCE  $\pm$  28; SUERC-81634 (GU48737); Appendix 8 Table 15).

Cremation burial [275]

- 7.8.38 The bone extracted from this un-urned cremation deposit (depth: 0.13m) weighed 125.5g. The remains have been identified broadly as adult due to the presence of permanent dentition. There was very little variation in the colour

of the bone (mostly buff white) which demonstrates an efficient firing.

7.8.39 The largest skull vault fragment was 18.35mm, with the longest long bone fragment measuring 21.41mm (Table 14). 23.51% of the bone fragments in this cremation were >10mm (Table 14). This is a very low figure, consistent with an unprotected bone deposit where various processes can have an adverse effect on the bone preservation and the associated high level of fragmentation. The bone preservation ranged from fair to poor with the majority of fragmented elements displaying dull rounded edges. Despite this, skull fragments and long bone fragments were easily recognisable. The abraded nature of this deposit suggests a level of disturbance or indeed a period of time left open to the elements. It is likely that this bone deposit represents the deliberate deposition of the cremated bone. The lower than average weight may suggest that a certain quantity was retained and dispersed among the family as occurs with token cremation burials. Carbonised archaeobotanical non-cereal species were identified (Turner, Section 7.9). These remains will be dealt with further in relation to pyre construction and ritual in the discussion.

7.8.40 One fragment of a tibia shaft (2g; subsample <73>; Spit 2) was sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (876 BCE  $\pm$  28); SUERC-81633 (GU48736); Appendix 8 Table 15).

#### Cremation burial [287]

7.8.41 The bone extracted from this un-urned cremation deposit (depth: 0.15m) weighed 8.5g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of some of the fragments as human or animal. There was very little variation in the colour of the bone (mostly buff or chalky white) which demonstrates an efficient firing.

7.8.42 The largest long bone fragment was 10.08mm and the largest cranium

fragment was 13.34mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as good. The small quantity of bone and the uniform colour is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members. Carbonised archaeobotanical non-cereal species were identified (Turner, Section 7.9). These remains will be dealt with further in relation to pyre construction and ritual in the discussion.

#### Cremation burial [282]

- 7.8.43 The bone extracted from this un-urned cremation deposit (depth: 0.26m) weighed 29.5g. Due to the small quantity of bone, it was not possible to allocate a precise age bracket or sex to this individual; general size suggests adult. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was variation in the colour of the bone which demonstrates a less than efficient firing or perhaps the remnants of multiple firings.
- 7.8.44 The largest long bone fragment was 6.28mm and was from the uppermost spit (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as poor, suggesting a high level of abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the lack of uniformity in colour of this bone assemblage could support the latter of the two options. Carbonised archaeobotanical remains identified in this deposit will be dealt with further in relation to pyre construction and ritual in the discussion. Over 50 pieces of wood were viable (>4mm in width or length) for species ID (Turner, Section 7.9). This information can potentially inform us about the local woodland of the time with

an insight into what fuel was used, how it was treated and many other cremation industry variabilities.

#### Cremation burial [281]

7.8.45 The bone extracted from this un-urned cremation deposit (depth: 0.11m) weighed 7.5g. Due to the small quantity of bone, it was not possible to allocate a precise age bracket or sex to this individual; general size suggests adult. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was no variation in the colour of the bone (all chalky white) which demonstrates an efficient firing.

7.8.46 The largest long bone fragment was 13.13mm and the largest cranium fragment was 11.96mm (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as fair displaying a moderate level of abrasion. The small quantity of bone and the uniform colour is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members. Carbonised archaeobotanical remains identified in this deposit will be dealt with further in relation to pyre construction and ritual in the discussion. Over 50 pieces of wood were viable (>4mm in width or length) for species ID (Turner, Section 7.9). This information can potentially inform us about the local woodland of the time with an insight into what fuel was used, how it was treated and many other cremation industry variabilities.

#### Cremation burial [273] = [171]

7.8.47 The bone extracted from this un-urned cremation deposit (depth: 0.24m) weighed 14g. Due to the small quantity of bone, it was not possible to allocate a precise age bracket or sex to this individual; general size suggests adult. There was very little variation in the colour of the bone (all buff) which

demonstrates an efficient firing.

- 7.8.48 The largest long bone fragment was 10.74mm and was from Spit 3 (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 2 but have not been included in the fragmentation discussion. Bone preservation has been described as good. The small quantity of bone relevant to the depth of this deposit is reminiscent of a token burial where only part of the individual was interred, the remainder potentially divided among the family members. Carbonised archaeobotanical remains identified in this deposit will be dealt with further in relation to pyre construction and ritual in the discussion. Over 50 pieces of wood were viable (>4mm in width or length) for species ID (Turner, Section 7.9). This information can potentially inform us about the local woodland of the time with an insight into what fuel was used, how it was treated and many other cremation industry variabilities.

#### Cremation burial [267]

- 7.8.49 The bone extracted from this un-urned cremation deposit (depth: 0.13m) weighed 4g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. There was very little variation in the colour of the bone (mostly buff white) which demonstrates an efficient firing.
- 7.8.50 The largest skull vault fragment was 12.18mm, with the longest long bone fragment measuring 15.11mm (Table 14). 50% of the bone fragments in this cremation were >10mm (Table 14), however due to the small quantity of bone in this deposit the level of fragmentation is less important. The bone preservation was fair. Bone preservation has been described as fair, suggesting a low level of abrasion. The small quantity of bone recovered from this feature and moderate levels of charcoal is suggestive of a token burial or pyre clearance; the uniform colour of this bone assemblage could support the former of the two options.

- 7.8.51 The complete bone deposit (3.5g; subsample <71>) was sent for radiocarbon dating which returned a Late Bronze Age – Early Iron Age date (889 BCE ± 28; SUERC-81628 (GU48734); Appendix 8 Table 15).

Cremation burial [260]

- 7.8.52 The bone extracted from this un-urned cremation deposit (depth: 0.15m) weighed 3g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was variation in the colour of the bone which demonstrates a less than efficient firing or perhaps the remnants of multiple firings.

- 7.8.53 The largest long bone fragment was 10.19mm and was from the uppermost spit (Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as poor, suggesting a high level of abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the lack of uniformity in colour of this bone assemblage and moderate quantities of charcoal could support the latter of the two options.

Cremation burial [255]

- 7.8.54 The bone extracted from this un-urned cremation deposit (depth: 0.16m) weighed 0.5g. Due to the small quantity of bone, it was not possible to allocate an age bracket or sex to this individual. Indeed the high level of fragmentation and the lack of diagnostic elements prevent a confident identification of human or animal. There was variation in the colour of the bone which demonstrates a less than efficient firing or perhaps the remnants of multiple firings.
- 7.8.55 The largest long bone fragment was 6.28mm and was from the uppermost spit

(Table 14). The level of fragmentation has been calculated but due to the small quantity of bone present, the resulting figures do not illustrate the point sufficiently. Fragmentation percentages are included in Table 14 but have not been included in the fragmentation discussion. Bone preservation has been described as poor, suggesting a high level of abrasion. The small quantity of bone recovered from this feature is suggestive of a token burial or pyre clearance; the lack of uniformity in colour of this bone assemblage could support the latter of the two options. Both cereal and non-cereal specimens were identified in this deposit, with bread wheat and another variation of wheat in addition to oat grains (Turner, Section 7.9). The non-cereal specimens will be dealt with further in relation to pyre construction and ritual in the discussion.

Cut	Fill	Environmental sample	Depth (m)	Total weight (g)	Colour	Abrasion	Age
255	254	7	0.16	0.5	Mixed	4	
260	261	30, 31	0.15	3	Mixed	4	
267	266	9	0.13	4	Buff	0	
270	271	35, 36	0.1	63	Mixed	0	Young adult
273	272	10, 69, 70	0.24	14	Buff	0	Adult
275	274	11	0.13	125.5	Buff	3	Adult
276	277	16, 17, 18	0.15	2.5	Buff	0	
278	279	12	0.08	8	Buff	0	
281	280	13, 15, 19	0.11	7	White	2	Adult
282	283	14, 20, 22, 26	0.26	29.5	White buff	3	Adult
284	285	24, 25, 29	0.12	9	Buff	2	Adult
287	286	21, 66, 67	0.15	8.5	Buff	1	
289	288	23, 27, 28	0.12	122.5	White buff	1	Adult
325	324	42, 44	0.07	5	White buff	2	Young adult
329	328	47, 48	0.09	8	Buff	0	

Cut	Fill	Environmental sample	Depth (m)	Total weight (g)	Colour	Abrasion	Age
331	330	49, 50, 53	0.15	249.5	Mixed	0	Juvenile
339	338	51, 52, 68	0.14	100.5	Mixed	1	Adult
341	340	54	0.04	0.5	White buff	2	
343	342	55, 56	0.11	3	White buff	2	

Table 13: Summary of osteological results

Cut	Largest skull fragment (mm)	Longest long bone (mm)	>10mm	>10mm%	5 - 10mm	5 - 0mm %	<5mm	<5mm %
255		6.28	0	0%	0.5	100%	0	0%
260		10.19	0.5	16.67%	1.5	50%	1	33.33%
267	12.18	15.11	2	50%	1.5	37.50%	0.5	12.50%
270	26.54	12.42	19	30.16%	17.5	27.78%	26.5	42.06%
273		10.74	0	0%	7	50%	7	50%
275	18.35	21.41	29.5	23.51%	42	33.47%	54	43.03%
276		13.81	0.5	20%	1.5	60%	0.5	20%
278		11.22	0	0%	3	37.50%	5	62.50%
281	11.96	13.13	1.5	21.43%	3	42.86%	2.5	35.71%
282	13.57	13.63	3	10.17%	11.5	38.98%	15	50.85%
284	12.07	12.06	2	22.22%	3	33.33%	4	44.44%
287	13.34	10.08	1	11.76%	4.5	52.94%	3	35.29%
289	21.01	17.14	32.5	26.53%	36	29.39%	54	44.08%
325	9.79	12.08	1	20%	2	40%	2	40%
329	12.15	21.12	2.5	31.25%	2.5	31.25%	3	37.50%
331	19.52	34.57	87	34.87%	77.5	31.06%	85	34.07%
339	18.03	46.69	29.5	29.35%	26	25.87%	45	44.78%
341		6.28	0	0	0.25	50%	0.25	50%
343		10.01	0.5	16.67%	1.25	41.67%	1.25	41.67%

Table 14: Degree of fragmentation as percentages and largest fragment size

## Discussion



- 7.8.56 The cremation burials were located in the eastern area of the site c. 150m south of the northern limit of excavation. All the cremation burials vary in proximity from each other from just under a metre to a gap of up to 10m (Figure XX) suggesting the presence of an organised cemetery. In addition to this, Boundary 3 appears to delineate the western limit of this cemetery with Trackway 1 seemingly doing similar along the southern limit of the cemetery.
- 7.8.57 The cremation burials vary in size; between 0.24m – 0.57m long, between 0.23m – 0.55m wide and 0.04m – 0.26m deep. There was no evidence for above ground markers although the absence of intercutting cremation burials suggests that there may at some point have been some identifying factor.
- 7.8.58 Working out the degree of truncation in un-urned cremation deposits is problematic due to the level of uncertainty with regards to the depth of the original feature. Five cremations ([255], [267], [275], [278] and [341]) were excavated as one spit, with the remaining cremation burials containing between two and four spits. Five cremations ([282], [287], [289], [331] and [339]) had the lowest quantity of bone in the first spit suggesting that these burials may not have suffered the same level of truncation. Cremation burial [282] and Cremation burial [289] contained only 3.4% and 4.5% respectively in the first spit suggesting an almost complete or 'sealed' deposit, with the majority of bone in the second and third spits. Therefore in these instances, the depth of the deposit is more representative of its original depth, while the depths of the remainder are more arbitrary and would have been deeper and as a result may have contained more bone. Concentrations of cremated bone were noted within a number of the cremation burials from this site suggesting the bone was originally contained in an organic container now decayed.
- 7.8.59 Nine adults, two of which are young adults, were identified in addition to one juvenile. Due to the small bone deposits and the insufficient diagnostic elements, the remainder of individuals could not have a precise age category assigned and none of the individuals were assigned a sex. No pathologies were noted on the bone. During the Late Bronze Age period there was a shift

toward the simpler burial, illustrated by the lack of grave goods. This often resulted in the absence of a ceramic vessel for the bone deposit, and an overall reduction in the scale, investment and complexity of the funerary process. The absence of any evidence of a ring ditch or barrow on this site supports this change in burial tradition. This period was previously believed to mark the arrival of the concept of the community cemetery with cemeteries located closer to settlements and assumed to consist of extended family groups (between 10 and 30 individuals). This theory has recently been reassessed (Caswell and Roberts, 2018) but the lack of demographic evidence on this site means we cannot explore this theory any further. While we cannot hypothesise on the potential family group cemetery, the results of the carbon dated bone deposits which were selected from across the cemetery demonstrates a potential span of 100 years for this cemetery to have been in operation.

- 7.8.60 The bone from most of the cremation burials on this site demonstrates an efficient firing with only three cremation burials containing bone which displayed a variety of colours; these three features may represent pyre clearance as opposed to cremation burials. Due to the overall efficiency of the cremation process, it is likely that the funerary industry of this period was organised with the effective procurement and treatment of the wood required and the manpower and knowledge to maintain a high firing for the necessary time. Differences in efficiency across these deposits may signify a harsher season in terms of the weather and the associated storage of fuel or perhaps less experienced people carrying out the firing.
- 7.8.61 Seven cremation burials contained wood fragments which are viable for species ID. Obtaining such information can shed some light on the local woodland and how this fuel was treated to maintain an efficient firing. Additionally the presence of carbonised archaeobotanical remains demonstrate that at least six of the cremation burials had non-cereal specimens. The presence of these tubers identifies an additional fuel source or kindling. It is likely that these grasses were uprooted with the denser

tubers surviving the pyre firing. This grass occurs on poorly managed pastures, abandoned cultivated land and is more familiar nowadays as the grass seen on road verges. Two cremation burials contained cereal specimens; while these may not have been intentionally deposited with the burial, their presence identifies a previous land use, since abandoned and taken over by the damp grassland discussed above.

- 7.8.62 As with the construction and maintenance of the pyre, it is assumed that the methodical nature of the 'industry' would have followed through to the collection of the bone. The weight of the bone deposit and the level of fragmentation can give an insight into the methods used for the cooling and collection of the bone. With only between 10.2% - 34.9% fragments larger than 10mm, there is a high level of fragmentation. The total weight of each deposit is significantly lower than that of a complete adult cremation (average 1625.9 – 2016.4g). However, this does not necessarily mean they were careless in their collection or deposition; rather the deposit may have been divided amongst family members with only a 'token' deposited at this location. Alternatively, it may be that this part of the funerary tradition fell to the family adding many variables to the collection process.
- 7.8.63 Cremation Burial [339] has been highlighted as containing poorly fired bone in addition to a well collected but low weighted deposit. This could potentially suggest family members undertaking the construction and maintenance of the pyre and the subsequent collecting of the bone. The inexperience in understanding how to fuel a pyre explains the inefficient firing, while the lack of charcoal but efficient collection of skeletal elements may highlight the personal motivation of a family member.
- 7.8.64 Recent re-assessment of c. 400 cremation cemeteries across the UK highlighted that 43% of the cremation burials weighed less than 100g (Caswell and Roberts, 2018). This high figure suggests a consistency that cannot be explained by taphonomy or differential archaeological recovery. The uniformity identified lacks the invariability of human error and carelessness

and seems to be a steadfast exercise where regardless of how much bone is collected, a concordant quantity is deposited.

- 7.8.65 Pyres were cooled in two ways; allowing it to cool naturally for the necessary 7 – 8 hours or manually cooling it. Pyre technology experiments establish that those pyres cooled manually (i.e. quenched with water) result in a large quantity of charcoal remaining with the cremated deposits. Alternatively, natural cooling for eight hours shows a dispersal of charcoal and ashes from the pyre site. A technique used during the clearing of the pyre is winnowing where the bone is raked off the pyre and quickly cooled down in water. The main reason for this process is to separate the bone from the charcoal whilst at the same time cooling it. The floating charcoal will be siphoned off with the water leaving the cremated bone which will have sunk.
- 7.8.66 High temperatures in the pyre cause the bone to shrink and warp as the organic component is oxidised leaving only the mineral part of the skeleton. This warping causes the bone to fissure and break. Clearing of the hot pyre can further fragment the bone as hot bone is more fragile than when cool. In addition to this, the thermal shock of the potential winnowing will further the fragmentation. Quantification of the charcoal retrieved from these deposits in addition to the fragmentation data can help in the identification of the method of cooling. With all the deposits, the absence of pyre material, grave goods or burnt flint within the cremation burials suggests the careful and precise extraction of bone from the pyre. A number of cremation deposits did contain low quantities of charcoal, but due to the small quantities of cremated bone fragmentation and analysis of thermal shock could not be carried out.
- 7.8.67 Due to the manner of deposition, these bone deposits are faced with further fragmentation lacking the protection of a ceramic vessel. Sediment infiltration can weaken the bone with a lower level of fragmentation noted in cremation burials housed in an urn.
- 7.8.68 The absence of in-situ burning on the edges of these features demonstrates

that the bone was cool when it was deposited. While this could suggest that the location of the pyre was a distance from the cemetery, equally the pyre location could be close by but not archaeologically visible (with such a structure constructed mostly above ground) with the bone deliberately cooled as discussed above.

#### Recommendations and conclusions

- 7.8.69 The discussion on pyre technology and funerary industry as a whole in this period should be expanded following the identification of the wood samples.
- 7.8.70 Further discussions should be undertaken in relation to regionally comparative cemetery sites in terms of fuel source and treatment, pyre construction, cemetery organisation both spatially and demographically and the 'life span' of cemeteries in this area at this time.

## **7.9 Plant Macrofossils**

**By Kate Turner**

- 7.9.1 This report summarises the findings of the rapid assessment of the environmental remains in sixty-eight bulk soil samples taken during the archaeological evaluation (samples 1-4) and subsequent excavation (samples 5-70) of land at Church Road and Plantation Road, Boreham. Samples were collected from a series of ditches, pits, and cremation burials, the context information for which is given in Appendix 1. XXXXX
- 7.9.2 The aim of this assessment is to:
- Give an overview of the contents of the assessed samples;
  - Determine the environmental potential of these samples;
  - Establish whether any further analysis is necessary.

## **METHODOLOGY**

- 7.9.3 Sixty-eight environmental bulk samples, of between two and thirty-three litres in volume, were processed using the flotation method; material was collected using a 300 µm mesh for the light fraction and a 1 mm mesh for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4 mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items).
- 7.9.4 The light residue (>300 µm), once dried, was scanned under a low-power binocular microscope to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material.

## RESULTS

- 7.9.5 For the purposes of this report samples will be discussed by period and feature group, in order to assess environmental potential. Cultural material collected from the heavy residues has been catalogued and passed to the relevant specialists for further assessment. A full account of the sample contents is given in appendices 2 and 3. Samples 3 and 4, both taken from feature [120], were accidentally mixed during processing, and have therefore been treated as a single sample.

### Late Bronze Age to Iron Age

- 7.9.6 CREMATION CEMETERY GROUP 1
- 7.9.7 Fifty-two bulk samples were collected from cremation burials dating to the Iron Age use of the site. A total of twenty-one burials were sampled, some in multiple spits (features 255, 260, 264, 270, 273, 276, 281, 282, 284, 287, 289, 325, 327, 329, 331, 339 and 343) and some as single samples (features 267, 275, 278 and 341).

- 7.9.8 Overall preservation of environmental remains was relatively poor in these deposits. As would be expected from contexts related to cremation burials, wood charcoal was common, being recovered from all of the sampled features. Concentrations were variable, both inter and intra-feature; the majority of deposits contained over one-hundred specimens, with only features [276], [325], [341] and [343] producing less. The bulk of the material in this assemblage was significantly fragmented, less than 2mm in length/width, and therefore too small for species to be identified. When considering all of the sampled spits across each burial context, only features [255], [264], [273], [281], [282], [331] and [341] contained more than fifty wood pieces of a suitable size for species identification (>4 mm in length/width).
- 7.9.9 Other carbonised archaeobotanical remains were relatively rare; twelve features (255, 264, 270, 273, 275, 281, 282, 284, 287, 289, 331 and 343) contained charred seeds, tubers and/or cereals, however overall concentrations were low, with no sample grouping producing more than fifty specimens in total. In terms of non-cereal specimens, the most commonly identified material was burnt bulbs of tuber oat-grass (*Arrhenatherum elatius* var. *bulbosum*), which were recovered in low densities from six features (270, 275, 284, 287, 289 and 341). Seeds of weeds commonly associated with agriculture, including brome (*Bromus* spp.), sedge (*Carex* spp.), speedwell (*Veronica* spp.), wild grasses (*Poaceae* spp.), peas (*Fabaceae* spp.), petty spurge (*Euphorbia peplus*) and stinking chamomile (*Anthemis cotula*) were reported, but none were present in more than four contexts. Feature [255] contained the greatest abundance and diversity of seeds. A variety of non-burnt, preserved seeds were found throughout this sample set, the condition of which would suggest are intrusive.
- 7.9.10 Features [255] and [289] yielded small numbers of charred cereal grains; specimens of oat (*Avena* sp.), bread wheat (*Triticum aestivum/durum*) and indeterminate wheats (*Triticum* spp.) were identified in the former, and unidentifiable chaff and grains in the latter, that were too heavily damaged for

species to be determined. It was not possible to tell whether the oat grains in feature [255] were of the wild or domestic variety, due to the lack of diagnostic chaff.

7.9.11 Molluscs were absent in all apart from features [331] and [343]; species recognised were *Vertigo pygmaea*, which is native to areas of open ground, and *Cecilioides acicula*, a subterranean burrowing snail which, when found in archaeological deposits, is often interpreted as evidence of contamination. Less than ten shells were found in total across these features.

7.9.12 Cremated bone was reported in 83% of the bulk samples, and in all of the sampled features apart from [264] and [327]. Cultural material was scarce; burnt and struck flint, small amounts of pottery, burnt clay and combustion waste were all observed in the heavy residue, but these were scattered, and in relatively low abundances considering the size of the sample set. Coal and combustion by-products were recovered from around 60% of the flots.

7.9.13 Rootlets, modern plant material and modern insects were observed in low concentrations throughout the majority of the samples, which suggest the possibility of post-depositional disturbance.

7.9.14 TRACKWAY 1

7.9.15 Four ditches (123, 207, 218 and 220) were sampled in grouping TRACKWAY 1; wood charcoal was well preserved in three of these features, with over one-hundred specimens being observed in ditches [123], [218] and [220]. Moderate to large abundances of material of a suitable size for species to be identified, were reported in all three.

7.9.16 Low densities of carbonised cereal grain were found in two samples, from ditches [218] and [220]; bread wheat and undifferentiated wheats were recognised, along with a small number of unidentifiable caryopses. Charred cereals were present in features [207] and [218], with specimens of sun spurge (*Euphorbia helioscopia*), black-bindweed (*Fallopia convolvulus*), dock



(*Rumex* spp.) and speedwell recovered, though in minimal quantities. All apart from feature [123] contained seeds interpreted to be intrusive in nature (appendix 3).

7.9.17 Small concentrations of terrestrial mollusc shell were identified in two ditches (123 and 220), with the former producing only a small amount of broken shell, and the latter subterranean specimens and snail eggs, which are again likely to be intrusive and may represent disturbance. Insect remains, roots and modern plant material found in the flots are further evidence of this.

7.9.18 Burnt bone, CBM, stone, pottery, flint artefacts and/or metal waste were present in the heavy fractions of several samples.

#### 7.9.19 BOUNDARY 3

7.9.20 Three ditches (features 205, 225 and 237) from group BOUNDARY 3 were sampled for environmental recovery. Ecofacts were poorly preserved in these deposits; wood charcoal was reported in all of the ditches; however, concentrations were low (<100 fragments per sample, across all size categories) and fragmentation rate was high; only feature [237] contained any pieces suitable for species identification, with less than ten sizeable fragments recovered from this context.

7.9.21 No carbonised seeds or cereals were recognised, only small to moderate concentrations of preserved seed, including nightshade (*Solanum* spp.), sow-thistle (*Sonchus* spp.), orache (*Atriplex* sp.) and fat-hen (*Chenopodium album*). Based on the condition of these seeds, they are likely to be intrusive.

7.9.22 Struck flint was found in all of the assessed samples, along with combustion residue. Roots, insect remains, and insect eggs were common, which may be an indication of bioturbation in these deposits.

#### 7.9.23 BOUNDARY 5

7.9.24 Three ditch features (117, 303 and 305) were sampled from feature grouping

BOUNDARY 5. Wood charcoal was observed throughout, in moderate to large abundances, with a small number (<10) of sizeable specimens being reported in [303] and [305]. With the exception of a single charred goosefoot (*Chenopodium* sp.) seed in the latter ditch, no other charred plant material was recognised. A small number of, probably modern, seeds were extracted from each of the assessed samples.

- 7.9.25 Cultural material was absent from feature [117], and only a small amount of flint and pottery was found in features [303] and [305]. Roots, modern grasses, and modern insects were present in small amounts.

Saxon

#### 7.9.26 UNGROUPED FEATURES

- 7.9.27 Two pits of Saxon date (120 and 319) were sampled for ecofacts. With the exception of wood charcoal, environmental material was poorly preserved in these deposits; charcoal was abundant in both, though heavily fragmented, with between eleven and thirty sizeable specimens observed in each. Seeds and cereals were absent, with the exception of a small amount of fat-hen in the flots, likely to be modern intrusive material.

- 7.9.28 Animal bone, struck flint, and pottery were present in the residue, and roots in the flot material.

Un-phased

#### 7.9.29 UNGROUPED FEATURES

- 7.9.30 Environmental samples were collected from four pits of unknown date (230, 308, 314 and 316), which have not been assigned to a feature grouping.

- 7.9.31 Of these, pits [230] and [308] produced the greatest abundance of material, both yielding large charcoal assemblages, with over one-hundred specimens in each. Fragments of identifiable size were common in these deposits. Features [314] and [316] contained charcoal in lesser amounts, with less than ten viable specimens reported in the former, and none in the latter. In terms of

other archaeobotanical material, pits [314] and [316] contained small amounts of charred seed, of fat-hen, petty spurge, nettle (*Urtica* sp.) and speedwell, and [308] and [316] charred grains of barley (*Hordeum* sp.).

- 7.9.32 Flint artefacts, pottery, burnt bone and CBM were reported, along with modern snails, seeds, roots and insect remains, which are indicative of disturbance.

## DISCUSSION

- 7.9.33 A rapid assessment of the environmental bulk samples collected during the Boreham evaluation and excavation has shown that, with the exception of wood charcoal, overall preservation of archaeobotanical and malacological remains was relatively poor in the bulk of the sample set. The assessed samples can be split into two distinct phases of occupation:

### Late Bronze Age to Iron Age

- 7.9.34 The remains recovered from Iron Age cremations indicate that cereals, notably bread wheat and potentially other wheats, may have been cultivated or consumed in the area during this period. Concentrations are very low, and specimens are only present in two deposits, which does not suggest that these were a major part of local diet at this time. This lack of material is also likely to be relative to the type of features that have been sampled; unless grains were deposited with some form of ritual significance, or burials were taking place on land previously used for agriculture, it seems unlikely that cereals would be present in these features. The low level of material present is too small to definitively suggest ritual deposition and is likely to be representative of normal background for this type of site. A small amount of oat was recovered, which may also be suggestive of cultivation, however without the diagnostic chaff needed to differentiate the wild from the managed variety, it is not possible to suggest this with any confidence. Generally, chaff was poorly represented in this assemblage, which could be a result of the fact that ears were being processed elsewhere, and only the clean grains transported to site, or perhaps that the nature of the fire in which this material was burnt was such that smaller or more fragile components were entirely

destroyed (Boardman & Jones, 1990). With remains such as these, it is important to note that absence of evidence may not preclude evidence of absence; these remains may simply have not been well preserved in the archaeological record.

- 7.9.35 In terms of the burnt weeds in this feature, the majority of the species recognised are of arable weeds, such as goosefoots, peas, stinking chamomile and wild grasses, which may have become incorporated in the archaeobotanical assemblage during the cereal harvesting process or could be the remains of local flora that are being used as kindling, or simply were accidentally burnt during the cremation process. The same can be said in the case of the tuber oat grass remains that were uncovered; there is some evidence to suggest that this plant may have been deposited with ritual significance in burials during the Neolithic and Iron Age in Europe, or could have been utilised as tinder for the funeral pyre (Roehrs et al., 2012), but equally it may also be the case that these remains are the burnt residue from arable farming, as tuber oat grass is often present as a weed in crop fields. Due to the nature of the sampled deposits, any un-burnt and non-mineralized seeds found in this assemblage were considered to be intrusive.
- 7.9.36 Wood charcoal was common throughout and, based on the nature of the sampled features, is likely to represent the spent fuel from cremation pyres. Overall, preservation of large specimens (>4 mm) was poor, with high levels of fragmentation observed; some specimens of identifiable size were found in the majority of deposits, however only seven features yielded a significantly sized assemblage (>50 specimens) of viable pieces.
- 7.9.37 The snail assemblage was largely comprised of non-native burrowing specimens, that are of no environmental value. Evidence of bioturbation, in the form of non-contemporary seeds, roots and insect remains, was recorded to some degree throughout, which raises the possibility of post-depositional disturbance among smaller remains.

- 7.9.38 The charcoal assemblage in three of the sampled ditches (TRACKWAY 1) is significant, with a large number of identifiable specimens in each. This, and the remainder of the material, may be the remains of spent fuel for cooking fires, or possibly small-scale industrial combustion. Evidence for bioturbation is widespread.

#### Saxon

- 7.9.39 As with the prehistoric assemblage, there is some evidence to suggest the continued cultivation or consumption of cereals into the Saxon period, with low levels of bread wheat and undifferentiated wheats recorded. The density of remains is however too limited to suggest a significant dietary preference. Grains, that were too damaged to be speciated were recovered in both viable samples; this degradation is likely as result of the temperature and duration at which they were burnt. Remains may have been accidentally burnt during cooking, or perhaps be from plants being grown or stored in the vicinity. Burnt seeds are largely of agricultural weeds but are again in such low concentrations as to be of little diagnostic value.

#### Undated

- 7.9.40 The undated deposits contain low frequencies of barley, but due to the lack of dates in these features it is not possible to provide more context for these remains, aside from that they may signal a period of mixed agriculture. The charcoal, in large quantities in two undated pits, may again be the waste from domestic or industrial combustion, and may be of diagnostic value.

#### RECOMMENDATIONS FOR FURTHER WORK

- 7.9.41 With the exception of wood charcoal, preservation of archaeobotanical material in Boreham assemblage was relatively poor, and often associated with evidence of bioturbation. The recommendations for additional work are outlined below. A summary of this assessment should be included in any future publications.

#### Wood Charcoal

7.9.42 Preservation of wood charcoal was excellent throughout; with features [123], [218], [230], [255], [264], [273], [281], [282], [308], [331] and [341] all yielding significantly sized assemblages of identifiable fragments (>50 specimens). As a result, additional specialist analysis is suggested on these deposits, prior to publication, as this may shed light on the types of wood that were being selected for use as fuel during this period, both for domestic and industrial uses, and may also give an idea of the methods of combustion being undertaken (in terms of duration, temperature and other variables). It may also provide information on the nature of the fuel being selected for ritual use during the Iron Age and help to provide a partial reconstruction of the local woodland and the landscape of the area during both the Iron Age and Saxon periods. Radiocarbon dating could additionally be carried on selected sizeable specimens, in order to improve the chronology of the site where cultural material is scarce.

#### Plant Macrofossils

7.9.43 As none of the assessed samples produced a statistically significant seed and/or cereal assemblage (>50 specimens), no additional work is recommended on this material, though suitable material may be considered for radiocarbon dating.

## **8 DISCUSSION**

### **8.1 Late Bronze Age - Early Iron Age**

- 8.1.1 This period is represented by a system of boundaries and enclosures, including an E-W aligned trackway and a cremation cemetery. The cemetery fits neatly into the north-eastern corner of one of the fields, bounded by a ditch in the west and the trackway to the south. The ditches are shallow and intermittent, indicating considerable horizontal truncation. A small post-built structure with a possible fire pit was located to the north of the trackway, respecting the trackway ditch.
- 8.1.2 Several segments of the boundary and trackway ditches contained pottery dating from the late Bronze Age to the early Iron Age. Radiocarbon dating of seven of the cremations yielded dates between 826-889BC. It is therefore very likely that the cremation cemetery and enclosure system and trackway are contemporary.
- 8.1.3 The grouping and delineation of the cremations by surrounding boundaries suggests that it may represent an organised cemetery. Radiocarbon dating has provided a date range for the burials of approximately 100 years, ranging between 826- and 889BCE. Tierney, above, discusses how during the Late Bronze Age period there was a shift towards a simpler burial accompanied by a lack of grave goods and ceramic urns.
- 8.1.4 The period was also believed to mark the arrival of the concept of the community cemetery with cemeteries located closer to settlements and assumed to consist of extended family groups (between 10 and 30 individuals), but this theory has recently been reassessed. The burials at Plantation Road were of nine adults, two of them young adults, and one juvenile, but fragmentation of the bone did not allow further identification of sex or pathologies. Unfortunately, due to the lack of demographic evidence on this site this theory cannot be explored any further (Tierney, above).
- 8.1.5 Very few investigations have been taking place in the area around Boreham

and the majority of contemporary evidence comes from isolated find spots and aerial photography. Evidence most comparable to that found at Plantation Road, comes from investigations at Springfield Park in the eastern part of Chelmsford. Here, excavations uncovered a series of small enclosures of Late Bronze Age date, interpreted as possible stock pens, which may have been associated with a settlement excavated almost immediately to the south. The ceramic evidence was almost exclusively late Bronze Age but a smaller quantity of Neolithic, Romano-British, Anglo-Saxon and medieval pottery was also found (Manning et al 2001).

- 8.1.6 No evidence for a settlement that may be contemporary and associated with the field system, trackway and cremation cemetery at Boreham has yet been found. However, there is evidence for Bronze Age activity in the area.
- 8.1.7 A late Bronze Age metalwork hoard was found at Plantation Road approximately 50m west of the site (HER 6179), and two further finds in back gardens along Plantation Road were possibly associated with the hoard (HER 6180 AND 6181). A Bronze Age spearhead was found c.900m NW of the site.
- 8.1.8 Undated cropmarks were recorded by the National Mapping Programme (NMP) in the field to the south-east of the site (HER 5758), but it is more likely, on morphological grounds, that these are late prehistoric to Roman and/or medieval in date.

## **8.2 Roman**

- 8.2.1 The Roman period is represented by several abraded fragments of CBM and small fragments of pottery in the ditches of the enclosure system. This is present in pits [120], [139], [166] and Ditches 1 and 2. The road from Chelmsford to Colchester c. 200m to the north of the site follows the line of a Roman road and a late Iron Age to Roman settlement was recorded to its north (HER 47635). However, no Roman settlement features were identified closer to, or on the proposed development site itself and the material represents residual fragments within later Saxon and post-medieval features.



### **8.3 Anglo-Saxon**

- 8.3.1 One large and shallow pit, representing a possible water hole, was excavated at the eastern edge of Area 2. It had naturally silted fills and contained animal bone, seven fragments of middle Saxon pottery, dated to 500-700AD, a Saxon whittle-tang knife blade, and a silver sceatta dating to c.700-740AD. It also contained a fragment of Roman CBM. A further pit [139], c.68m contained an abraded fragment of residual Roman tegula, and may therefore also date to the Saxon period.
- 8.3.2 The northern trackway ditch (Ditch 2) of the earlier, prehistoric field system, contained a charcoal-rich refuse deposit that also yielded two fragments of middle Saxon pottery dating to 700-850AD, lava quern and a relatively large amount of animal bone. It is not clear whether this material is intrusive, or whether it represents a continuous use of the trackway throughout the Roman and into the Saxon period.
- 8.3.3 Boreham church, c.300m to the south-west of the proposed development site, dates to the 11th-12th century but has remains of an earlier, Saxon church within its fabric (HER 5717 and 5718). This area would have been the focus for Saxon occupation at Boreham and the features on the proposed development site could represent scattered activity in the fields adjacent to the Saxon settlement.

### **8.4 Post-medieval**

- 8.4.1 A large ditch, Boundary 8, crossing the site from east to west, is the continuation of a still extant field boundary immediately to the east of the site. This was apparently only filled in in recent years (former landowner pers comm). Segments of the ditch contained modern bottle glass and CBM. The ditch is shown on the first detailed map of the site, the Tithe Map of 1840, but has disappeared by the second edition OS map in 1895.
- 8.4.2 A large pond or quarry pit [166] and a modern waste pit [135/137] are part of the same field system. Some of the undated pits and ditches, scattered

throughout the evaluation area may also be post-medieval in date.

- 8.4.3 It is noticeable how the post-medieval and modern field boundaries lie on the same alignment as the earlier prehistoric and possibly Saxon field system and trackway, suggesting the continuity of boundaries throughout all periods.
- 8.4.4 This continuity of alignment can be seen on other sites within the region. At Hunts Hill Farm in Upminster excavations revealed a series of rectilinear enclosures dating to the late Bronze Age, Iron Age, Roman, Saxon and medieval periods, all sharing the same orientation and giving an indication of how the modern landscape is a product of sequential development within a common framework over several millennia (Rippon et al 2015, 148).

## **9 CONCLUSIONS**

- 9.1 The excavations at Plantation Road, Boreham, have revealed a late Bronze Age/early Iron Age cremation cemetery, set within a contemporary field system with an east-west aligned trackway. Artefactual evidence within the ditches of the field system showed that it was in use from the prehistoric through the Roman into the Saxon period. Extant post-medieval and modern field boundaries prove a continuity of alignment into the present day.
- 9.2 The nature of the features and artefactual evidence suggest a field system and cemetery at the periphery of settlement. The location of the core of the potential settlement, or settlements, is not known, but a large number of cropmarks are recorded in the fields around Boreham and the focus of the Saxon and medieval settlement was most likely located around Boreham church to the south-west.
- 9.3 The Late Bronze Age/Early Iron Age cremation cemetery represents a well-dated assemblage and cemetery group within a contemporary field system and therefore warrants integration with parallel, regional examples, and dissemination through publication. This is discussed further in the updated project design below.

## **10 UPDATED PROJECT DESIGN**

### **10.1 Additional Specialist Analysis and Research**

- 10.1.1 Overall the finds assemblages were small and not well preserved. Full analysis of all assemblages was undertaken at the assessment stage and no further analysis is recommended. The exception is analysis of wood charcoal from selected features for species identification and the inclusion of those results into the human bone discussion.
- 10.1.2 Analysis of charcoal for wood species analysis from features [123], [218], [230], [255], [264], [273], [281], [282], [331] and [341] is recommended.
- 10.1.3 A summary of all artefact assemblages will be included in the publication.
- 10.1.4 A search of the Essex HER was undertaken and the results will be incorporated into the final report as applicable.

### **10.2 Additional Research and Reporting**

- 10.2.1 Investigate the Updated Research Questions listed below by means of literary searches of parallel, regional and cross-regional examples, in order to realise the site's research potential. This will be undertaken in line with current and emerging regional research frameworks (Glazebrook 1997, Medlycott 2011, Brudenell in prep.).
- 10.2.2 Update this report with the results of wood species analysis and expanded human bone discussion, and based on the additional research into context/parallels. The report will then be reissued as the Final Archive Report on the project.
- 10.2.3 Disseminate the significant results of the project by publication.
- 10.2.4 Prepare the site archive for long-term storage and deposit it at Braintree Museum in order to facilitate future research.

### **10.3 Updated Research Questions**

#### **Late Bronze Age/Early Iron Age burial practices**

- 10.3.1 Following the identification of the wood samples, the discussion on pyre technology and funerary industry as a whole in this period will be expanded.
- 10.3.2 Further discussions will be undertaken in relation to regionally comparative cemetery sites in terms of fuel source and treatment, pyre construction, cemetery organisation both spatially and demographically and the 'life span' of cemeteries in this area at this time.
- 10.3.3 Analysis of the wood charcoal may shed light on the types of wood that were being selected for use as fuel during this period, both for domestic and industrial uses, and may also give an idea of the methods of combustion being undertaken (in terms of duration, temperature and other variables). It may also provide information on the nature of the fuel being selected for ritual use during the Iron Age and help to provide a partial reconstruction of the local woodland and the landscape of the area during both the Iron Age and Saxon periods.
- 10.3.4 An expanded discussion on late Bronze Age/early Iron Age burial practices including other examples from the region (Medlycott 2011, 20; Brudenell in prep.).

#### **Multi-period field system and trackway**

- 10.3.5 Only a small section of a field system and trackway was excavated at Plantation Road, Boreham, however, its continuity from the prehistoric into the modern period is notable.
- 10.3.6 The continuation, or Middle Saxon reorganisation, of field boundaries from the prehistoric and Roman periods into the post-medieval and modern period has been discussed for East Anglia, and other regions, by Rippon et al (2015). The Late Bronze Age/early Iron Age transition is highlighted in the regional research framework with Medlycott noting marked changes in the field

systems between the two periods (Medlycott 2011, 29).

10.3.7 The final report and publication will include a short, but expanded discussion on multi-period landscape development and utilisation of boundaries using parallel examples, like the site at Hunts Hill Farm, Upminster, North Shoebury, South-East Essex, and other sites.

#### 10.4 Tasks for Post-Excavation Analysis and Publication

Task	Description	Completed (End of)
1	Comision wood species analysis	February 2019
2	Generate bibliography for library/ HER research	July 2019
3	Complete all additional specialist research and reporting (ready for publication).	July 2019
3.1	In conjunction with specialists, select material for archiving.	July 2019
4	Investigate Updated Research Questions:	
4.1	Library research (Cambridge University Library) -Parallels for the Bronze Age farmstead. -Parallels for later Bronze Age subdivided agricultural landscapes in Cambridge and Suffolk/Norfolk. -Examples of Iron Age farmsteads and associated agricultural landscapes in the area. -Parallels for Iron Age/ Roman continuity. -Published reports on fieldwork in the area.	October 2019
5	Incorporate results of additional research into PXA and reissue as Final Report	November 2019
6	Write publication report (see Section 10)	December 2019
6.1	Cutting down, reordering and changing emphasis of existing text into publication format + writing expanded discussion of the significant elements.	December 2019
6.2	Re-working of Assessment Report figures for publication New figures x c. 1-2	January 2020
7	Liaise with ESAH regarding publication	January 2020

8	Prepare and deposit site archive with Braintree Museum	July 2020
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- 10.4.1 A publication-ready text and figures will be submitted to Transactions of the Essex History and Archaeology Society within 2 years of completion of fieldwork. Fieldwork was completed on 22 June 2018, so the projected submission date will be June 2020.

## **10.5 Publication Proposal**

- 10.5.1 It is proposed to prepare a publication for the Transactions of the Essex Society for Archaeology and History. Estimated word count would be 3000 words with a focus on the late Bronze Age/early Iron cremation cemetery and field system.

## **11 ACKNOWLEDGEMENTS**

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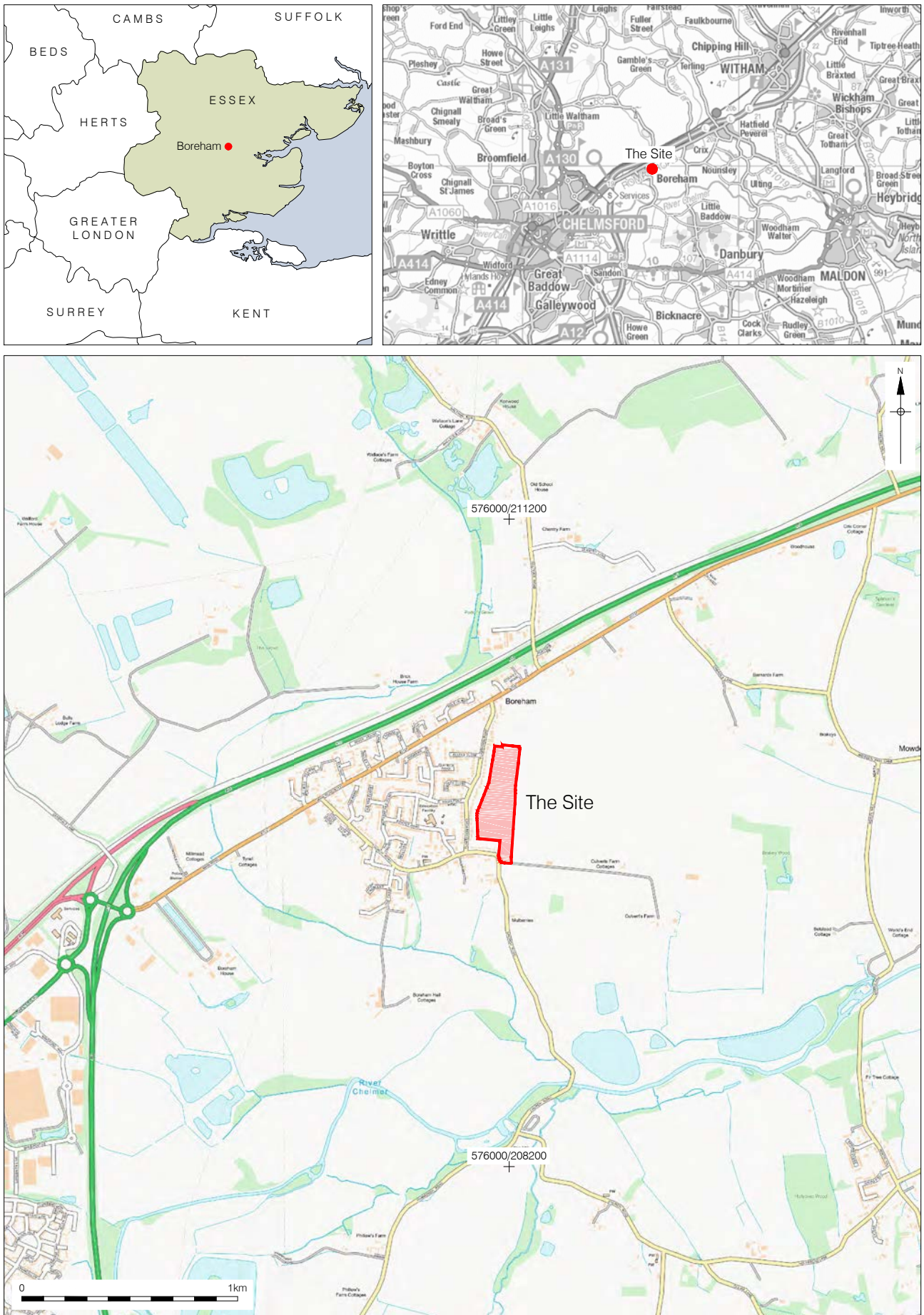
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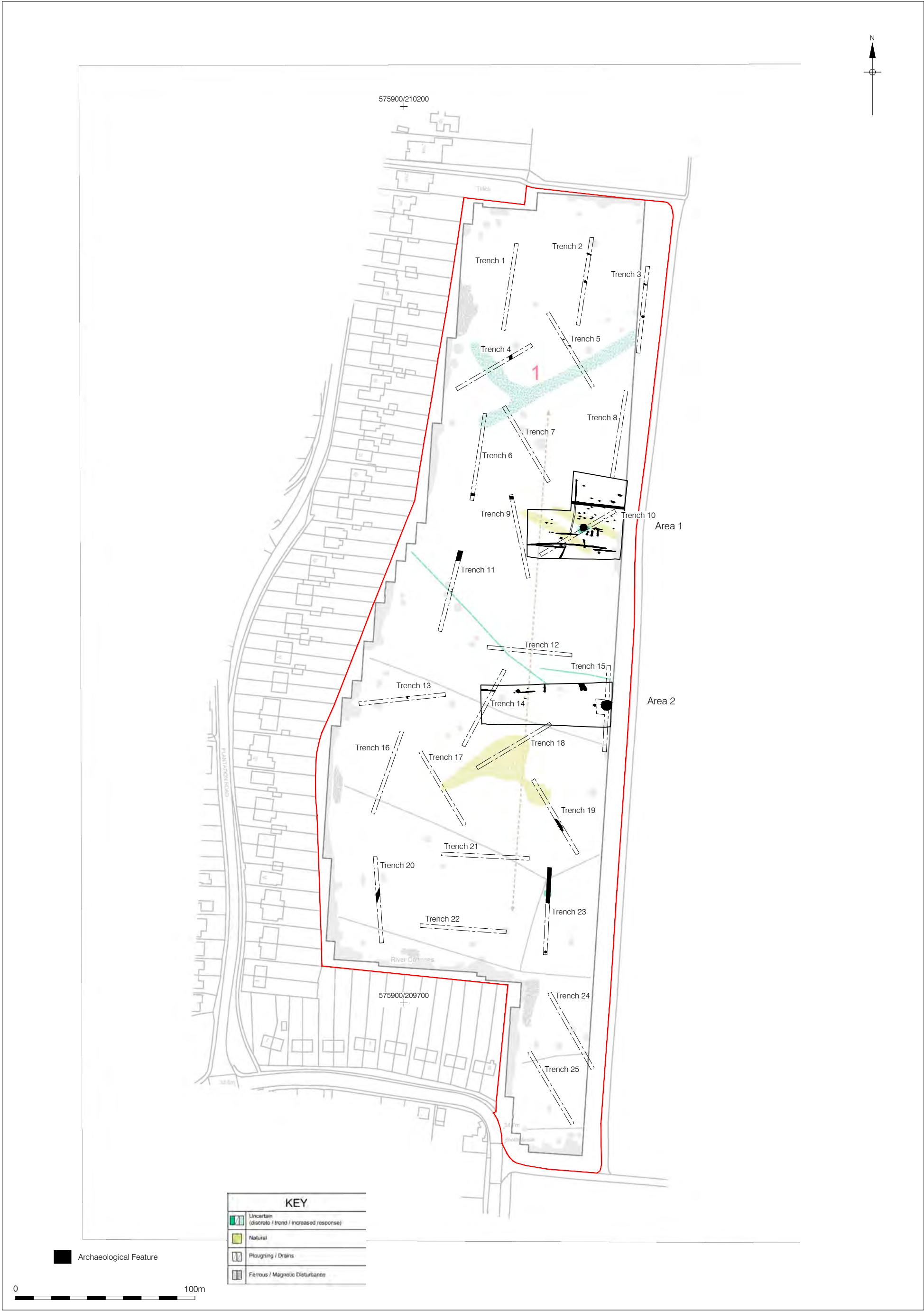


## **13 FIGURES**



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Figure 1  
 Site Location  
 1:2,000,000; 1:250,000; 1:25,000 at A4



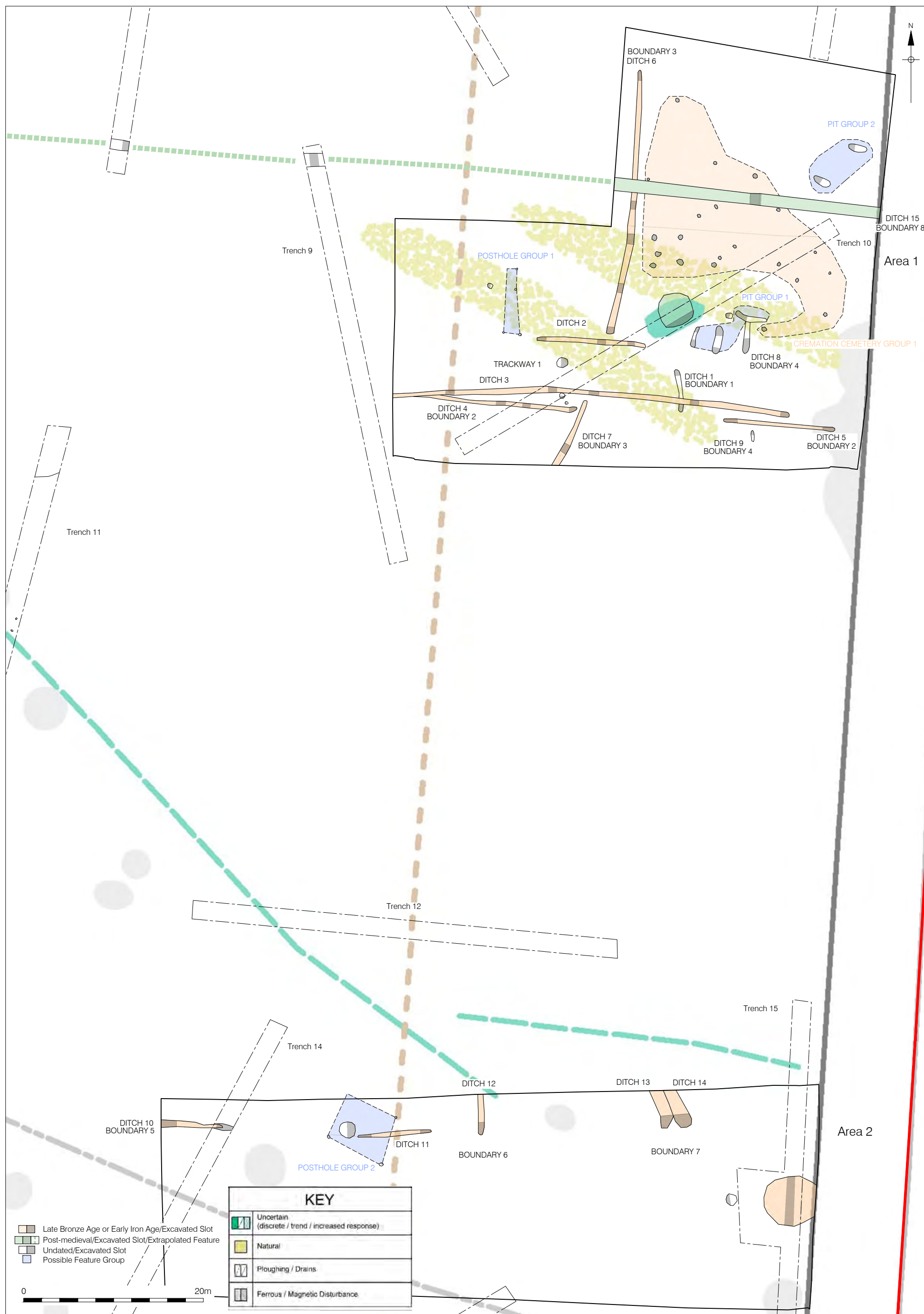












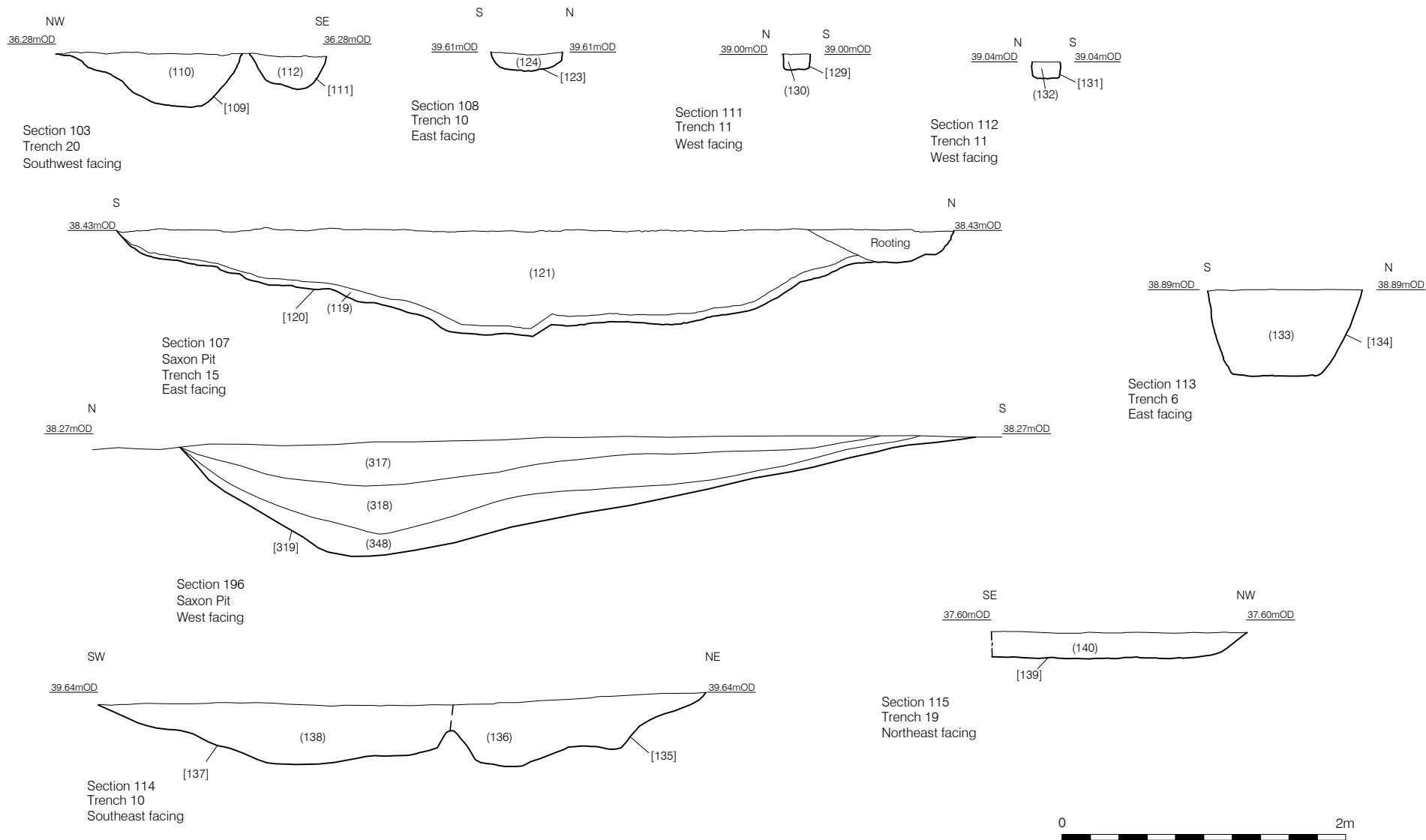
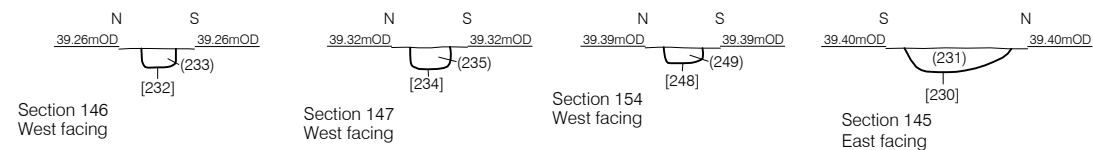


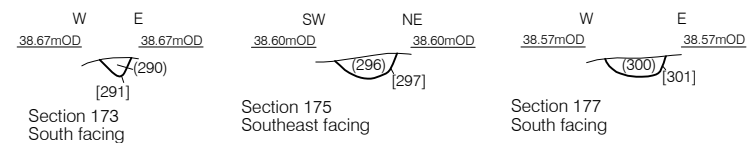
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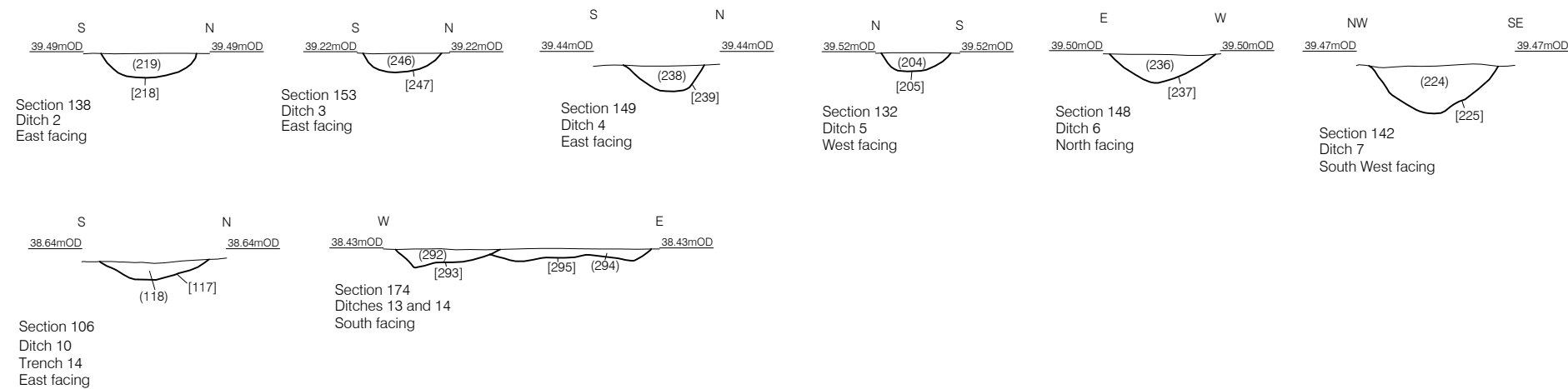
### Posthole Group 1



### Posthole Group 2



### Prehistoric Field System



## 14 APPENDIX 1: PLATES



Plate 1: Area 1, looking NW



Plate 2: Area 2, looking W





Plate 3: Boundary 3, Ditch 6, looking N



Plate 4: Termini of Ditches 13 and 14, looking N





Plate 5: Pit [316] of Pit Group 2



Plate 6: Cremation [282], spit 2





Plate 7: Cremation [339], spit 2



Plate 8: Saxon pit [120]=[319] , looking SE





Plate 9: Saxon coin



Plate 10: Undated ditches [109] and [111] in Trench 20



Plate 11: Modern pit [135]

## 15 APPENDIX 2: DISTRIBUTION TABLE OF CBM AND WORKED STONE

Context	Cut	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
121	120	Unk; 3102;2459a; 3006;3023; 3123	Unknown sandy fabrics; abraded daub; early Roman sandy and Radlett fabrics; Niedermendig lava quern	28	1500B C	1666	1500B C	1666	50-160+
124	123	Unk;3102;2459a;2276	Unknown sandy fabrics; abraded daub; early Roman sandy fabric; post medieval peg tiles	13	1500B C	1900	1450	1900	1480-1900
132	131	3102	Abraded daub	1	1500B C	1666	1500B C	1666	1500BC-1666
135	135	2273type	Late medieval early post medieval peg tiles	3	1300	1600	1300	1600	1300-1600
138	137	2276	Post medieval peg tile	1	1480	1900	1480	1900	1480-1900
139	139	2459a	Early Roman sandy tegulae	2	50	160	50	160	50-160
165	165	2273type	Late medieval early post medieval peg tiles	1	1300	1600	1300	1600	1300-1600
167	166	3006;3123	Early Roman sandy fabric; Niedermendig lava quern	3	50	160	50	160	50-160+
168	166	Unk;2273;2276;3033	Unknown fabrics; post medieval peg tiles and	15	1300	1900	1300	1900	1480-1900



Context	Cut	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
			bricks						
169	166	3033type	Local Post-medieval sandy bricks	5	1450	1900	1450	1900	1600-1800
217	216	2459a;3023	Early Roman sandy and Radlett fabrics	2	50	160	50	160	50-160
219	218	2459a; unk; 3123	Early Roman sandy fabrics; Niedermendig lava quern stone	63	1500B C	1700	1500B C	1700	50-160+
221	220	3102; 2459a; UNK;3123	Abraded daub; early Roman sandy fabric; Niedermendig lava quern stone	70	1500B C	1700	1500B C	1700	50-160+
268	269	2459a;3123	Early Roman sandy brick; Niedermendig lava quern stone	24	1500B C	1700	1500B C	1700	50-160
285	284	3120a, 3121	Quartzite and grey sandstone (natural)	3					Undateable
294	295	3006	Early Roman tegula	1	50	160	50	160	50-160
309	308	3102	Abraded daub	12	1500B C	1700	1500B C	1700	50-400+
318	319	3102;2459a	Abraded daub, early Roman sandy tiles	6	1500B C	1700	1500B C	1700	50-160+
322	323	2276type;3033type	Post-medieval peg tiles and bricks	5	1450	1900	1450	1900	1600-1800

## 16 APPENDIX 3: ENVIRONMENTAL RESIDUES AND FLOTS

### 16.1 Assessment of environmental residues

Sample No.	1	2	3, 4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Context No.	118	124	121, 122	221	254	265	266	272	274	279	280	283	280	277	277	277	280	283	286	283	288
Feature No.	117	123	120	220	255	264	267	273	275	278	281	282	281	276	276	276	281	282	287	282	289
Spit No.					1	1	1		1	1	1	1	2	1	2	3	3	2	1	3	1
Volume of bulk (litres)	6	16	18	16	8	8	12	9	8	7	12	5	7	6	6	6	10	12	5	10	7
Volume of flot (millilitres)	2	52	5	55	160	77	61	19	2	0.5	19	14	5	0.1	0.1	0.1	3	150	11	64	2
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
<b>HEAVY RESIDUE</b>																					
<b>Charcoal</b>																					
Charcoal >4 mm		3	2	2	1		1	3		1	3	1	1	1			2	4	1	2	1
Charcoal 2-4 mm				2	4				1		4		3	1	1		1	3		4	3
Charcoal <2 mm																					
<b>Carbonised seeds and Cereals</b>																					
<i>Prunus</i> sp. (charred seed)									1												
Charred plant material (indet.)									1												
<b>Bone</b>																					
Animal bone																					
Burnt bone (cremation)				1	1		3	3	4	4	4	2	1	2	1	1	2	4	2	4	3
<b>Building material</b>																					
CBM				2																	
Stone				2																	
<b>Metals</b>																					
Iron																					
Iron nails				1																	
Hammer-scale				3																	
Industrial waste																					
Metal fragments																					
<b>Flint</b>																					
Burnt flint				1	2				1					1							
Struck flint				1					2		1			1			1				
<b>Other material</b>																					

Pottery				2																			
Burnt clay																							
Glass																							

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flint produced

Sample No.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Context No.	285	285	283	288	288	285	261	261	261	254	254	271	271	265	265	309	313	315	324	326	324	326	318
Feature No.	284	284	282	289	289	284	260	260	260	255	255	270	270	264	264	308	314	316	325	327	325	327	319
Spit No.	1	2	2	2	3	3	1	2	3	2	3	1	2	2	3				1	1	2	2	
Volume of bulk (litres)	6	5	12	6	8	6	5	6	5	10	2	6	5	6	6	15	27	15	7	7	7	4	28
Volume of flint (millilitres)	3.5	3	20	5	3	4	1	0.2	0.1	36	1	1.5	0.1	4	1	39	5	1	0.1	5	0.2	0.1	5
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
<b>HEAVY RESIDUE</b>																							
<b>Charcoal</b>																							
Charcoal >4 mm			3	1	1		1			2	1					2	1				1		2
Charcoal 2-4 mm		2	2	4	3	2	2			2	1					1	1				1		
Charcoal <2 mm																		1					
<b>Carbonised seeds and Cereals</b>																							
<i>Prunus</i> sp. (charred seed)																							
Charred plant material (indet.)																							
<b>Bone</b>																							
Animal bone																							3
Burnt bone (cremation)	3	3	2	4	4	2	3	1				4	1			1			3		3		
<b>Building material</b>																							
CBM																1							
Stone						1																	
<b>Metals</b>																							
Iron						1																	
Iron nails																							
Hammer-scale																							
Industrial waste																							
Metal fragments																							
<b>Flint</b>																							
Burnt flint						1	1			2						1		1					

Struck flint		2				1										1	1	1					1
<b>Other material</b>																							
Pottery						1																	1
Burnt clay																							
Glass						1																	

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flint produced

Sample No.	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Context No.	328	328	330	330	338	338	330	340	342	342	219	204	206	224	236	231	304	302	286	286	286	338	272	272
Feature No.	329	329	331	331	339	339	331	341	343	343	218	205	207	225	237	230	305	303	287	287	287	339	273	273
Spit No.	1	2	1	2	1	2	3	1	1	2									2	3	4	3	2	3
Volume of bulk (litres)	6	7	7	10	6	5	6	6	7	6	33	16	17	15	21	17	8	15	5	7	6	6	5	6
Volume of flint (millilitres)	2.5	0.2	23	22	4.5	13	1.5	0.5	0.2	0.1	78	3	0.1	4	5	175	7	6	48	5	1	0.5	10	0.5
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
<b>HEAVY RESIDUE</b>																								
<b>Charcoal</b>																								
Charcoal >4 mm			3	3			1				3				1	3	1	1		1			1	1
Charcoal 2-4 mm							3	3	1							3				1			1	
Charcoal <2 mm																								
<b>Carbonised seeds and Cereals</b>																								
<i>Prunus</i> sp. (charred seed)																								
Charred plant material (indet.)																								
<b>Bone</b>																								
Animal bone																								
Burnt bone (cremation)	3	1	4	4	4	4	4	3	4	2	3								3	1		3	4	3
<b>Building material</b>																								
CBM																								
Stone											1													
<b>Metals</b>																								
Iron																								
Iron nails																								
Hammer-scale																								
Industrial waste					3			1						3			2							
Metal fragments											1													
<b>Flint</b>																								

[illegible]

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flots produced

## 16.2 Assessment of environmental flots

[illegible]

Sample No.		1	2	3, 4	5	7	8	9	10	11	12	13	14	15	16	17	18	19
Context No.		118	124	121, 122	221	254	265	266	272	274	279	280	283	280	277	277	277	280
Feature No.		117	123	120	220	255	264	267	273	275	278	281	282	281	276	276	276	281
Spit No.						1	1	1		1	1	1	1	2	1	2	3	3
Volume of bulk (litres)		6	16	18	16	8	8	12	9	8	7	12	5	7	6	6	6	10
Volume of flot (millilitres)		2	52	5	55	160	77	61	19	2	0.5	19	14	5	0.1	0.1	0.1	3
Sonchus sp.	Sow-thistles							1										
Urtica sp.	Nettles																	
Seed cases - indeterminate					1													
Burnt seeds																		
Anthemis cotula	Stinking chamomile																	
Arrhenatherum elatius var. bulbosum (tuber)	False Oat-grass									1								
Bromus sp.	Bromes																	
Carex spp.	Sedges																	
Chenopodium album	Fat-hen																	
Chenopodium spp.	Goosefoots																	
Euphorbia helioscopia	Sun spurge																	
Euphorbia peplus	Petty spurge																	
Fabaceae spp.	Peas											1						
Fallopia convolvulus	Black-bindweed																	
Poaceae spp. - indet. medium	Grasses					1												
Poaceae spp. - indet.large	Grasses					1												
Rumex sp.	Docks																	
Urtica sp.	Nettles																	
Veronica sp.	Speedwells																	
Charred buds (indet.)																		
Charred plant material (indet.)																		
Unknown							1											
Cereals																		
Avena sp.	Oats					1												
Hordeum vulgare	Barley																	
Triticum aestivum/durum	Bread wheat				1	2												
Triticum sp. (grains)	Undiff. Wheat				1	1												
Cereal - indeterminate chaff																		

Sample No.	1	2	3, 4	5	7	8	9	10	11	12	13	14	15	16	17	18	19
Context No.	118	124	121, 122	221	254	265	266	272	274	279	280	283	280	277	277	277	280
Feature No.	117	123	120	220	255	264	267	273	275	278	281	282	281	276	276	276	281
Spit No.					1	1	1		1	1	1	1	2	1	2	3	3
Volume of bulk (litres)	6	16	18	16	8	8	12	9	8	7	12	5	7	6	6	6	10
Volume of flot (millilitres)	2	52	5	55	160	77	61	19	2	0.5	19	14	5	0.1	0.1	0.1	3
Broken/distorted cereal - indeterminate grains																	
<b>Terrestrial Molluscs</b>																	
<b>Habitat</b>																	
<i>Cecilioides acicula</i>				1													
<i>Vertigo pygmaea</i>																	
Broken shell	1	1															
Snail eggs				1													
<b>Other Plant Macrofossils</b>																	
Modern plant material																	
Modern grass chaff	1																
Roots/tubers	2	1	1			1	1		1	1	1		1	1			1
<b>Other Remains</b>																	
Burnt bone							2	2	1								
Insect remains	1	1	1	2													1
Insect eggs/worm cases											1	2					
Slag																	
Vitreous material							1				1						1
Coal																	

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flot produced

Sample No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Context No.	283	286	283	288	285	285	283	288	288	285	261	261	261	254	254	271	271	265	265
Feature No.	282	287	282	289	284	284	282	289	289	284	260	260	260	255	255	270	270	264	264
Spit No.	2	1	3	1	1	2	2	2	3	3	1	2	3	2	3	1	2	2	3
Volume of bulk (litres)	12	5	10	7	6	5	12	6	8	6	5	6	5	10	2	6	5	6	6
Volume of flot (millilitres)	150	11	64	2	3.5	3	20	5	3	4	1	0.2	0.1	36	1	1.5	0.1	4	1
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Flot Residue																			
Charcoal																			

Sample No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Context No.	283	286	283	288	285	285	283	288	288	285	261	261	261	254	254	271	271	265	265
Feature No.	282	287	282	289	284	284	282	289	289	284	260	260	260	255	255	270	270	264	264
Spit No.	2	1	3	1	1	2	2	2	3	3	1	2	3	2	3	1	2	2	3
Volume of bulk (litres)	12	5	10	7	6	5	12	6	8	6	5	6	5	10	2	6	5	6	6
Volume of flot (millilitres)	150	11	64	2	3.5	3	20	5	3	4	1	0.2	0.1	36	1	1.5	0.1	4	1
Charcoal >4 mm	4		3				2	1		1				3				1	1
Charcoal 2 - 4 mm	4	3	4	2	1	2	4	1	2	2	1			3	2	3	1	2	2
Charcoal <2 mm	4	4	4	4	4	4	4	4	4	4	4	2		4	3	3	1	4	4
Frag. of ID size	y	x	y	x	x	x	<10	x	X	x	x	x		y	x	x	x	<5	<5
Seeds		Common Name																	
<i>Atriplex</i> spp.	Oraches		1		1			1								1			1
<i>Betula</i> sp.	Birch																		
<i>Chenopodium album</i>	Fat-hen	1	1	1	1	1	1	1	1		1		1		1	1		1	1
<i>Chenopodium</i> spp.	Goosefoots			1	1							1							
<i>Fallopia convolvulus</i>	Black-bindweed																		
<i>Fumaria officinalis</i>	Common fumitory																		
<i>Montia</i> sp.	Blinks					1	1												
<i>Polygonum</i> spp.	Knotgrasses		1																
<i>Rubus</i> sp.	Brambles																		
<i>Sambucus</i> sp.	Elder																		
<i>Solanum</i> sp.	Nightshades		1			1	1		1	1				1		1			
<i>Sonchus</i> sp.	Sow-thistles																		
<i>Urtica</i> sp.	Nettles																		
Seed cases - indeterminate																			
Burnt seeds																			
<i>Anthemis cotula</i>	Stinking chamomile													2					
<i>Arrhenatherum elatius</i> var. <i>bulbosum</i> (tuber)	False Oat-grass				1	1	1		1		1					2	1		
<i>Bromus</i> sp.	Bromes													1					
<i>Carex</i> spp.	Sedges					1													
<i>Chenopodium album</i>	Fat-hen													1					
<i>Chenopodium</i> spp.	Goosefoots																		
<i>Euphorbia helioscopia</i>	Sun spurge																		
<i>Euphorbia peplus</i>	Petty spurge																		



Sample No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Context No.	283	286	283	288	285	285	283	288	288	285	261	261	261	254	254	271	271	265	265
Feature No.	282	287	282	289	284	284	282	289	289	284	260	260	260	255	255	270	270	264	264
Spit No.	2	1	3	1	1	2	2	2	3	3	1	2	3	2	3	1	2	2	3
Volume of bulk (litres)	12	5	10	7	6	5	12	6	8	6	5	6	5	10	2	6	5	6	6
Volume of flot (millilitres)	150	11	64	2	3.5	3	20	5	3	4	1	0.2	0.1	36	1	1.5	0.1	4	1
<i>Fabaceae</i> spp.	Peas					1	1												
<i>Fallopia convolvulus</i>	Black-bindweed																		
<i>Poaceae</i> spp. - indet. medium	Grasses													1	1				
<i>Poaceae</i> spp. - indet. large	Grasses																		
<i>Rumex</i> sp.	Docks	1																	
<i>Urtica</i> sp.	Nettles																		
<i>Veronica</i> sp.	Speedwells						1												1
Charred buds (indet.)																1			
Charred plant material (indet.)		1						2											
Unknown																			
<b>Cereals</b>																			
<i>Avena</i> sp.	Oats														1				
<i>Hordeum vulgare</i>	Barley																		
<i>Triticum aestivum/durum</i>	Bread wheat														1				
<i>Triticum</i> sp. (grains)	Undiff. Wheat														1				
Cereal - indeterminate chaff									1										
Broken/distorted cereal - indeterminate grains									1						1				
<b>Terrestrial Molluscs</b>																			
<i>Cecilioides acicula</i>	Open ground																		
<i>Vertigo pygmaea</i>	Open ground																		
Broken shell																			
Snail eggs																			
<b>Other Plant Macrofossils</b>																			
Modern plant material		1			1					1									
Modern grass chaff																			
Roots/tubers		1	1	1		1		1	1	1	1	1	1			1	1	1	1
<b>Other Remains</b>																			
Burnt bone		1	1	3		1	1	2			1	1				1			
Insect remains			1	1				1											

Sample No.	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Context No.	283	286	283	288	285	285	283	288	288	285	261	261	261	254	254	271	271	265	265
Feature No.	282	287	282	289	284	284	282	289	289	284	260	260	260	255	255	270	270	264	264
Spit No.	2	1	3	1	1	2	2	2	3	3	1	2	3	2	3	1	2	2	3
Volume of bulk (litres)	12	5	10	7	6	5	12	6	8	6	5	6	5	10	2	6	5	6	6
Volume of flot (millilitres)	150	11	64	2	3.5	3	20	5	3	4	1	0.2	0.1	36	1	1.5	0.1	4	1
Insect eggs/worm cases		3				1	1				1						1	1	1
Slag	1													2					
Vitreous material			1		1								1						
Coal					1					1									

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flot produced

Sample No.	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Context No.	309	313	315	324	326	324	326	318	328	328	330	330	338	338	330	340	342	342
Feature No.	308	314	316	325	327	325	327	319	329	329	331	331	339	339	331	341	343	343
Spit No.				1	1	2	2		1	2	1	2	1	2	3	1	1	2
Volume of bulk (litres)	15	27	15	7	7	7	4	28	6	7	7	10	6	5	6	6	7	6
Volume of flot (millilitres)	39	5	1	0.1	5	0.2	0.1	5	2.5	0.2	23	22	4.5	13	1.5	0.5	0.2	0.1
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
<b>Flot Residue</b>																		
<b>Charcoal</b>																		
Charcoal >4 mm	3		1					1	1		3	3	1	1	1			
Charcoal 2 - 4 mm	4		1	1	2			2	2	1	4	4	2	3	1	3	1	1
Charcoal <2 mm	4	3	2	1	4	2	2	4	4	2	4	4	4	4	4	3	3	1
Frag. of ID size	y	X	X	x	x	x	x	<5	<5	x	y	y	<5	x	<5	x	x	x
<b>Seeds</b>	<b>Common Name</b>																	
<i>Atriplex</i> spp.	Oraches			1								1	2			1		1
<i>Betula</i> sp.	Birch																	
<i>Chenopodium album</i>	Fat-hen	1	1	1	1	1	1		2	1	1	1	1	1				1
<i>Chenopodium</i> spp.	Goosefoots																	
<i>Fallopia convolvulus</i>	Black-bindweed																	
<i>Fumaria officinalis</i>	Common fumitory		1			1						1						
<i>Montia</i> sp.	Blinks																	
<i>Polygonum</i> spp.	Knotgrasses			1														
<i>Rubus</i> sp.	Brambles				1													
<i>Sambucus</i> sp.	Elder																	

Sample No.		39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Context No.		309	313	315	324	326	324	326	318	328	328	330	330	338	338	330	340	342	342
Feature No.		308	314	316	325	327	325	327	319	329	329	331	331	339	339	331	341	343	343
Spit No.					1	1	2	2		1	2	1	2	1	2	3	1	1	2
Volume of bulk (litres)		15	27	15	7	7	7	4	28	6	7	7	10	6	5	6	6	7	6
Volume of flot (millilitres)		39	5	1	0.1	5	0.2	0.1	5	2.5	0.2	23	22	4.5	13	1.5	0.5	0.2	0.1
<i>Solanum</i> sp.	Nightshades		1	1	1	1	1						1		1				
<i>Sonchus</i> sp.	Sow-thistles			1															
<i>Urtica</i> sp.	Nettles			1															
Seed cases - indeterminate																			
<b>Burnt seeds</b>																			
<i>Anthemis cotula</i>	Stinking chamomile																		
<i>Arrhenatherum elatius</i> var. <i>bulbosum</i> (tuber)	False Oat-grass																1		
<i>Bromus</i> sp.	Bromes																		
<i>Carex</i> spp.	Sedges																		
<i>Chenopodium album</i>	Fat-hen		1																
<i>Chenopodium</i> spp.	Goosefoots																		
<i>Euphorbia helioscopia</i>	Sun spurge																		
<i>Euphorbia peplus</i>	Petty spurge			1								1							
<i>Fabaceae</i> spp.	Peas																		
<i>Fallopia convolvulus</i>	Black-bindweed																		
<i>Poaceae</i> spp. - indet. medium	Grasses																		
<i>Poaceae</i> spp. - indet. large	Grasses																		
<i>Rumex</i> sp.	Docks																		
<i>Urtica</i> sp.	Nettles			1															
<i>Veronica</i> sp.	Speedwells		1																
Charred buds (indet.)																			
Charred plant material (indet.)																			
Unknown			1																
<b>Cereals</b>																			
<i>Avena</i> sp.	Oats																		
<i>Hordeum vulgare</i>	Barley	1		1															
<i>Triticum aestivum/durum</i>	Bread wheat																		
<i>Triticum</i> sp. (grains)	Undiff. Wheat																		

Sample No.	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Context No.	309	313	315	324	326	324	326	318	328	328	330	330	338	338	330	340	342	342
Feature No.	308	314	316	325	327	325	327	319	329	329	331	331	339	339	331	341	343	343
Spit No.				1	1	2	2		1	2	1	2	1	2	3	1	1	2
Volume of bulk (litres)	15	27	15	7	7	7	4	28	6	7	7	10	6	5	6	6	7	6
Volume of flot (millilitres)	39	5	1	0.1	5	0.2	0.1	5	2.5	0.2	23	22	4.5	13	1.5	0.5	0.2	0.1
Cereal - indeterminate chaff																		
Broken/distorted cereal - indeterminate grains	1																	
<b>Terrestrial Molluscs</b>																		
<b>Habitat</b>																		
<i>Cecilioides acicula</i>		2										1			1			1
<i>Vertigo pygmaea</i>											1							
Broken shell																		
Snail eggs																		
<b>Other Plant Macrofossils</b>																		
Modern plant material										1								
Modern grass chaff																		
Roots/tubers	1	2	2	1	2	1	1	1	1	1	1		1			1	1	1
<b>Other Remains</b>																		
Burnt bone				1		1					3	4	1	3	3			
Insect remains	1	2	2				1							1			1	
Insect eggs/worm cases		3	1						2								1	
Slag											1	1		1				
Vitreous material	1	1			1						1	1			1		1	
Coal											1	1					1	1

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant. 'NF' = no flot produced

Sample No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Context No.	219	204	206	224	236	231	304	302	286	286	286	338	272	272
Feature No.	218	205	207	225	237	230	305	303	287	287	287	339	273	273
Spit No.									2	3	4	3	2	3
Volume of bulk (litres)	33	16	17	15	21	17	8	15	5	7	6	6	5	6
Volume of flot (millilitres)	78	3	0.1	4	5	175	7	6	48	5	1	0.5	10	0.5
Method of processing	F	F	F	F	F	F	F	F	F	F	F	F	F	F
<b>Flot Residue</b>														
<b>Charcoal</b>														
Charcoal >4 mm	4					4	1		2	1			1	1

Sample No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Context No.	219	204	206	224	236	231	304	302	286	286	286	338	272	272
Feature No.	218	205	207	225	237	230	305	303	287	287	287	339	273	273
Spit No.									2	3	4	3	2	3
Volume of bulk (litres)	33	16	17	15	21	17	8	15	5	7	6	6	5	6
Volume of flot (millilitres)	78	3	0.1	4	5	175	7	6	48	5	1	0.5	10	0.5
Charcoal 2 - 4 mm	4		1	1	1	4	2		4	2	2	2		1
Charcoal <2 mm	4	3	1	2	3	4	4	2	4	4	3	3	4	3
Frag. of ID size	y	x	x	x	x	y	x	X	x	x	x	x	<10	<5
Seeds		Common Name												
<i>Atriplex</i> spp.	Oraches	1	1		1	1	1	1				1		
<i>Betula</i> sp.	Birch			1	1		1							
<i>Chenopodium album</i>	Fat-hen		1			1	2			1		1		1
<i>Chenopodium</i> spp.	Goosefoots	1			1					1				
<i>Fallopia convolvulus</i>	Black-bindweed	1												
<i>Fumaria officinalis</i>	Common fumitory									1				
<i>Montia</i> sp.	Blinks													
<i>Polygonum</i> spp.	Knotgrasses													
<i>Rubus</i> sp.	Brambles													
<i>Sambucus</i> sp.	Elder								1					
<i>Solanum</i> sp.	Nightshades	1	1		1	1	1		1				1	
<i>Sonchus</i> sp.	Sow-thistles	1	3	1	1	2	2	1	1					
<i>Urtica</i> sp.	Nettles													
Seed cases - indeterminate		1												
Burnt seeds														
<i>Anthemis cotula</i>	Stinking chamomile													
<i>Arrhenatherum elatius</i> var. <i>bulbosum</i> (tuber)	False Oat-grass									1	1			
<i>Bromus</i> sp.	Bromes												1	
<i>Carex</i> spp.	Sedges													
<i>Chenopodium album</i>	Fat-hen													
<i>Chenopodium</i> spp.	Goosefoots						1							
<i>Euphorbia helioscopia</i>	Sun spurge	1												
<i>Euphorbia peplus</i>	Petty spurge													
<i>Fabaceae</i> spp.	Peas								1	1				

Sample No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Context No.	219	204	206	224	236	231	304	302	286	286	286	338	272	272
Feature No.	218	205	207	225	237	230	305	303	287	287	287	339	273	273
Spit No.									2	3	4	3	2	3
Volume of bulk (litres)	33	16	17	15	21	17	8	15	5	7	6	6	5	6
Volume of flot (millilitres)	78	3	0.1	4	5	175	7	6	48	5	1	0.5	10	0.5
<i>Fallopia convolvulus</i>	1													
<i>Poaceae</i> spp. - indet. medium														
<i>Poaceae</i> spp. - indet. large														
<i>Rumex</i> sp.	1													
<i>Urtica</i> sp.														
<i>Veronica</i> sp.			1											
Charred buds (indet.)														
Charred plant material (indet.)									1					
Unknown														
<b>Cereals</b>														
<i>Avena</i> sp.														
<i>Hordeum vulgare</i>														
<i>Triticum aestivum/durum</i>														
<i>Triticum</i> sp. (grains)	1													
Cereal - indeterminate chaff														
Broken/distorted cereal - indeterminate grains	1													
<b>Terrestrial Molluscs</b>														
<i>Cecilioides acicula</i>														
<i>Vertigo pygmaea</i>														
Broken shell														
Snail eggs														
<b>Other Plant Macrofossils</b>														
Modern plant material	1	1	1			1	1							
Modern grass chaff	1													
Roots/tubers	2	1		2	2		1	1				1		1
<b>Other Remains</b>														
Burnt bone	1								1				1	
Insect remains	1	1	1	1	1	1		1						
Insect eggs/worm cases	2	2		2	3		1		1					

Sample No.	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Context No.	219	204	206	224	236	231	304	302	286	286	286	338	272	272
Feature No.	218	205	207	225	237	230	305	303	287	287	287	339	273	273
Spit No.									2	3	4	3	2	3
Volume of bulk (litres)	33	16	17	15	21	17	8	15	5	7	6	6	5	6
Volume of flot (millilitres)	78	3	0.1	4	5	175	7	6	48	5	1	0.5	10	0.5
Slag						1			1					
Vitreous material	1			1	1				1		1		1	
Coal					1			1						

## APPENDIX 4: OASIS FORM

**OASIS ID: preconst1-316875**

### Project details

Project name LAND OFF CHURCH ROAD AND PLANTATION ROAD, BOREHAM, ESSEX, CM3 3EA

Short description of the project A 25 Trench evaluation in the village of Boreham followed by an open area excavation of 2 areas revealed revealed a late Bronze Age/early Iron Age cremation cemetery with 21 unurned cremations. 7 cremations were carbon dated and returned a date between 826 and 889 BCE. A contemporary field system and trackway was recorded which continued in use through the Roman and Saxon periods. Post-medieval and modern field boundaries were on the same alignment. Dispersed pits and ditches of Roman date, a Saxon watering hole and undated pits and ditches were also recorded. There was no evidence for settlement and the finds assemblage was small and abraded. However, it indicates the existence of settlement nearby.

Project dates Start: 16-04-2018 End: 22-06-2018

Previous/future work No / No

Any associated project reference codes BOPR18 - Sitecode

Type of project Recording project

Monument type DITCH Iron Age

Monument type CREMATION Late Bronze Age

Monument type PIT Late Prehistoric

Monument type PIT Early Medieval

Monument type PIT Modern

Monument type STRUCTURE Late Bronze Age

Monument type POSTHOLE Uncertain

Monument type PIT Late Bronze Age



Monument type	DITCH Post Medieval
Monument type	DITCH Uncertain
Monument type	DITCH Late Bronze Age
Significant Finds	POTTERY Late Iron Age
Significant Finds	CBM Roman
Significant Finds	CBM Post Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	LOOMWEIGHT Early Medieval
Significant Finds	KNIFE Early Medieval
Significant Finds	SILVER COIN Early Medieval
Significant Finds	LAVA QUERN Early Medieval
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Late Bronze Age

#### Project location

Country	England
Site location	ESSEX CHELMSFORD CHELMSFORD LAND OFF CHURCH ROAD AND PLANTATION ROAD, BOREHAM, ESSEX, CM3 3EA
Postcode	CM3 3EA
Study area	0.36 Hectares
Site coordinates	TL 75930 09890 51.759515017837 0.549497681687 51 45 34 N 000 32 58 E Point
Lat/Long Datum	Unknown

#### Project creators

Name	of PCA
Organisation	
Project	brief Essex County Council
originator	

Project design PCA Central  
 originator

Project Christiane Meckseper  
 director/manager

Project supervisor Thomas Learmonth

---

#### Project archives

Physical Archive Braintree District Museum  
 recipient

Physical Contents "Animal Bones","Ceramics","Environmental","Human Bones","Metal"

Digital Archive Braintree Museum  
 recipient

Digital Contents "Animal Bones","Ceramics","Environmental","Human Bones","Metal","Worked stone/lithics"

Paper Archive Braintree District Museum  
 recipient

Paper Contents "Animal Bones","Ceramics","Environmental","Human Bones","Metal","Worked stone/lithics"

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#### Project bibliography

1

Grey literature (unpublished document/manuscript)

Publication type

Title ARCHAEOLOGICAL EVALUATION AT LAND OFF CHURCH ROAD AND  
 PLANTATION ROAD, BOREHAM, ESSEX, CM3 3EA

Author(s)/Editor(s) Learmonth, T

Other bibliographic R13253  
 details

Date 2018

Issuer or publisher PCA Central

Place of issue or PCA Central  
 publication

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Project bibliography

2

Grey literature (unpublished document/manuscript)

Publication type

Title Land off Church Road and Plantation Road, Boreham, Essex, CM3 3EA. Post-excavation Assessment and Analysis

Author(s)/Editor(s) Meckseper C

Other bibliographic R13581  
details

Date 2019

Issuer or publisher Pre-Construct Archaeology

Place of issue or Cambridge  
publication

Description pdf

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Entered by Christiane Meckseper (cmeckseper@pre-construct.com)

Entered on 20 February 2019

## 17 APPENDIX 5: RADIOCARBON DATES

### 17.1 C14 Dates Summary Table

Lab code	Context	Sample	Date BP	Date CE
SUERC-81628 (GU48734)	266	71	2839 $\pm$ 28	889 BCE
SUERC-81629 (GU48735)	271	72	2773 $\pm$ 28	832 BCE
SUERC-81633 (GU48736)	274	73	2826 $\pm$ 28	876 BCE
SUERC-81634 (GU48737)	288	74	2797 $\pm$ 28	847 BCE
SUERC-81635 (GU48738)	330	75	2799 $\pm$ 28	849 BCE
SUERC-81636 (GU48739)	338	76	2845 $\pm$ 28	895 BCE
SUERC-81872 (GU48740)	342	77	2776 $\pm$ 28	826 BCE

Table 15: C14 dates summary table

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