



Late Bronze Age/Early Iron Age Settlement Remains and Post- Medieval Activity on Land off Southminster Road, Burnham- on-Crouch, Essex Archaeological Excavation Report

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Late Bronze Age/Early Iron Age Settlement Remains and Post-Medieval Activity on Land off Southminster Road,

Burnham-on-Crouch, Essex

Archaeological Excavation Report

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Summary

Between 27th July and 12th August 2020 Oxford Archaeology East undertook an archaeological excavation totalling 0.37ha at land off Southminster Road, Burnham-on-Crouch, Essex. The three small excavation areas (Areas 1-3) uncovered the course of a palaeochannel alongside two groups of discrete features (in Areas 1 and 2) which probably represent the remains of Late Bronze Age/Early Iron Age settlement.

The larger group of postholes and pits in Area 1 produced small assemblages of Late Bronze Age/Early Iron Age pottery and burnt flint. Significantly, one of the pits was also found to contain fragments of eight briquetage pedestals probably associated with salt-making. The smaller group of pits in Area 2 produced contemporary pottery in addition to structural daub fragments. The remaining features encountered in Areas 2 and 3 comprised boundary ditches and a small number of pits of post-medieval origin (16th century and later), in addition to a small quarry to extract the underlying sand and gravel. The most recent episode of early modern activity was represented by a small, ditched enclosure, former field boundaries and a further quarry.

This site provides an important addition to the emerging pattern of known Bronze Age and Iron Age settlements in the vicinity of Burnham-on-Crouch and also adds to the growing corpus of later prehistoric sites associated with salt-making on the River Crouch.

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The project was managed for Oxford Archaeology by Patrick Moan. The fieldwork was directed by Tim Lewis, who was supported by Ashley Pooley. Survey was carried out by Thomas Houghton. Thanks are also extended to the teams of OA staff that cleaned and packaged the finds under the management of Natasha Dodwell, processed the environmental remains under the supervision of Rachel Fosberry, and prepared the archive under the supervision of Katherine Hamilton. Thanks are also extended to the various specialists for their contributions.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Between 27th July and 12th August 2020 Oxford Archaeology East (OA East) conducted an excavation on land off Southminster Road, Burnham-on-Crouch, Essex (NGR TQ 94617 97766; Fig. 1). This archaeological work, commissioned by RPS Consulting Ltd, followed an evaluation conducted by Archaeology South East (ASE) and was undertaken in advance of a proposed development of 80 residential dwellings and associated infrastructure (Planning Application: APP/X1545/W/15/3009772, Condition 12).
- 1.1.2 A Written Scheme of Investigation (WSI; Lewis 2020) was prepared on behalf of the client following consultation between the County Archaeologist, Maria Medlycott of Essex County Council Place Services (ECCPS), and Matt Smith of RPS Consulting Ltd regarding the mitigation requirements.
- 1.1.3 A Desk Based Assessment (DBA) undertaken in 2014 by RPS (formerly CgMs) for the proposed development site concluded that the site had a generally low archaeological potential. An archaeological evaluation of the site conducted by ASE between October and November 2019 revealed two separate areas of pits and possible postholes of Late Bronze Age/Early Iron Age date; an area of pits and ditches of probable 16th century date; and a former field boundary (Hogg 2019).
- 1.1.4 The current phase of archaeological work comprised the excavation of three mitigation areas within the 3.9ha development site. Area 1 (0.17ha) and Area 2 (0.11ha) targeted the Late Bronze Age/Early Iron Age remains and Area 3 (0.09ha) targeted the 16th century remains identified by the evaluation trenching (Fig. 3).
- 1.1.5 The site archive is currently held by OA East and will be deposited with Colchester and Ipswich Museum Service under the Site Code BCSR19 in due course.

1.2 Location, topography and geology

- 1.2.1 The site is located on the northern fringe of the town of Burnham-on-Crouch, which sits on the northern bank of the Crouch estuary. It lies to the west of the B1021 Southminster Road, to the east of Mangapp Chase, south of the grounds of Mangapp Manor and north of the residential properties of Beauchamps Street.
- 1.2.2 The southern part of the development site consists of a former large arable field, while the northern part was divided into several smaller paddocks previously used to keep horses. The site slopes gently downwards from north-south, from approximately 22m OD in the north of the site down to approximately 20m OD in the south of the site.
- 1.2.3 The bedrock geology of the area is mapped as London Clay Formation (clay, silt and sand) overlain with superficial River Terrace Deposits of sand and gravel (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>, accessed 18/01/21).

1.3 Archaeological and historical background

1.3.1 The following section is a summary of the archaeological and historical background of the site that has been produced using information contained in the Desk Based Assessment for this project by CgMs (now RPS) in 2014 and the subsequent evaluation report (Hogg 2019). The Burnham-on-Crouch historic towns assessment (ECC 1999) and the Essex Historic Environment Record (EHER) were also consulted as well as other sources such as the results of a nearby excavation c.850m to the south-west (Collie 2018). Pertinent records from the EHER are shown on Fig. 2.

Palaeolithic, Mesolithic and Neolithic (c.500,000-2500BC)

1.3.2 The site is situated on the Dengie peninsula, which contains areas of river terrace deposits defined as 'Low-Level East Essex Gravels'. These were laid down during the Anglian glaciation (478,000–424,000 years BP) when the course of the Kesgrave Thames was diverted to join the Medway in the Southend area (O'Connor 2015, 13). Thus far, the Lower/Middle Palaeolithic artefacts recovered from this area of Essex have been associated with the Asheldham Gravel (Wenban-Smith *et al.* 2007, 30–1).

1.3.3 No finds of this nature have so far been recorded on the site, but several findspots of early prehistoric flint tools have been recorded further south, adjacent to the River Crouch. These include flint flakes and a Swanscombe type chopper (EHER 11214), a possible Palaeolithic hand axe (EHER 11317, not illustrated), a Palaeolithic blade, Mesolithic microlith and point, and Neolithic blades, arrowheads and a scraper (EHER 11329, not illustrated). Further finds of flint tools (HER 11350) and flint cores (EHER 11309) have also been made c.450m to the south of the site.

Bronze Age (c.2500-800BC)

1.3.4 Evidence for Bronze Age occupation in the area is limited to detector finds, such as a hoard of 214 artefacts found to the south-west of Burnham-on-Crouch (PAS ID: ESS8822A3; not illustrated), which included several weapon types as well as more waste-like material.

1.3.5 The evaluation (Hogg 2019) also encountered possible Bronze Age activity comprising pits and possible postholes which produced small quantities of Late Bronze Age/Early Iron Age pottery and burnt and worked flint.

1.3.6 A Late Bronze Age settlement c.850m south of the site that consisted of enclosures, ring ditches and field systems was investigated by OA East in 2018 (Collie 2018). Several cremation burials were also found with one radiocarbon dated to the Middle-Late Bronze Age. Other Late Bronze Age finds from the site included evidence for salt production.

Iron Age (c.800BC-AD43)

1.3.7 An Iron Age farmstead (EHER 49243) was excavated c.700m to the south-west by the Burnham-on-Crouch Archaeological Society in the 1970s, although the results of this work are currently unpublished.

- 1.3.8 The presence of several Late Iron Age burials (EHER 11235) discovered c.1.4km south of the site in Burnham-on-Crouch also hint at established settlement in the vicinity during this period.

Romano-British (c.AD43-410)

- 1.3.9 The Dengie peninsula was an ideal location for salt-making, given its estuaries and coastal marshland. A large 'red hill' – a Romano-British salt-making site – of over 221m in diameter is known at Stoneyhills (EHER 47316), situated c.700m east of the site.
- 1.3.10 The exploitation of this area may have been connected with the development of a possible north-south aligned Roman road (EHER 11285), which may once have connected the north and south coasts of the peninsula via the Stoneyhills area. The postulated route of this road is preserved in a north-south aligned pathway and hedge line which passes c.250m east of the site.

Anglo-Saxon and medieval (c.AD410-1540)

- 1.3.11 Burnham was listed in the Domesday Survey of 1086 as 'Burneham', a small manorial village. The original settlement may have been located adjacent to St Mary's church (EHER 11226) and moated manor house (EHER 11224) approximately 600m south of the site. This would have made the settlement comparable with others in the Dengie Peninsula located upon higher and drier ground overlooking the coastal saltmarshes (ECC 2008).
- 1.3.12 In 1253, a market was granted to the Fitzwalter family who owned the manor of Burnham. This may have coincided with the shift of the village's nucleus away from St Mary's church to the riverside, where the modern-day quay and High Street are situated (EHER 18400). The new nucleus of Burnham-on-Crouch may have been planted to take advantage of the estuary, both for trade and as a fishery. Elements of the later medieval town's layout certainly appear planned, particularly the High Street at a tangent to the quay, which would have allowed the maximum number of plots to have access from ship to warehouse (ECC 1999, 7).

Post-medieval to modern (c.AD1540-present)

- 1.3.13 By the post-medieval period, Burnham consisted of two areas of settlement. One consisting of a small rural settlement centred around St Mary's church and the other comprising of a more substantial settlement around the quayside on the River Crouch. During this period, the site comprised agricultural land. The Old Vicarage was constructed in the 18th century approximately 150m north-east of the site.
- 1.3.14 An important industry associated with the development of the post-medieval town was the brickworks situated on Green Lane, c.400m south of the site (EHER 11309). A water-filled clay pit, probably 'Croxtons Pit' remains visible on Brickfield Farm.
- 1.3.15 The 1844 Burnham Tithe map records the site as arable land. There has been little subsequent change to the site. A field boundary which extended north-south across the site was removed by the late 19th century and the site was subsequently divided into four fields (three paddocks and one arable field).

1.3.16 During World War II, the defence of the Dengie peninsula against invasion is reflected in the survival of defensive installations across the surrounding area with evidence of a road barrier still visible on Pannel's Bridge to the east (EHER 40973).

2 EXCAVATION AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The original aims of the project were set out in the Written Scheme of Investigation (Lewis 2020). The main aims of this excavation were:

- to preserve by record the archaeological evidence contained within the footprint of the development area, prior to damage by development; and
- investigate the origins, date, development, phasing, spatial organisation, character, function, status, and significance of the remains revealed; and
- place these in their local, regional and national archaeological context.

2.2 Site Specific Research Objectives

2.2.1 Based on the results of the evaluation of the site (Hogg 2019) and the discovery of Late Bronze Age/Early Iron Age remains, more site specific aims and research questions were formulated prior to the excavation, as follows:

- i. to clarify the date of features identified within the evaluation and assess their spatial extent; and
- ii. to further the understanding of prehistoric activity within the Dengie peninsula

2.3 Regional Research Aims

2.3.1 The site specific objectives were drawn from, and will contribute to, the goals of Regional Research Frameworks relevant to this area:

- i. Glazebrook J. 1997 Research and Archaeology: A Framework for the Eastern counties: 1. Resource Assessment. East Anglian Archaeology Occasional Papers 3;
- ii. Brown, N. & Glazebrook, J. 2000 Research and Archaeology: A Framework for the Eastern counties: 2. Research Agenda and Strategy. East Anglian Archaeology Occasional Papers 8; and
- iii. Medlycott, M. 2011 Research and Archaeology Revisited: A Revised Framework for the East of England. East Anglian Archaeology Occasional Papers 24.

2.4 Fieldwork Methodology

2.4.1 The methodology used followed that detailed in the Written Scheme of Investigation (Lewis 2020) which required three excavation areas (Areas 1-3) totalling 0.24ha be machine stripped to the level of natural geology or the archaeological horizon. There was also a contingency for expansion of these areas should significant archaeological remains be identified, of 0.37ha in total. The final excavation areas totalled 0.37ha (Area 1 = 0.17ha; Area 2 = 0.11ha; Area 3 = 0.09ha).

2.4.2 Machine excavation was carried out by a 20-tonne tracked 360° type excavator using a 2m wide flat-bladed ditching bucket under constant supervision of a suitably qualified and experienced archaeologist.

- 2.4.3 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 2.4.4 All archaeological features and deposits were recorded using OA East's pro-forma sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.
- 2.4.5 The site was surveyed with a survey-grade differential GPS (Leica CS10/GS08 or Leica 1200) fitted with "smartnet" technology with an accuracy of 5mm horizontal and 10mm vertical.
- 2.4.6 A total of nine environmental bulk samples were taken from across the site, these were taken and processed in accordance with OA East's sampling policy.

3 RESULTS

3.1 Introduction and presentation of results

- 3.1.1 The results of the excavation are presented below and include a description of the archaeological remains based on stratigraphic relationships, spatial associations and, to a certain extent, similarity of features. Where possible this has been combined with dating evidence provided by stratified artefacts. Cut numbers are given in **bold**, and feature group numbers utilise the lowest cut number (not bold) in that group.
- 3.1.2 The findings of the evaluation trenches excavated by ASE (Hogg 2019; Fig. 3) will also be referred to in the results section where relevant. Details of all contexts are included in Appendix A, Tables 3-5, with finds and environmental reports presented in Appendices B and C respectively.
- 3.1.3 An overall phased excavation plan of Areas 1-3 with groupings of features alongside the findings of the evaluation trenches is presented as Figure 4. Detailed plans of each excavation area alongside selected sections of features are given as Figures 5-7. Photographs of a selection of features are indicated in Plates 1-10.
- 3.1.4 Four periods of activity have been identified:
- Period 1: Natural features
 - Period 2: Late Bronze Age/Early Iron Age (c.1150-350BC)
 - Period 3: Post-medieval (c.15th-17th century)
 - Period 4: Modern (c.18th century-present)
- 3.1.5 Establishing a firm chronology for these phases of activity has been hampered by the paucity of datable finds recovered – reflecting the rural character of the site – and issues of residuality. This is particularly true for Period 3 features, especially the ditches in Area 2, which often only produced burnt flint but are likely to be much later than the Late Bronze Age/Early Iron Age features located nearby. These features have been assigned to the post-medieval period partly on the basis of similarities with dated ditches in Area 3, but also with reference to the evaluation which identified several features including ditches that produced fire-cracked flint alongside small fragments of slate and coal. However, an earlier date cannot be excluded. Also worth noting is a group of 12 possible Early to Middle Anglo-Saxon pottery sherds recovered from Period 3 quarry pit **1019**. The moderately abraded condition of these fragments and their discovery alongside a sherd of Late Bronze Age/Early Iron Age pottery indicates they were not located near to their primary site of deposition and as such are not allocated a separate chronological phase in the site's narrative.

3.2 General soils and ground conditions

- 3.2.1 The natural geology of orange brown river terrace gravels and sand was overlain by a 0.1m-thick pale greyish brown silty clay subsoil. In the northern part of the site this was overlain by a c.0.15m-thick topsoil while to the south a thicker (c.0.25m) ploughsoil was present.

3.2.2 Ground conditions throughout the excavation were generally good, however, there were periods of exceedingly hot and dry weather which made excavation of the compact indurated silty feature fills difficult. Archaeological features, where present, were generally easy to identify against the underlying natural geology.

3.3 Period 1: Natural features

Area 2 (Figs 4 and 6)

Palaeochannel

3.3.1 The earliest feature in Area 2 was a palaeochannel (**1022**) which was revealed within the excavation area on a north-south alignment. It measured 5m wide by 0.4m deep and was filled by a very pale clayey silt from which no finds were recovered (Fig. 6, Section 46). An environmental sample and pollen sub-sample both proved negative in terms of preserved plant remains or other material. The infilled channel was cut by Period 3 Ditch 1000 (see below).

3.4 Period 2: Late Bronze Age/Early Iron Age (c.1150-350BC)

Introduction

3.4.1 Groups of sub-circular discrete features were encountered in Areas 1 and 2, the fills of which produced assemblages of Late Bronze Age/Early Iron Age pottery, fired clay pedestal fragments, burnt flint and a worked flint flake. On average the majority of the features measured c.0.5m in diameter (Table 1) and are interpreted as postholes (although some of those at the upper end of the diameter range may have been small pits), while those which measured c.1m in diameter (averaged) are interpreted as pits.

Area 1 (Figs 4 and 5)

Posthole Group 1

3.4.2 A group of 19 sub-circular postholes extended across the southern part of Area 1 which may represent the remains of several earth-fast structures such as roundhouse dwellings or shelters and associated fence-lines (Table 1). However, it was not possible to discern any definite plan in their somewhat haphazard arrangement, which clearly extended beyond the southern and eastern excavation limits. It is feasible that postholes **42**, **44**, **46** and **48** in the western part of the area may represent the remains of a fence, although they are quite widely-spaced. A possible four-post structure (c. 4m²) may be indicated by postholes **8**, **36**, **38** and **40**, although these varied in size and shape, while other features were also present within this cluster (**2**, **4** and **6**). The scatter of postholes to the east and south-east of the possible four-post structure may conceivably represent partial arcs (**24**, **26**, **28**, **22** and **20**; **13**, **30**, **32** and **34**) indicating the remains of roundhouses or other structures.

3.4.3 This group of features measured between c.0.25m and 0.75m in diameter and 0.06-0.25m deep with steep sides and U-shaped profiles. They generally contained light grey or greyish brown sandy silt fills with sub-rounded gravel inclusions (Fig. 5, Sections 18, 32 and 38; Plate 1). The fills of postholes **2**, **4**, **8** and **13** contained notably more frequent flint gravels and occasional charcoal inclusions. The postholes yielded

a combined total of 14 sherds (0.78kg) of Late Bronze Age/Early Iron Age (LBA/EIA) pottery and 0.35kg of burnt flint. Samples taken from postholes **2** and **13** produced very sparse remains including charcoal.

Cut	Fill	Breadth (m)	Depth (m)	Findings	Pottery date
2	1	0.65	0.25	2 sherds (110g) pottery; 2 burnt flints	LBA/EIA
4	3	0.35	0.15	1 sherd (5g) pottery; 5 burnt flints	LBA/EIA
6	5	0.6	0.15	1 sherd (2g) pottery; 23 burnt flints	LBA/EIA
8	7	0.6	0.20	1 sherd (2g) pottery; 4 burnt flints	LBA/EIA
13	14	0.6	0.10	3 burnt flints	-
20	21	0.3	0.11	-	-
22	23	0.35	0.14	-	-
24	25	0.7	0.27	-	-
26	27	0.45	0.12	-	-
28	29	0.45	0.11	-	-
30	31	0.25	0.06	-	-
32	33	0.35	0.15	-	-
34	35	0.40	0.14	-	-
36	37	0.75	0.20	-	-
38	39	0.70	0.13	-	-
40	41	0.60	0.16	-	-
42	43	0.65	0.18	-	-
44	45	0.45	0.19	9 sherds (66g) pottery	LBA/EIA
46	47	0.50	0.06	-	-
48	49	0.40	0.10	-	-
Average		0.50	0.14		

Table 1: Period 2 Posthole Group 1 inventory

Pit Group 1

3.4.4 Interspersed between the postholes uncovered in Area 1 was a total of four sub-circular pits (**11**, **15**, **17** and **50**) of similar morphology and a possible hearth (**9**) that on average measured c.1m in diameter by c.0.2m deep with U-shaped profiles (Table 2; Fig. 5, Sections 19, 21 and 24). With the exception of pit/hearth **9**, each of these features contained similar pale grey to light brownish grey sandy silt fills, with occasional charcoal inclusions noted in the fill of pit **11**. Samples of five of the pit fills produced varying quantities of charcoal. Aside from the charcoal, the identifiable carbonised plant remains from pit fills consist of a few scarce wheat grains, grass seeds, campion seeds and bramble thorns. Together, the pit fills produced a combined total of 41 sherds (0.51kg) of Late Bronze Age/Early Iron Age pottery and 0.75kg of burnt flint.

3.4.5 Pit **11** positioned close to the eastern limit of excavation is of particular note as it also contained an assemblage of eight fragmentary fired clay pedestals (SFs 1-8; 4.83kg) of

a type designed as supports for briquetage salt-making pans associated with coastal salt-winning campaigns during the Bronze Age and Iron Age periods (Plate 2; App. B.8.3; App. Plate B.8.1).

- 3.4.6 It is possible that relatively isolated pit **9** represents the surviving *in situ* remains of a hearth base associated with cooking or a craft process involving heat (Plate 3). It measured 0.95m in diameter by 0.18m deep and contained a fill of dark brownish grey silty clay with frequent charcoal flecks and frequent burnt flint inclusions, of which 0.4kg were recovered. The sample of this fill produced the largest volume (100ml) of charcoal recovered from this group of features.

Cut	Fill	Breadth (m)	Depth (m)	Finds	Pottery date
9	10	0.95	0.18	52 burnt flints	-
11	12	0.85	0.25	23 sherds (315g) of pottery; 8 fired clay pedestal fragments (SFs 1-8); 28 burnt flints	LBA/EIA
15	16	1.0	0.15	10 sherds (142g) pottery; 9 burnt flints	LBA/EIA
17	18	0.9	0.17	17 burnt flints	-
50	51	1.2	0.3	8 sherds (66g) pottery	LBA/EIA
Average		0.99	0.18		

Table 2: Period 2 Pit Group 1 inventory

Evaluation Trench 16 (Fig. 4)

- 3.4.7 Trench 16 of the previous evaluation of the site encountered two pits (**16/004** and **16/001**) and two postholes (**16/006** and **16/008**) within the footprint of Area 1 which were of similar morphology to the features described above. Each of these features produced further sherds of Late Bronze Age/Early Iron Age pottery (Fig. 4; Hogg 2019, 18).

Area 2 (Figs 4 and 6)

Pit Group 2

- 3.4.8 Two similar sub-circular pits (**1009** and **1011**) located on the western edge of Area 2, close to the Period 1 palaeochannel, have also been attributed to this phase. Each pit measured c.1m in diameter by c.0.3m deep and contained light grey to light brownish grey sand with occasional flint gravel and charcoal inclusions (Fig. 6, Sections 7 and 8; Plate 4). The fills (1010 and 1012) produced a combined total of 39 sherds (0.73kg) of Late Bronze Age/Early Iron Age pottery, 54 burnt flints (c.1kg) and a worked flint flake. Pit **1009** also contained three fragments of probable wall daub.

Evaluation Trench 10 (Fig. 4)

- 3.4.9 Within the central part of the excavation area, the previous evaluation of the site revealed a further pit (**10/006**) of similar morphology which produced Late Bronze Age/Early Iron Age pottery (Fig. 4; Hogg 2019, 14).

3.5 Period 3: Post-medieval (c.15th-17th century)

Area 2 (Figs 4 and 6)

- 3.5.1 As outlined above (Section 3.1), few datable finds were recovered from the features assigned to this phase within Area 2, and although a post-medieval date is most likely, an earlier date cannot be discounted.

Ditch 1000

- 3.5.2 Ditch 1000 (**1000/1015**) traversed the western part of Area 2 on a south-west to north-east alignment, cutting across the Period 1 palaeochannel deposits. It was excavated as ditch **10/004** in Trench 10 during the evaluation, the fill of which only contained fire-cracked flint (Hogg 2019, 13). A possible north-east continuation of this boundary was also excavated as similarly sterile ditch **1/004** in Trench 1 (*ibid.*, 10). Although no datable artefacts were recovered from its fills, this ditch possibly indicates the dominant alignment of land division on this site prior to the modern period (Fig. 4). Its axis appears to have been respected by the perpendicular course of two undated ditches previously excavated in evaluation Trenches 11 (**11/004**) and 13 (**13/006**).
- 3.5.3 This boundary alignment comprised two closely aligned, and intercutting ditches. The earlier ditch (comprising cuts **1015** and **1026**) measured a maximum of 1m wide and 0.3m deep with a U-shaped profile. Its later reinstatement (comprising cuts **1000** (Fig. 6, Section 4), **1003** (Section 5; Plate 5), **1017** and **1024**) measured a maximum of 1.1m wide and 0.5m deep with a U-shaped profile (Fig. 6, Section 5). The excavated sections of the earlier and later cuts of this boundary alignment revealed between one and three fills similarly consisting of light grey or light brownish grey sand or sandy silt (1001-2, 1004-6, 1016, 1018, 1025 and 1027). The fills produced a combined total of 33 burnt flints.

Ditches 1007 and 1013

- 3.5.4 Associated with Ditch 1000 were two ditches that joined it from the south-east and north-west (**1013** (Plate 5) and **1007** (Fig. 6, Section 6; Plate 6), both of which were of similar dimensions and contained similar fills (1008 and 1014 respectively). Ditch **1007** followed the line of ditch **1015** before curving south-eastwards for c.7m where it terminated. Its fill yielded a fragment (162g) of post-medieval ceramic building material (CBM) and 21 burnt flints. Ditch **1013** turned north-westwards from its terminal adjacent to ditch **1000** and continued beyond the excavation limit. Its fill contained four burnt flints.

Quarry pit 1019

- 3.5.5 The northern extent of a possible quarry pit (**1019**) cut into the natural sand and gravel deposits underlying the site was revealed on the southern excavation limit. It measured in excess of 7m in length, 4.1m wide by 0.84m deep with a flat-based U-shaped profile and contained two backfills (Plate 7). The lower fill (1021) consisted of mid grey sand with flint gravel inclusions, overlain by an upper fill (1020) of light grey sandy silt with moderate flint gravel and occasional charcoal inclusions. These fills produced a combined total of 12 sherds (0.11kg) of residual/reworked pottery of probable Early to Middle Anglo-Saxon date (from the upper fill), alongside 18 burnt

flints and a Late Bronze Age/Early Iron Age pottery sherd; the latter from the primary fill and presumably residual.

Area 3 (Figs 4 and 7)

Ditch 2014

- 3.5.6 Ditch 2014 (comprising cuts **2014** (Plate 8), **2020** and **2024**) extended across almost the full width of the excavation area on a roughly east-west orientation before it was truncated by Period 4 quarry pit **2000**. This feature was excavated as ditch **1/006** in evaluation Trench 1 (Fig. 4) which produced fragments of 16th century CBM. This ditch also appeared to have been cut by Period 4 Enclosure 2012, although the relationship was not well-defined.
- 3.5.7 Ditch 2014 measured a maximum of 0.6m wide by 0.14m deep with a U-shaped profile (Fig. 7, Sections 14 and 42). It was filled by light grey sandy silt with occasional gravel inclusions (2015, 2021 and 2025) which produced 31 sherds (616g) of 15th to early 16th century pottery, 14 pieces (891g) of post-medieval CBM, three fragments of animal bone and 128g of oyster shell. To the immediate north lay a short section of parallel ditch (**2016**) of similar morphology which may represent the vestige of an earlier ditch associated with this alignment (Fig. 7, Section 15).
- 3.5.8 South of Ditch 2014 lay sub-circular pit **2006** that measured 0.7m in diameter by 0.14m deep and contained a mid grey sandy silt fill (2007) with occasional gravel inclusions and rare charcoal flecks. No artefacts were recovered from it, although its proximity and similarity to pits uncovered by evaluation Trenches 1 and 2 dated to the post-medieval period indicates that it may have been contemporary.

Evaluation Trenches 1 and 2 (Fig. 4)

- 3.5.9 The 2019 evaluation of the site encountered six discrete features of similar morphology dispersed south of Ditch 2014. Trenches 1 and 2 uncovered five pits (**1/008**, **2/003**, **2/005**, **2/015** and **2/018**) which also yielded datable artefacts including 16th century or later pottery sherds, CBM and glass (Hogg 2019, 11).

3.6 Period 4: Modern (c.18th century-present)

Area 3 (Figs 4, 7 and 8)

Enclosure 2012 and associated features

- 3.6.1 Ditch 2014 appeared to have been cut by the southern part of a north-south aligned rectilinear ditched enclosure which extended beyond the northern excavation limit and encompassed an area of at least 36m by 30m. It was truncated on its south-eastern corner by Period 4 quarry pit **2000**. This enclosure appears to respect the adjacent north-south alignment of the former field boundary ditch (**02/008/011**) revealed to the east by evaluation Trenches 2, 7 and 14 which passed immediately east of the excavation and is shown on the 1844 Tithe map of Burnham (Hogg 2019, 11, fig. 11). That dominant former field boundary appears to have been met by other lesser subdivisions on east-west alignments encountered by evaluation Trenches 11, 12, 14 and 15 (Fig. 4).

- 3.6.2 Four sections were excavated into this enclosure ditch (**2012** (Fig. 7, Section 13), **2018**, **2022** (Plate 9) and **2026**) that measured between 0.7-0.9m wide and 0.12-0.18m deep with a U-shaped profile (Fig. 7, Sections 16 and 43). Its single fill (2013, 2019, 2021 and 2027 respectively) consisted of light grey sandy silt with occasional sub-rounded gravel inclusions and rare charcoal flecks. The fill of cut **2012** yielded a sherd (16g) of 17th to 19th century pottery, seven pieces (1.89kg) of post-medieval CBM, a shard (5g) of 18th century glass and two fragments of animal bone.
- 3.6.3 Evidence for the presence of a post-built structure within the enclosure comprised two adjacent sub-circular postholes (**2008** and **2010**) close to the northern excavation limit that measured between 0.2m-0.43m in diameter and 0.25m-0.5m deep with U-shaped profiles. The fills (2009 and 2011) consisted of light to mid grey sandy silt with rare gravel inclusions. The excavation of posthole **2010** yielded two sherds (6g) of post-medieval red earthenware pottery, fragments of clay tobacco pipe (4g) and animal bone.
- 3.6.4 Also located within the enclosure was sub-circular pit **2028** which contained a light grey silt (2029) with occasional gravel inclusions. No artefacts were recovered from this feature, although its proximity to the enclosure and other modern features indicates that it may have been contemporary.

Quarry pit 2000

- 3.6.5 A similar – albeit deeper – pit (**2000**) to the possible Period 3 sand/gravel quarry (**1019**) revealed in Area 2, was found in Area 3, truncating the eastern arm of Period 3 Ditch 2014 and Period 4 Enclosure 2012. It measured 9m in length, 5m in width and 2m deep (Fig. 7, Section 9) and was filled by a succession of five backfills. The two basal fills (2001-2) of mid to dark grey silty clay were waterlogged. Bulk samples of these wet deposits produced seeds of fat-hen, rushes, black nightshade and hemlock. The dry upper fills (2003-5) comprised varying dark grey/yellowish grey/reddish brown hues of silty clay and sandy/clayey silt. Only fill 2004 produced finds, which included two sherds (105g) of 17th to 19th century pottery and fragments of clay tobacco pipe (10g), CBM (377g) and animal bone.

3.7 Finds and environmental summary

Introduction

- 3.7.1 The finds recovered from the excavated features comprise: a post-Early Bronze Age flint flake; Late Bronze Age/Early Iron Age pottery sherds, fragmentary briquetage (fired clay) pedestals and burnt flint; Anglo-Saxon pottery sherds; post-medieval pottery sherds, clay tobacco pipe, CBM, animal bone and oyster shell.

Glass

- 3.7.2 A single shard (5g) of bottle glass was recovered from Period 4 Enclosure 2012 (fill 2027 of cut **2026**). The shard is not closely datable, although it is very probably 18th century or later.

Flint

- 3.7.3 A relatively large quantity of unworked burnt flint, weighing almost 4kg (284 fragments) and a single worked flint were recovered from Areas 1 and 2. The worked flint is a secondary flake from Period 2 Pit Group 2 (fill 1010 of pit **1009**). Where features produced low number of burnt flints, it seems likely that this material was incidentally incorporated into the fills as a result of a natural infill – and thus in some cases is likely to be residual. In other cases, however - most notably in the cases of Period 2 pits **9** and **11** in Area 1 and pit **1009** in Area 2 - large quantities of burnt flint were recovered which seem likely to represent deliberate deposits contemporary with the features from which they derive. Therefore, the flint assemblage appears to relate exclusively to the Late Bronze Age/Early Iron Age occupation of the site. The heavily fragmented burnt flint is of the kind usually interpreted as the remains of flint cobbles which have been deliberately heated and used to heat water, although there are many potential uses for deliberately heated flint and stone, including in cooking, brewing, pottery manufacture, textile/hide processing and bathing.

Prehistoric pottery

- 3.7.4 The excavation yielded 95 sherds (1439g) of pottery belonging to the Post-Deverel-Rimbury ceramic tradition and dates to the Late Bronze Age or Early Iron Age. The small assemblage does not contain any feature sherds to allow detailed comparison to other local sites, although it does provide evidence for prehistoric activity on the site.

Anglo-Saxon pottery

- 3.7.5 Excavation produced a total of 12 fragments (114g) of possible Early to Middle Anglo-Saxon pottery from the fill (1020) of Period 3 quarry pit **1019**. The small assemblage is composed of moderately abraded and undiagnostic sherds from a single undecorated globular vessel in an organic tempered ware. These were probably reworked into the quarry's backfill as residual items along with post-medieval brick and tile fragments.

Medieval and post-medieval pottery

- 3.7.6 A total of 36 sherds of post-Roman pottery weighing 743g was excavated from Area 3 of the site. A group of pottery dating to the 15th to early 16th century was found in Period 3 Ditch 2014 (cut **2014**) and a small amount of post-medieval pottery was present in Period 4 Enclosure 2012 (cut **2026**), pit **2010** and quarry pit **2000**. The assemblage from the Period 3 ditch shows good evidence of occupation during the 15th century, or perhaps into the early 16th century with activity continuing into the post-medieval period. The pottery (mainly jugs and a possible cup) appears to be mainly concerned with the storage, serving and consumption of liquids so that drinking would appear to be the main function of this group of pottery.

Clay tobacco pipe

- 3.7.7 Four fragments of white ball clay tobacco pipe stem (14g) were recovered from Period 4 pit **2010** and quarry pit **2000** and in Area 3. The fragments of clay tobacco pipe

recovered represent what were, most likely, casually discarded pipes reworked into these features' backfills.

Ceramic building material

- 3.7.8 In total 25 pieces (3.32kg) of CBM (brick and tile) were recovered from Period 3 ditch **1007**, Ditch 2014; and Period 4 Enclosure 2012 and quarry pit **2000**. The degree of firing and mould type of the brick fragments certainly suggests a post-medieval type: their smaller size is unusual for 18th century bricks, though the thickness and length do match some 17th century examples. The tile fragments are of probable 18th century or earlier date.

Fired clay

- 3.7.9 Some 20 pieces (5.42kg) of fired and worked clay were examined including 4.83kg of briquetage recovered from Period 2 pit **11** in Area 1. The briquetage consists of fragments of eight large cylindrical pedestal supports presumably designed for use with briquetage salt-making pans. This assemblage appears to have been dumped into the pit along within a backfill which also yielded sherds of Late Bronze Age/Early Iron Age pottery. In addition, three small fragments of daub were recovered from the fill of Period 1 pit **1009** in Area 2 that may represent the decayed washed-out fragments from a daub wall structure.

Animal bone

- 3.7.10 A total of seven recordable fragments of animal bone, of which three fragments were identifiable to species (cattle, horse and pig), were recovered from features in Area 3 (Period 3 Ditch 2014; and Period 4 Enclosure 2012, pit **2010** and quarry pit **2000**). These specimens represent domestic waste incorporated in feature fills and due to the small size of the assemblage offer no further conclusions regarding butchery or dietary practices.

Marine mollusca

- 3.7.11 A total of 0.128kg of oyster shell was collected from Period 3 Ditch 2014 in Area 3. The quantities are too small to represent anything other than casual disposal of rubbish.

Palaeoenvironmental assessment

- 3.7.12 Four sub-samples (60.1-60.4) were taken from bulk samples from deposit 1023 within Period 1 palaeochannel **1022**, none of which contained pollen.

Environmental samples

- 3.7.13 A total of nine bulk samples were taken from the Period 1 palaeochannel, Period 2 postholes and pits and a Period 4 quarry pit. The small quantity of carbonised cereal grains and weed seeds recovered from both Period 2 features in Area 1 probably represents a background scatter of refuse in the surrounding area. The waterlogged assemblage from Period 4 quarry pit **2000** is largely suggestive of a mixed habitat of

arable land and waste-ground with plants such as fat-hen and black nightshade typically growing in these habitats.

4 DISCUSSION

4.1 Introduction

- 4.1.1 The following section discusses the results of the excavation and previous evaluation with reference to the project's research aims, as set out in Section 2.2. This will focus on the Late Bronze Age/Early Iron Age settlement remains and how they relate to the wider context of later prehistoric land-use on the Dengie peninsula.
- 4.1.2 Twelve fragments of possible Early to Middle Anglo-Saxon pottery were recovered from the excavation as residual items in Period 3 pit **1019**. The moderately abraded condition of these fragments and their discovery alongside a sherd of Late Bronze Age/Early Iron Age pottery indicates they were not located near to their primary site of deposition. The original settlement described in Domesday probably lay adjacent to St Mary's Church and moated manor house site approximately 600m to the south of the site. These sherds were therefore probably reworked into the pit fill as part of imported waste or manuring activity in the surrounding field and are not considered further.

4.2 Late Bronze Age/Early Iron Age land-use

Settlement evidence and the wider context

- 4.2.1 The groups of postholes and pits which produced small quantities of Post-Deverel-Rimbury tradition pottery probably represent the remains of a dispersed, unenclosed Late Bronze Age/Early Iron Age settlement on this site. The postholes may represent traces of four-post structures, fences and/or possibly roundhouse dwellings, although no definitive wall-lines could be discerned, especially as the main group of features clearly continued beyond the limit of Area 1. The recovery of a few fragments of wall daub tentatively suggests the presence of a nearby dwelling associated with the pits encountered in Area 2 in the eastern part of the site. The broad grouping of the features around the possible heavily truncated hearth (**9**) in Area 1 further suggests the presence of a roundhouse structure in this area. The burnt flint assemblage found discarded in higher quantities in Period 2 pits **9**, **11** and **1009** is indicative of the deliberate heating of stone for domestic tasks within the settlement such as the heating of water and cooking. The single worked flint of post-Early Bronze Age date from Period 2 pit **1009** is also probably associated with the inhabitants' use of flake-based tools. There was no association established between pits and their original function, other than having become receptacles for domestic waste. Due to the acidic nature of the soils on this site, it appears that any faunal remains that may have been incorporated in the feature backfills has not survived, limiting any interpretation of the inhabitants' diet or farming strategies, a situation further hampered by the recovery of only a few grains of charred wheat grains (*Triticum sp.*) from environmental samples.
- 4.2.2 The overall character of this occupation is suggestive of a relatively short-term, possibly episodic, occupation by people farming the local landscape, a picture which compares well with other settlement remains of the period previously excavated in Burnham-on-Crouch. Separated from the current site by Pannel's Brook to the south

lie further excavated Late Bronze Age/Early Iron Age settlements at Southminster Road (Fig. 8, no. 5; Germany 2018) and off Maldon Road (Fig. 8, no. 2; Collie 2018). These excavations also encountered poorly-defined dwellings and dispersed pits containing pottery and burnt flint. The Maldon Road remains were also possibly associated with a watering hole for livestock with an emphasis on pastoral farming postulated for that site (Collie 2018, 164).

- 4.2.3 Earlier excavation work at Maldon Road by Burnham Archaeological Society in the 1970s, although unpublished, also encountered (possibly Early?) Iron Age settlement remains (Fig. 8, no. 3). An important further Iron Age settlement was also revealed north of Burnham Wick (c.2km southeast of the site) by evaluation trenches excavated by Maldon Historical and Archaeological Group in 2006 (Fig. 8, no. 6). Later monitoring work at this site encountered a pit and ditch containing possible Late Bronze Age pottery (Letch 2013, 4). Each of these sites lie upon River Terrace Gravel deposits: lighter and more free draining soils which may have been targeted for early settlement (Fig. 9, nos 1-3). Findspots of Late Bronze Age and pre-Belgic Iron Age pottery have been made across the intervening ground between these sites which support this assertion (Fig. 8, nos 7-11). Concurrently, there is a general absence of Late Bronze Age/Early Iron Age sites upon the London Clay or Claygate surface geologies extending to the north and west of the River Terrace Gravels. The distribution of known settlement remains and findspots of this period also appears to be confined to a height above the 5m OD contour which may possibly be approximated to the upper limit of the coastal saltmarsh zone liable to flood. Below this height lie eight undated red hills/salterns associated with salt-making upon the saltmarsh (Fig. 8, nos 13-20).

Salt-making activity and the wider context

- 4.2.4 Perhaps the most significant find on the site was the discovery of eight fragmentary fired clay pedestals (SFs 1-8; App. Plate B.8.1). This type of briquetage is usually associated with the support of briquetage evaporation vessels or pans used at later prehistoric and Roman salt-making sites (App. B.8.3). These incomplete and broken items were recovered along with pottery sherds and burnt flint from the backfill of Period 2 pit **11**, suggesting discarded salt-making debris had been incorporated into a midden of domestic waste prior to its disposal. Large quantities of fragmentary incomplete briquetage artefacts linked with salt-making were also recovered from a selection of the pits excavated within the Late Bronze Age settlement at Maldon Road, south of the site (Fig. 8, no. 2; Collie 2018). The largest assemblage comprised the possibly compacted backfill of a clay-lined tank (*ibid.*, fig. 2). A further group of briquetage evaporation vessels was previously excavated from the garden of Maple Lodge, south of the site and east of Maldon Road (Fig. 8, no. 8; Sealey 1995). Although the bulk of the pottery was 'Belgic' there were also 16 vessels of 'pre-Belgic' pottery associated with these items. Sealey considers the briquetage to merely represent discarded debris of items transported back inland at the end of a salt-making season (Sealey 1995, 69).
- 4.2.5 It is also conceivable that a proportion of briquetage objects produced by a settlement became deformed or broke during their firing and subsequently became incorporated (in the same way as pottery wasters) into a settlement's refuse midden or pit. It is possible these items themselves may have been associated with briquetage

manufacture (App. B.8.8). When taken together, these three sites represent a significant cluster of *inland* briquetage linking the Late Bronze Age/Early Iron Age coastal settlements of this locality with salt-making activity on the adjacent saltmarsh. The lack of foraminifera from the sampled feature fills confirms the current site was not subject to marine incursion and lay above the saltmarsh zone (App. C.4.12). All of the sites described above lay above the 15m OD contour, precluding *in situ* salt-making alongside these settlements. A salt-making site would be expected to produce a full range of pans, pedestals, spacers and hearth-lining (Collie 2018, 167 citing Lane and Morris 2001, 8; see also App. B.8.8), which these inland sites do not have. It remains a topic of speculation whether the undated group of known red hills/salterns to the south and east of Burnham-on-Crouch represent later prehistoric salt-making sites associated with inland settlement or belong to the Romano-British period (Fig. 8, nos 13-20).

- 4.2.6 Most of the undated red hills on the River Crouch between Burnham-on-Crouch and South Woodham Ferrers lie on its southern bank with such mounds uncommon on the northern bank (Sealey 1995, 68). However, c.8.5km west of the site mounds of briquetage were surveyed on the northern bank upon a buried land surface close to where a sherd of flint gritted pottery was found in the buried soil (Fig. 9, no. 4). This aside, the earliest definitive evidence for Middle-Late Bronze Age salt-making on the river was excavated at South Woodham Ferrers and this produced a range of briquetage forms such as pans (vessels), pedestal supports, firebars and hearth structures (Fig. 9, no. 5; Wilkinson and Murphy 1995, 157-165; App. B.8.7). On the opposite bank of the river at Malyons Farm, Hullbridge, recent excavation work has recovered further possible fragments of briquetage associated with Late Bronze Age/Early Iron Age settlement activity (Fig. 9, no. 6; Cox 2020).

4.3 Post-medieval

- 4.3.1 The excavation of Area 2 revealed a dominant south-west to north-east aligned boundary with associated perpendicular sub-divisions that extended to the north-west and south-east. Boundary ditches on this orientation were also uncovered by evaluation Trenches 1, 11 and 13. None of these ditch fills produced any datable artefacts. The small quantities of burnt flint recovered from their fills excavated in Area 2 were probably incidentally incorporated as residual material generated by the Period 2 settlement remains in this area of the site (App. B.2.3). The lack of artefacts suggests these boundaries perhaps represent the former layout and orientation of agricultural fields in this part of Burnham-on-Crouch's hinterland prior to enclosure in the 18th or 19th century. Due to the similar morphology of these ditches with those of Ditch 2014 dated to the 15th to 16th century (described below) these ditches have also been tentatively attributed to the post-medieval period.
- 4.3.2 Period 3 Ditch 2014 produced most of the site's post-medieval pottery (15th to early 16th century jug and cup forms; possibly as early as early to mid-15th century; see App. B.5) and CBM. The identification of possible Tudor pottery and CBM during the evaluation (Hogg 2019; Fig. 3) and as residual elements found during the excavation suggest that there was a farmstead or other building (possibly an inn?) located in the vicinity of the northern part of the site during this period. The incorporation of this

coherent group of jugs and cup forms into the fill of Ditch 2014 probably reflects disposal of waste from nearby occupation, possibly an early post-medieval/Tudor precursor to Enclosure 2012 (see below).

4.4 Modern

- 4.4.1 The site was reorganised in the early modern period into a series of enclosures defined by field boundaries on north-south and east-west alignments. Elements of these former land-divisions were revealed more widely by the evaluation trenches.
- 4.4.2 Enclosure 2012 may have defined the rear part of an occupied plot of land associated with this reorganisation such as a small homestead, or perhaps a farm compound that fronted onto a trackway along the present unnamed minor road passing along the site's northern boundary (Fig. 4). The scatter of internal features is perhaps consistent with the remains of an agricultural structure and waste pits associated with low-level backyard activity. Presumably, the location of any more substantial buildings lay at the northern end of plot, beyond the excavation limit. The fills of the enclosure ditch and pit **2010** produced small assemblages of 17th to 19th century pottery, CBM, clay tobacco pipe stem and animal bone and are indicative of the disposal of domestic rubbish in a back-plot setting.
- 4.4.3 A larger pit (**2000**) truncated both Period 3 Ditch 2014 and Period 4 Enclosure 2012 which was similar in morphology to the Period 3 quarry pit partially revealed in Area 2. Both these features probably represent quarries (the deeper example possibly latterly utilised as a pond) into the underlying River Terrace Deposits, for the extraction of sand and gravel. Pit **2000** in Area 3 was evidently excavated following the infilling of the enclosure ditch and (presumably) the abandonment of any occupation within Enclosure 2012. Its backfill contained small quantities of 17th to 19th century pottery, clay tobacco pipe, CBM and animal bone presumably deriving from reworked material from nearby occupation areas. The range of plant remains identified from samples of its waterlogged lower fills indicate the surrounding area was composed of a mixed habitat of arable land and waste-ground (App. C.4.12).

4.5 Significance

- 4.5.1 The remains uncovered by the OA East excavations at Southminster Road are of local and possibly regional significance. This excavation has revealed a further example of Late Bronze Age/Early Iron Age settlement upon the River Terrace Deposits at Burnham-on-Crouch with probable associations to salt-making on the nearby saltmarsh north of the River Crouch. In this regard, it is of particular note that the distribution of the known group of undated red hills that lie between the river and the 5m OD contour to the south and east of the town may approximate the later prehistoric upper saltmarsh limit, with perhaps some of these salt-making sites conceivably being of Late Bronze Age/Early Iron Age origin. The excavation has also encountered slight evidence for the evolution of agricultural enclosures in the immediate hinterland of Burnham-on-Crouch across the post-medieval and early modern periods.

5 PUBLICATION AND ARCHIVING

5.1 Publication

- 5.1.1 Following approval of this report by the County Archaeologist, it will be lodged with the EHER and made available digitally via the OA Library (<https://library.thehumanjourney.net/>) and via the ADS.
- 5.1.2 Requirement for any further form of publication will be agreed with the County Archaeologist on acceptance of this report. It is anticipated that the Late Bronze Age/Early Iron Age remains will be published as a short note in the *Transactions of the Essex Society for Archaeology and History*. If appropriate, a radiocarbon date will be sought from charred material associated with the pit group that produced the briquetage pedestals (SFs 1-8). Chemical analysis of the surface layers of the pedestals could also be carried out to help confirm their use as salt-making pan supports. More complete examples of the pedestals will also be drawn for publication.

5.2 Archiving, Retention and Dispersal

- 5.2.1 The site archive (under Site Code BCSR19) will be deposited with Colchester and Ipswich Museum Service and comprises a maximum of two bulk finds and one document boxes.
- 5.2.2 The following finds assemblages have been selected for discard due to their small, fragmentary nature and low potential to yield further information: glass, clay tobacco pipe and CBM.

APPENDIX A CONTEXT INVENTORY

Area 1

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
1	2	Post Hole	Posthole Group 1	2			0.25	light brownish grey	sandy silt	abundant flint, occ. charcoal and burnt clay	firm					
2	2	Post Hole	Posthole Group 1	2	0.8	0.65						sub-circ.	moderate	moderate	concave	u-shape
3	4	Post Hole	Posthole Group 1	2			0.15	light brownish grey	sandy silt	flint and occ. charcoal	moderate					
4	4	Post Hole	Posthole Group 1	2	0.5	0.35						sub-circ.	moderate	moderate	concave	u-shape
5	6	Post Hole	Posthole Group 1	2			0.15	very light grey	silt	freq. small flint, abundant medium flint and occ. charcoal	soft					
6	6	Post Hole	Posthole Group 1	2	0.95	0.6						sub-circ.	moderate	moderate	flat	u-shape
7	8	Post Hole	Posthole Group 1	2			0.2	light greyish brown	sandy silt	abundant medium flint, moderate small flint and occ. charcoal	firm					
8	8	Post Hole	Posthole Group 1	2	0.7	0.6	0.2					circular	moderate	moderate	concave	u-shape

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
9	9	Hearth?	Pit Group 1	2	1.05	0.95						sub-circ.	moderate	moderate	concave	u-shape
10	9	Hearth?	Pit Group 1	2			0.18	light brownish grey	silt	Occ. flint, moderate charcoal and burnt clay	friable					
11	11	Pit	Pit Group 1	2	-	0.85						circular	moderate	moderate	concave	u-shape
12	11	Pit	Pit Group 1	2			0.25	light brownish grey	sandy silt	moderate flint and occ. charcoal	soft					
13	13	Post Hole	Posthole Group 1	2	-	0.6						circular	gentle	imperceptible	concave	u-shape
14	13	Post Hole	Posthole Group 1	2			0.1	light greyish brown	sandy silt	Occ. flint, fired clay and charcoal	soft					
15	15	Pit	Pit Group 1	2	1.2	1						sub-circ.	gentle	imperceptible	flat	u-shape
16	15	Pit	Pit Group 1	2			0.15	light brownish grey	sandy silt	moderate flint, occ. charcoal and fired clay	soft					
17	17	Pit	Pit Group 1	2	10	0.9						sub-circ.	moderate	moderate	flat	u-shape
18	17	Pit	Pit Group 1	2			0.17	very light grey	fine ash and sand	occ. flint and charcoal	friable					
20	20	Post Hole	Posthole Group 1	2	-	0.3						sub-circ.	steep	gradual	concave	u-shape
21	20	Post Hole	Posthole Group 1	2			0.11	light grey	sandy silt	occ. sub-rounded stones	indurated					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
22	22	Post Hole	Posthole Group 1	2	-	0.35						circular	gentle	gradual	concave	u-shape
23	22	Post Hole	Posthole Group 1	2			0.14	light grey	sandy silt	occ. sub-rounded stones	indurated					
24	24	Post Hole	Posthole Group 1	2	-	0.7						circular	steep	gradual	concave	u-shape
25	24	Post Hole	Posthole Group 1	2			0.27	light grey	sandy silt	occ. sub-rounded stones	indurated					
26	26	Post Hole	Posthole Group 1	2	-	0.45						circular	gentle	gradual	concave	u-shape
27	26	Post Hole	Posthole Group 1	2			0.12	light grey	sandy silt	occ. sub-rounded stones	indurated					
28	28	Post Hole	Posthole Group 1	2	-	0.45						circular	gentle	gradual	concave	u-shape
29	28	Post Hole	Posthole Group 1	2			0.11	light grey	sandy silt	occ. sub-rounded stones	indurated					
30	30	Post Hole	Posthole Group 1	2	-	0.25						circular	steep	gradual	concave	u-shape
31	30	Post Hole	Posthole Group 1	2			0.06	light grey	sandy silt	occ. sub-rounded stones	indurated					
32	32	Post Hole	Posthole Group 1	2	-	0.35						circular	steep	gradual	concave	u-shape
33	32	Post Hole	Posthole Group 1	2			0.15	light grey	sandy silt	occ. sub-rounded stones	indurated					
34	34	Post Hole	Posthole Group 1	2	-	0.4						circular	gentle	gradual	concave	u-shape
35	34	Post Hole	Posthole Group 1	2			0.14	light grey	sandy silt	occ. sub-rounded stones	indurated					
36	36	Post Hole	Posthole Group 1	2	-	0.75						circular	gentle	gradual	concave	u-shape

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
37	36	Post Hole	Posthole Group 1	2			0.2	light grey	sandy silt	occ. sub-rounded stones	indurated					
38	38	Post Hole	Posthole Group 1	2	0.63	0.7						sub-circ.	steep	gradual	concave	u-shape
39	38	Post Hole	Posthole Group 1	2			0.13	light grey	sandy silt	occ. sub-rounded stones	indurated					
40	40	Post Hole	Posthole Group 1	2	-	0.6						circular	gentle	gradual	concave	u-shape
41	40	Post Hole	Posthole Group 1	2			0.16	light grey	sandy silt	occ. sub-rounded stones	indurated					
42	42	Post Hole	Posthole Group 1	2	0.58	0.65	0.18					sub-circ.	steep	gradual	concave	u-shape
43	42	Post Hole	Posthole Group 1	2			0.18	light grey	sandy silt	occ. sub-rounded stones	indurated					
44	44	Pit	Pit Group 1	2	-	0.45	0.19					circular	gentle	gradual	concave	u-shape
45	44	Pit	Pit Group 1	2			0.19	pale whitish grey	silt	rare small rounded and sub-rounded stones, freq. small fired clay	indurated					
46	46	Post Hole	Posthole Group 1	2	-	0.5						sub-circ.	steep	gradual	concave	u-shape
47	46	Post Hole	Posthole Group 1	2			0.06	light grey	sandy silt	occ. sub-rounded stones	indurated					
48	48	Post Hole	Posthole Group 1	2	-	0.4						sub-circ.	steep	gradual	concave	u-shape
49	48	Post Hole	Posthole Group 1	2			0.1	light grey	sandy silt	occ. sub-rounded stones	indurated					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
50	50	Pit	Pit Group 1	2	-	1.2						sub-circ.	steep	sharp	flat	u-shape
51	50	Pit	Pit Group 1	2			0.3	pale whitish grey	silt	rare small rounded and sub-rounded stones, freq. small fired clay pieces	indurated					

Table 3: Area 1 context inventory

Area 2

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
1000	1000	Ditch	Ditch 1000	3	5m+	1	0.5					linear	moderate	moderate	concave	u-shape
1001	1000	Ditch	Ditch 1000	3			0.45	light brownish grey	sand	occ. chalk and flint	friable					
1002	1000	Ditch	Ditch 1000	3			0.2	light grey	sand	abundant flint and occ. charcoal	friable					
1003	1003	Ditch	Ditch 1000	3	5m+	0.9						linear	moderate	moderate	concave	u-shape
1004	1003	Ditch	Ditch 1000	3			0.2	light grey	sand	flint	loose					
1005	1003	Ditch	Ditch 1000	3			0.25	light grey	sandy silt	occ. charcoal and flint	friable					
1006	1003	Ditch	Ditch 1000	3			0.1	light yellowy brown	sand	occ. flint	friable					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
1007	1007	Ditch	-	3	-	0.9						curvilinear	gentle	gradual	concave	u-shape
1008	1007	Ditch	-	3			0.2	mid greyish brown	sandy silt	occ. charcoal and freq. flint	loose					
1009	1009	Pit	Pit Group 2	2	-	1.05						circular	moderate	moderate	flat	u-shape
1010	1009	Pit	Pit Group 2	2			0.32	mid greyish brown	sandy silt	occ. charcoal and abundant flint	moderate					
1011	1011	Pit	Pit Group 2	2	-	1						circular	moderate	moderate	flat	u-shape
1012	1011	Pit	Pit Group 2	2	0		0.31	light greyish yellow	sandy silt	occ. charcoal, freq. flint, rare sandstone	loose					
1013	1013	Ditch	-	3	5m+	0.7						linear	moderate	moderate	concave	u-shape
1014	1013	Ditch	-	3			0.25	light grey	sandy silt	moderate flint	loose					
1015	1015	Ditch	Ditch 1000	3	5m+	1						linear	moderate	moderate	flat	u-shape
1016	1015	Ditch	Ditch 1000	3			0.3	light grey	sandy silt	moderate flint	loose					
1017	1017	Ditch	Ditch 1000	3	5m+	0.9						linear	moderate	moderate	flat	u-shape
1018	1017	Ditch	Ditch 1000	3			0.3	light yellowy brown	sandy silt	moderate flint and occ. charcoal	soft					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
1019	1019	Quarry pit	-	3	7	4.1						sub-circ.	moderate	moderate	flat	u-shape
1020	1019	Quarry pit	-	3			0.44	light grey	sandy silt	moderate flint and occ. charcoal	soft					
1021	1019	Quarry pit	-	3			0.4	mid grey	sand	Flint, gravel	loose					
1022	1022	Palaeo-channel	-	1	20m+	5						linear	gentle	gradual	concave	u-shape
1023	1022	Palaeo-channel	-	1			0.4	white	clayey silt	occ. sub-rounded and sub-angular stones	indurated					
1024	1024	Ditch	Ditch 1000	3	5m+	1.1						linear	moderate	moderate	flat	u-shape
1025	1024	Ditch	Ditch 1000	3			0.1	light brown	sandy silt	moderate flint	soft					
1026	1026	Ditch	Ditch 1000	3	20m+	0.68						linear	moderate	moderate	flat	u-shape
1027	1026	Ditch	Ditch 1000	3			0.13	light grey	sandy silt	moderate flint	loose					

Table 4: Area 2 context inventory

Area 3

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
2000	2000	Quarry pit	-	4	9	5						irregular	near vertical	sharp	unknown	unknown
2001	2000	Quarry pit	-	4			2	dark grey	silty clay	occ. small sub-angular stones and	soft					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
										charcoal flecks						
2002	2000	Quarry pit	-	4			2	mid yellowy grey	clayey silt	occ. sub-angular stones	firm					
2003	2000	Quarry pit	-	4			2	dark reddish brown	sandy silt	freq. sub-angular and sub-rounded stones	firm					
2004	2000	Quarry pit	-	4			2	mid grey	silty clay	rare sub-rounded stones	soft					
2005	2000	Quarry pit	-	4			2	dark grey	silty clay	occ. rounded stones	soft					
2006	2006	Pit	-	3	0.65	0.7						sub-circ.	gentle	gradual	concave	u-shape
2007	2006	Pit	-	3			0.14	mid grey	sandy silt	occ. sub-angular stones and very rare small charcoal flecks	indurated					
2008	2008	Post Hole	-	4	0.43	0.5						sub-circ.	gentle	gradual	concave	u-shape
2009	2008	Post Hole	-	4			0.15	light grey	sandy silt	rare small stones	indurated					
2010	2010	Pit	-	4	0.2	0.25						sub-circ.	steep	sharp	flat	u-shape
2011	2010	Pit	-	4			0.12	mid grey	silt		indurated					
2012	2012	Ditch	Enclosure 2012	4	4m+	0.8						linear	gentle	sharp	concave	u-shape
2013	2012	Ditch	Enclosure 2012	4			0.14	light grey	sandy silt	occ. sub-rounded	indurated					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
										stones and rare small charcoal						
2014	2014	Ditch	Ditch 2014	3	4m+	0.5						linear	steep	sharp	concave	v-shape
2015	2014	Ditch	Ditch 2014	3			0.15	light grey	sandy silt	occ. sub-rounded stones and rare small charcoal	indurated					
2016	2016	Ditch	Ditch 2014	3	4m+	0.5						linear	gentle	gradual	concave	u-shape
2017	2016	Ditch	Ditch 2014	3			0.05	light grey	sandy silt	occ. sub-rounded stones and rare tiny charcoal	indurated					
2018	2018	Ditch	Enclosure 2012	4	4m+	0.9						linear	gentle	sharp	flat	u-shape
2019	2018	Ditch	Enclosure 2012	4			0.12	light grey	sandy silt	occ. sub-rounded stones and rare small charcoal	indurated					
2020	2020	Ditch	Ditch 2014	3	4m+	0.6						linear	v. gentle	imperceptible	flat	u-shape
2021	2020	Ditch	Ditch 2014	3			0.04	light grey	sandy silt	occ. sub-rounded stones and rare small charcoal	indurated					
2022	2022	Ditch	Enclosure 2012	4	4m+	0.7						linear	steep	sharp	concave	u-shape
2023	2022	Ditch	Enclosure 2012	4			0.15	light grey	sandy silt	occ. sub-rounded stones and	indurated					

Cxt.	Cut	Feature Type	Group	Period	Length (m)	Breadth (m)	Depth (m)	Colour	Fine comp.	Coarse comp.	Compaction	Shape in Plan	Side	Break of Slope	Base	Profile
										rare small charcoal						
2024	2024	Ditch	Ditch 2014	3	4m+	0.8						linear	gentle	sharp	concave	u-shape
2025	2024	Ditch	Ditch 2014	3			0.18	light grey	sandy silt	occ. sub-rounded stones and rare small charcoal	indurated					
2026	2026	Ditch	Enclosure 2012	4	4m+	0.8						linear	gentle	sharp	concave	u-shape
2027	2026	Ditch	Enclosure 2012	4			0.18	light grey	sandy silt	occ. sub-rounded stones and rare small charcoal	indurated					
2028	2028	Pit	-	4	0.68	0.85						amorphous	gentle	gradual	concave	u-shape
2029	2028	Pit	-	4			0.14	light grey	silt	Occ. sub-angular stones	indurated					

Table 5: Area 3 context inventory

APPENDIX B FINDS REPORTS

B.1 Glass

By Carole Fletcher

Introduction and Methodology

- B.1.1 A single shard of vessel glass was recovered from the excavation in Area 3. The glass was scanned and recorded by form, colour, count and weight, dated where possible, and recorded in the text.

Assemblage

- B.1.2 A single curved, sub-rectangular fragment of clear, pale olive green glass (0.005kg, 2.7-3.3mm thick) was recovered from Period 4 Enclosure 2012 (fill 2027 of cut **2026**). The glass has matt surfaces that are slightly iridescent and has some very small bubbles visible in the glass. The curvature of the fragment, its colour and quality suggest it is vessel glass, probably from a utility bottle.

Discussion

- B.1.3 A shard of glass from a utility bottle is not an uncommon find and this shard may have been part of wine or beer bottle. It is not closely datable, although it is very probably 18th century or later. The find is not significant and represents casual discard or loss rather than deliberate deposition.

Retention, dispersal and display

- B.1.4 The plain and fragmentary nature of the glass means it is of little significance. The statement above acts as a full record and the glass may be deselected prior to archival deposition.

B.2 Flint

By Lawrence Billington

Introduction

- B.2.1 A relatively large quantity of unworked burnt flint, weighing almost 4kg (273 fragments) and a single worked flint were recovered from the excavations. All of the flint was derived from features in Areas 1 and 2 from the fills of cut features including postholes, pits and ditches. In addition, a further four worked flints (chronologically undiagnostic) and 154g of unworked burnt flint were recovered during the evaluation trenching that preceded the excavations, all deriving from trenches in Areas 1 and 2; these are fully reported in the evaluation report (K. Le Hégarat in Hogg 2019, 20).

The worked flint

- B.2.2 The only piece of worked flint in the assemblage from the excavation phase is a single secondary flake from Period 2 Pit Group 2 (fill 1010 of pit **1009**), recovered alongside a large quantity of unworked burnt flint (see below). Struck from a cortical platform and with dorsal scars suggesting its removal from an irregular multiplatform core, this piece is not strongly diagnostic but is consistent with a later prehistoric (post-Early Bronze Age) date.

The burnt flint

- B.2.3 The burnt flint was recovered in varying densities from the fills of some 20 features across Area 1 and 2 (Table 6), with individual features producing between two and 52 fragments (34g to 644.4g). Where features produced low numbers of burnt flints, it seems likely that this material was incidentally incorporated into the fills as a result of a natural infill – and thus in some cases is likely to be residual. In other cases however – most notably in the cases of Period 2 Pit Group 1 pits **9** and **11** in Area 1 and Pit Group 2 pit **1009** in Area 2 – large quantities of burnt flint were recovered which seem likely to represent deliberate deposits contemporary with the features from which they derive. Several of the larger assemblages are associated with Late Bronze Age/Early Iron Age pottery and it seems probable that virtually all of the burnt flint from the site was originally associated with occupation during this period.
- B.2.4 The burnt flint from individual contexts was fairly similar in terms of raw material, the degree of heating and levels of fragmentation. Although most pieces are heavily fragmented, the few larger pieces and the character of surviving cortical surfaces suggest that the flint derives from small to medium sized rounded to sub-rounded flint cobbles characteristic of secondary, gravel sources. Overall the mean clast size for individual fragments (hand recovered) is 14g, with some variation between contexts perhaps reflecting variations in recovery as much as significant differences in their original composition.

Discussion

- B.2.5 The flint assemblage appears to relate exclusively to the Late Bronze Age/Early Iron Age occupation of the site, and the lack of earlier flintwork suggest the area may have seen limited activity during the Neolithic and Early Bronze Age. The character of the flint assemblages with relatively large quantities of burnt flint and occasional crudely worked flints are entirely typical of later prehistoric assemblages from the region, including locally at Maldon Road (Collie 2018), where comparable material was recovered from Late Bronze Age settlement related features. The heavily fragmented burnt flint is of the kind usually interpreted as the remains of flint cobbles which have been deliberately heated and used to heat water. The purposes of the deliberate heating of stone and flint were probably varied, and have been subject to much debate – especially in the context of the large accumulations of burnt lithics known as burnt mounds. Suffice it to say here that there are many potential uses for deliberately heated flint and stone, including in cooking, brewing, pottery manufacture, textile/hide processing and bathing (see, *e.g.* Hodder and Barfield 1991).

Area	Context	Cut	Type	Group	Period	Burnt flint count	Burnt flint weight (g)
1	1	2	Posthole	Posthole Group 1	2	2	34
1	3	4	Posthole	Posthole Group 1	2	5	57.7
1	5	6	Posthole	Posthole Group 1	2	23	217.6
1	7	8	Posthole	Posthole Group 1	2	4	35.6
1	10	9	Pit	Pit Group 1	2	52	406.5
1	12	11	Pit	Pit Group 1	2	28	459.7
1	14	13	Posthole	Posthole Group 1	2	3	8.9
1	16	15	Pit	Pit Group 1	2	9	149.8
1	18	17	Pit	Pit Group 1	2	17	105.1
2	1001	1000	Ditch	Ditch 1000	3	14	389
2	1005	1003	Ditch	Ditch 1000	3	2	26.1
2	1008	1007	Ditch	-	3	21	241
2	1010	1009	Pit	Pit Group 2	2	40	644.4
2	1012	1011	Pit	Pit Group 2	2	14	334.7
2	1014	1013	Ditch	-	3	4	77
2	1016	1015	Ditch	Ditch 1000	3	13	219.3
2	1018	1017	Ditch	Ditch 1000	3	4	48.5
2	1020	1019	Quarry pit	-	3	8	127.8
2	1021	1019	Quarry pit	-	3	10	313.4
Totals						273	3896.1

Table 6: Quantification of flint

B.3 Prehistoric pottery

By Nicholas Gilmour

Introduction

- B.3.1 The excavation yielded 95 sherds (1439g) of prehistoric pottery, with a high mean sherd weight (MSW) of 15.1g. The pottery was recovered from eleven different contexts; largely the fills of pits and postholes (Table 7).
- B.3.2 The pottery generally belongs to the Post-Deverel-Rimbury ceramic tradition and dates to the Late Bronze Age or Early Iron Age. However, the assemblage does not include any feature sherds and so cannot be dated more precisely.
- B.3.3 The pottery is in moderate to poor condition. Although the means sherd weight is high, most sherds are small and abraded, with a small number of larger sherds bringing up the MSW.

Area	Cxt.	Cut	Feature Type	Group	Period	Spot Date	No. of sherds	Wgt. (g)
1	1	2	Posthole	Posthole Group 1	2	LBA/EIA	2	110
1	3	4	Posthole	Posthole Group 1	2	LBA/EIA	1	5
1	5	6	Posthole	Posthole Group 1	2	Ncd	1	2
1	7	8	Posthole	Posthole Group 1	2	LBA/EIA	1	2
1	12	11	Pit	Pit Group 1	2	LBA/EIA	17	256
1	12	11	Pit	Pit Group 1	2	Ncd	6	49
1	16	15	Pit	Pit Group 1	2	LBA/EIA	9	136
1	16	15	Pit	Pit Group 1	2	Ncd	1	6
1	45	44	Pit	Posthole Group 1	2	LBA/EIA	9	66
1	51	50	Pit	Pit Group 1	2	LBA/EIA	8	66
2	1010	1009	Pit	Pit Group 2	2	LBA/EIA	37	726
2	1010	1009	Pit	Pit Group 2	2	Ncd	1	5
2	1012	1011	Pit	Pit Group 2	2	LBA/EIA	1	2
2	1021	1019	Quarry pit	-	3	LBA/EIA	1	8
Total							95	1439

Table 7: Quantification of prehistoric pottery

Methodology

B.3.4 All the pottery has been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (PCRG 2011). After a full inspection of the assemblage, fabric groups were devised on the basis of dominant inclusion types, their density and modal size. Sherds from all contexts were counted, weighed (to the nearest whole gram) and assigned to a fabric group. Sherd type was recorded, along with evidence for surface treatment, decoration, and the presence of soot and/or residue. Rim and base forms were described using a codified system recorded in the catalogue and were assigned vessel numbers. Where possible, rim and base diameters were measured, and surviving percentages noted. In cases where a sherd or groups of refitting sherds retained portions of the rim, shoulder and/or other diagnostic features, the vessel was categorised by ceramic tradition (Collared Urn, Deverel-Rimbury etc.)

B.3.5 All pottery was subject to sherd size analysis. Sherds less than 4cm in diameter were classified as 'small' (54 sherds); sherds measuring 4-8cm were classified as 'medium' (36 sherds), and sherds over 8cm in diameter will be classified as 'large' (five sherds). The quantified data is presented on an Excel data sheet held with the site archive.

Prehistoric pottery fabrics

B.3.6 Only three different fabrics were identified, with the vast majority of the pottery being in a flint fabric (Table 8).

F1: moderate medium flint (>3mm) in a sandy clay matrix.

SA1: Moderate quartz sand.

V1: occasional organic (straw or grass).

Fabric type	Date	No of sherds	Weight (g)	% fabric (by wt.)	MNV
F1	LBA/EIA	86	1377	95.7	8
SA1	Ncd	7	55	3.8	-
V1	Ncd	2	7	0.5	-
Total		95	1439	100	

Table 8: Quantification of prehistoric pottery by fabric. MNV (minimum number of vessels) calculated as the total number of different rims and bases (three rims, five bases)

The Post-Deverel-Rimbury pottery

- B.3.7 The majority of the pottery assemblage (86 sherds, 1377g) is from the Post-Deverel-Rimbury ceramic tradition and it is therefore of Late Bronze Age to Early Iron Age date. The lack of sufficient diagnostic feature sherds prevents attribution of this material to a more specific date.
- B.3.8 Feature sherds that are present comprise two rim sherds (96g) from context 1010 (Period 2 pit **2009**). These are from different vessels, but both are the same upright, flat, form. A further rim sherd (103g) was recovered from context 1 (fill of posthole **2**). This rim is an everted, flat form. These forms are typical of the Post-Deverel-Rimbury ceramic tradition.
- B.3.9 Although no decorated sherds are present, the exterior of a single sherd (20g) is slightly roughened, with visible vertical finger drags. This sherd was recovered from context 12 (pit **11**). This surface treatment is also typical of the Post-Deverel-Rimbury ceramic tradition. It is slightly more common on later (ie Early Iron Age) assemblages.

Other prehistoric pottery

- B.3.10 A total of nine sherds (62g) of pottery could not be attributed to a particular date. All these sherds are small and abraded and non-feature sherds. Seven sherds (55g) are in fabric SA1 and two sheds (7g) are in fabric V1.

Discussion

- B.3.11 The small assemblage of prehistoric pottery from this site does not contain any feature sherds to allow detailed comparison to other local sites. However, the pottery does provide evidence for prehistoric activity on the site or in the near vicinity.

B.4 Anglo-Saxon pottery

By Denis Sami

Introduction

- B.4.1 Excavation produced a total of 12 fragments (114g) of possible Early to Middle Anglo-Saxon pottery from the fill (1020) of Period 3 quarry pit **1019**. The small assemblage is composed of moderately abraded and undiagnostic sherds from a single undecorated

vessel. Despite this small assemblage being of likely Anglo-Saxon date, an Iron Age date cannot be excluded (Table 9).

Fabric	Quantity	Weight (g)
E/MSX(V)	12	114
Total	12	114

Table 9: Quantification of Anglo-Saxon pottery

Methodology

- B.4.2 Finds were assessed according to the Oxford Archaeology East finds standard, following the 2016 document *A Standard for Pottery Studies in Archaeology* (SPSA) and the Medieval Pottery Research Group (MPRG) document *A guide to the classification of medieval ceramic forms* (MPRG, 1998).
- B.4.3 Hand-made fabrics of the Early Anglo-Saxon period are not directly described in Paul Spoerry (2016) volume *The Production and Distribution of Medieval Pottery in Cambridgeshire*, however, a scheme for defining and describing such material is presented for Middle Anglo-Saxon hand-made pottery. This scheme has been applied here in the fabric description to conform to previous published schemes. Previous work on hand-made Anglo-Saxon pottery in the Eastern region includes Alan Vince petrological analysis of Anglo-Saxon ceramics from Kilverstone (AVAC 2003) and Bloodmoor Hill, Carlton Colville (AVAC 2003).
- B.4.4 All the Early to Middle Anglo-Saxon ceramic material both from excavation and samples was quantified using an Access database. A single Excel database was used to enter details and measurements of each single sherd, this database was interrogated to compile statistics. All sherds were counted, weighted and classified on a context-by-context basis. The catalogue is organized by context number. Fabric, feature description and weight are reported in the catalogue together with an in-house dating system based on Spoerry 2016.
- B.4.5 The pottery and archive (Excel/Access databases) are curated by OA East until formal deposition.

Discussion

- B.4.6 Sherds were recovered from Period 3 quarry pit **1019** and appear to be part of a single globular vessel produced in an organic tempered ware (E/MSAX(V)).
- B.4.7 The production and use of organic tempered ware in East Anglia and Essex were constant through the Early and the Middle Anglo-Saxon period (c.AD450-850), although at Mucking, Hamerow (1993, 31) suggested there was a sharp increase of production and use of organic tempered fabric during the 7th and 8th centuries. A similar trend was documented at Bloodmoor Hill (Tipper 2009, 206).
- B.4.8 An assemblage of this size provides only limited information about the chronology and character of the excavated deposit and the potential use of the area in Early to Middle Anglo-Saxon period.

B.5 Medieval and post-medieval pottery

By Helen Walker

Introduction

B.5.1 A total of 36 sherds weighing 743g was excavated from this site giving an average sherd size of 21g (Table 11). A group of pottery dating to the 15th to early 16th century was found and a small amount of post-medieval pottery was present in other features.

Methodology

B.5.2 The Medieval Pottery Research Group's (MPRG) Guide to the classification of medieval ceramic forms (MPRG 1998) and Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics (MPRG 2001) act as a standard. The pottery recording follows Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985a, 1-16; expanded by Cotter 2000 and Drury *et al.* 1993).

B.5.3 The assemblage is recorded in the summary catalogue. The pottery and archive are curated by OA East until formal deposition.

Sampling bias

B.5.4 The open area excavation was carried out by hand and selection made through standard sampling strategies on a feature-by-feature basis. There are not expected to be any inherent biases.

The Assemblage

B.5.5 Table 10 shows the total sherd count and weight of all fabrics, shown in approximate chronological order.

Fabric Name	Sherd count	Weight (g)	% by weight
Cheam white ware	1	18	2.5
Mill Green-type ware	29	590	79.5
Post-medieval red earthenware	6	135	18.0
Total	36	743	100%

Table 10: Fabrics present in the assemblage

B.5.6 Period 3 ditch cut **2014** in Area 3 produced the bulk of the assemblage, accounting for 83% of the total by weight. Perhaps the earliest find is a sherd of Cheam whiteware, which is almost certainly from a jug, the most common vessel type in this ware. The sherd is unglazed, apart from a single splash of greenish glaze, and its shape and orientation suggest it is from a biconical jug, current during the period c.1360 to 1440 (Pearce and Vince 1988, fig.47, fig.122.543-551). Whatever the vessel type, the sherd most likely dates to the earlier 15th century when the industry was expanding. Cheam whiteware production probably persisted into the late 15th century, but its dating is based on the London waterfront sequence which becomes obscure after the mid-15th century (Pearce and Vince 1988, 88-89). The sherd of Cheam whiteware is noticeably more abraded than the rest of the material from this ditch, which consists almost

entirely of Mill Green-type ware. This is a late medieval expression of the Mill Green ware industry, the fabric is the same as that of its medieval predecessor, but is harder, surfaces are often reduced, and decoration consists of simple rather perfunctory slip-painted patterns. Vessels are sparsely glazed if at all. Mill Green-type ware is dated to the later 14th to 16th centuries eventually evolving into post-medieval red earthenware. A jar rim and jugs or other handled-vessels are present, itemised as follows:

- An everted jar rim fragment, perhaps of Cunningham's form C4 – neckless shouldered jars – which at Moulsham Street, Chelmsford, occurred in 15th century deposits (Cunningham 1985b, 69);
- Fragment from the lower part of a ?jug, showing the remains of a strap handle and slip-painting on the body;
- Fragment from the lower part of a second jug or handled- jar, or cistern, showing a strap handle with a single stroke of slip-painting along its centre continuing below the handle per-haps to go around the girth of the vessel;
- Segment of a bifid handle again showing a slip-painted stripe and a reduced, grey 'skin'; and
- Segment of a small ?horizontal handle, sub-rounded in section and decorated with a single row of thumb marks.

B.5.7 None of the examples described above is glazed although a couple of body sherds present show internal glazes. Studies of Colchester-type ware, another East Anglian redware, have shown that vessels can be assigned an approximate date range from the decorative scheme of the slip-painting (Cotter 2000, 172-173), and this classification probably also holds true for Mill Green ware and Mill Green-type ware. Cotter considers that the stripe along the centre of the handle (as described above) is characteristic of Middle Style decoration dated c.1375 to 1450, although a later date is also possible. Slip-painting on Colchester-type ware appears to have died out during the second quarter of the 16th century (Cotter 2000, 173) and this may also be the case for Mill Green-type ware.

B.5.8 One other sherd of pottery was found in Period 3 ditch cut **2014**, a segment of handle from a small vessel showing an all-over brown glaze, with mottles of dark brown, and a thumb mark at the base of the handle. It is almost certainly from a drinking vessel and has been classified as post-medieval red earthenware. Fully glazed vessels in this ware do not usually occur until the late 16th century, but glazed cups are present from the 15th century at Moulsham Street, Chelmsford (Cunningham 1985b, 71). Glazed cups were also produced in Surrey-Hampshire border ware from this date (Pearce 1992, 23). Therefore, this sherd may be current with the other material in this feature. Assuming, the sherd of Cheam whiteware is not residual, then, then the finds from ditch **2014** could all have been current during the early to mid-15th century. Otherwise a date up to the early 16th century is possible.

B.5.9 Period 4 pit **2010** in Area 3 produced a fragment of post-medieval red earthenware from a small curved vessel, which like the handle from ditch **2014**, shows a brown glaze with mottles of dark brown. However, their fabrics are slightly different and the two

pieces are not from the same vessel. It is possible that the fragment from posthole **2010** also dates to the 15th century but could be much later as jugs with mottled-brown glazes also occur at a 17th century production site at Harlow (dated to the decade of the 1660s) (Davey and Walker 2009, 136). A date even later than this is quite possible.

B.5.10 Further sherds of post-medieval red earthenware (a total of three) were the only finds in Period 4 quarry pit **2000** and Enclosure 2012 (cut **2026**). All are thick-walled and glazed and the largest sherd is from the lower part of a quite a substantial vessel showing an all over glaze, which is probably from a storage jar. Such vessels were made in the 17th century, for example at Harlow (Davey and Walker 2009, Fig.72), but this vessel could easily be as late as 19th century.

Discussion

B.5.11 The assemblage from Period 3 ditch cut **2014** shows good evidence of occupation during the 15th century, or perhaps into the early 16th. There is also some evidence from other features that activity continued into the post-medieval period. The nearest production site of Mill Green ware to Burnham is at Rayleigh, some distance to the south-west (Walker 1990). The pottery may have been transported, in part, via the Rivers Roach and Crouch. Cheam ware is part of the Surrey whiteware industry and its products are widely but sparsely distributed throughout Essex and were presumably available at local markets. A riverine distribution via London, along the River Thames and thence up the River Crouch is also possible. The post-medieval red earthenware would have been manufactured locally.

B.5.12 The pottery from ditch **2014**, comprising mainly jugs, possible jugs, and a possible cup, appears to be mainly concerned with the storage, serving and consumption of liquids, so that drinking would appear to be the main function of this group of pottery. Nothing can be said about the status of the site.

Significance

B.5.13 The assemblage although small, sheds light on the origins and development of late medieval settlement at Burnham-on-Crouch and may be useful in any future thematic studies on settlements close to major rivers.

Catalogue

Cxt.	Cut	Group	Period	Fabric	Form	Sherd Count	Sherd Weight (g)	Context Date Range
2004	2000	-	4	post-medieval earthenware	red storage jar?	1	79	17th to 19th century
				post-medieval earthenware	red body sherd	1	26	
2011	2010	-	4	post-medieval earthenware	red body sherds	2	6	15th century onwards
2015	2014	Ditch 2014	3	Cheam whiteware	jug?	1	18	15th to earlier

Cxt.	Cut	Group	Period	Fabric	Form	Sherd Count	Sherd Weight (g)	Context Date Range
								16th century
				post-medieval red earthenware	drinking vessel	1	8	
				Mill Green-type ware	jar: C4	1	11	
				Mill Green-type ware	horizontal handle	1	10	
				Mill Green-type ware	jug?	2	110	
				Mill Green-type ware	jug/handled jar/cistern	2	94	
				Mill Green-type ware	bifid handle	1	34	
				Mill Green-type ware	slip-painted sherds	3	49	
				Mill Green-type ware	sherd family	6	60	
				Mill Green-type ware	misc. body sherds	13	222	
2027	2026	Enclosure 2012	4	Post-medieval red earthenware	flat base	1	16	17th to 19th century
Total						36	743	

Table 11: medieval and post-medieval pottery catalogue

B.6 Clay tobacco pipe

By Carole Fletcher

Introduction and Methodology

B.6.1 During the excavation, four fragments of white ball clay tobacco pipe stem, weighing 0.014kg, were recovered from Period 4 quarry pit **2000** and pit **2010** in Area 3 (Table 12). Terminology used in this report is taken from Oswald's simplified general typology (Oswald 1975, 37–41), and Hind and Crummy (Crummy 1988, 47–66).

Assemblage

B.6.2 Three fragments of moderately abraded, undecorated clay pipe stem, from different pipes, were recovered from pit **2000**. The short, broken stem fragments (0.010kg) are clean and unstained. The clay tobacco pipe fragments were recovered alongside pottery and ceramic building material.

Discussion

B.6.3 The fragments of clay tobacco pipe recovered represent what were, most likely, casually discarded pipes. The pipe fragments do little, other than to indicate the consumption of tobacco on, or in the vicinity of, the site and dating must be drawn from the finds with which they were recovered.

Retention, dispersal and display

B.6.4 The fragmentary nature of the assemblage means it is of little significance. The previous statement acts as a full record and the clay tobacco pipe may be dispersed prior to archival deposition.

Catalogue

Cxt.	Cut	Period	Form	No. stems or stem frags.	Description	Wt. (kg)	Dating
2004	2000	4	Plain stem frag.	3	Three short lengths of plain, undecorated stem, non-refitting. Two are round in section, while the third is somewhat oval, with visible seams and off-centre bore. 51mm long, 8.8mm in diameter; 37mm long, 7.3 x 7.7mm in diameter and 31mm long, 8.6mm in diameter	0.010	NCD
2011	2010	4	Plain stem frag.	1	A single short length of plain, undecorated stem, round in section, with visible seams and off-centre bore. 36mm long, 8.6mm in diameter	0.004	NCD
Total				4		0.014	

Table 12: Catalogue of clay pipe fragments

B.7 Ceramic building material

By Simon Timberlake

Introduction

B.7.1 Some 26 pieces (3.32kg) of CBM which includes brick and tile were recovered from seven different features and contexts. Most of this appears to be post-medieval in date (Table 13).

Methodology

B.7.2 The form, size, weight and type of material was recorded alongside a characterisation of the fabric from which it was made. Indications of weathering and burning were noted along with traces of wear. Hand-specimen identification of the fabric and inclusions was undertaken using a x10 illuminated hand lens and a dropper bottle of dilute acid (HCl) to record the presence/ absence of calcium carbonate.

Results

B.7.3 In total the brick and tile weighs 3319g. Fragments from a minimum of four separate post-medieval earthenware roof tiles were recovered (total of 1053g). One of these tiles possesses a square hole (10mm²) within the right-angled apex or corner of the tile from which it was presumably hung with a wooden peg. It seems likely that this was in fact just one of two peg holes (in each top corner); thus a square flat tile hung horizontally. The probable size of the complete tile may have been c. 265mmx165mm, and was just 12-13mm thick. All of the tiles examined are square in shape and flat but

with a slightly convex upper surface. The top surfaces of all of these were roughened on account of the application of sand before firing to act as a separator during removal from the tile moulds. At least three slightly different red earthenware tile types were noted here, yet the fabrics were all fairly similar (only Fabrics RE1 and RE5 could be distinguished). These were red and oxidised on the exterior with a thin grey reduced zone in the middle.

- B.7.4 At least five red clay bricks were also identified (total weight 2266g). Amongst these were at least three different types of medieval – post-medieval brick. Where accurate dimensions for the bats could be determined, it was possible to estimate these rectangular and sometimes square-sectioned bricks as 100x50x50mm (4"x2"x2"); 150x80x62mm (6"x3.25"x2.5") and 100x200x50mm (4"x8"x2") – none of which particularly fit to standard post-1800 brick sizes, and so probably pre-date them. At least three different but somewhat similar flint grit and grog filled fabrics were identified here (RE2-RE4). Adhering mortar had survived upon one of these (from Enclosure 2012).

'Glazed' brick

- B.7.5 The worn and abraded surface of a fragment of well-fired and partially glazed brick was recovered from the fill of Period 4 Enclosure 2012 (cut **2026**). The brick itself is most likely to be late medieval or post-medieval in date, and the glaze upon it may be accidental, quite possibly as a result of salt working, particularly if this part of the site was associated in some way with one of the later (i.e. pre-19th century) saltcotes or salt-production sites.

Discussion

- B.7.6 The suggested type of red earthenware roof tile identified here is of the plain clay flat type, most likely hung by two square wooden pegs, and clearly in this case hand-made with a degree of convex drying warp within each. These may pre-date, but probably do not post-date, the 18th century. The suggested size of this is a standard and is conformable with the 1477 English charter (Brunskill 1970).
- B.7.7 At least one of the bricks examined (that from context 2004 in Period 4 quarry pit **2000**) approximately conformed to the (small) standard medieval size (8.5"x4"x2") [www.buildingconservation.com], yet some caution is required here, as prior to the turn of the 18th century there was considerable variation in the sizes of vernacular brick. Whilst the degree of firing and mould type certainly suggests a post-medieval type, the smaller size(s) are unusual for 18th century bricks, though the thickness and length does match some 17th century examples. This remains an unusual assemblage on account of the smallest brick type (4"x2"x2").

Further work

- B.7.8 No further work is required, the assemblage will be assessed for discard prior to archiving.

Catalogue

Cxt.	Cut	Group	Period	No. pieces	Dimen-sions (mm)	Wgt. (g)	Fabric	Inclus-ions	Identity/ use	Notes
1008	1007	-	3	1	100x60x30	162	RE1		thick roof tile	weather-damaged tile. Post-med?
2004	2000	-	3	3	100x50x50 + 55x40x30 + 45x35x40	377	RE2	sand + flint + burnt flint	small red brick (fragmentary)	probable size: 100x200x50mm? Med or Post-med?
2013	2012	Encl. 2012	3	2	130x80x60 + 70x90x65	853 + 538	RE3	grog + flint + pebble + organic	x2 red bricks	one nearly complete example with mortar attached: suggested size 150x80x62mm
2015	2014	Ditch 2014	4	1 + 9 + 4	60x55x13 110x60x12 +160x120x12 + 95 + 50 + 40 etc	59 + 602 + 230	RE1 + RE5	sand + grog + flint grit	X3 square roof tile	Tile 1: square nail or peg hole within corner apex (10 ² mm) x6 re-fit pieces (prob 265mmx160mm?). Sandy upper surface. Flat slight convex. Reduced middle. Post-med
2019	2018	Encl. 2012	3	3	40x50x50 +35x50x50 + 30x50x50	371	RE3	flint + grog + sand	small square-sectioned rectangular brick	size 100x50x50mm. With sand-coated faces. Post-med?
2027	2026	Enclosure 2012	3	3	80x70x25 + 40	127	RE4	sand + silt	brick	waterworn fragments of soft brick (re-fitting pieces) & partially 'glazed' fragment. Med-Post-med.

Table 13: Catalogue of CBM

B.8 Fired clay

By Simon Timberlake

Introduction

B.8.1 Some 20 pieces (5.42kg) of fired and worked clay were examined including 4.83 kg of briquetage recovered from Period 2 pit **11** in Area 1 (consisting of fragments of large cylindrical pedestal supports associated with Late Bronze Age – Early Iron Age pottery; Plate B.8.1), a small amount of undated daub.

Methodology

- B.8.2 The form, size, weight and type of material was recorded alongside a characterisation of the fabric from which it was made. Indications of weathering and burning and salt contamination were noted along with traces of wear. Hand-specimen identification of the fabric and inclusions was undertaken using a x10 illuminated hand lens and a dropper bottle of dilute acid (HCl) to record the presence/ absence of calcium carbonate.

Results

Briquetage

- B.8.3 All of the examined material consists of fragments of large-sized round to sub-round tapered cylindrical pedestal supports, presumably ones designed for use with briquetage salt-making pans. Mostly it was the bulkier flat to slightly round-bottomed bases of these supports which had survived, although one or two much smaller broken-up pieces which derive from the tops of these supports were also recognized (12b). In total a minimum of eight pedestals could be accounted for – all recovered from the fill of one Period 2 pit (11) in Area 1 into which they appeared to have been dumped. Most were manufactured from one type of gritty silty-sandy red oxidised clay fabric (SFVT1) containing traces of finely-chopped vegetable temper (total 3.223kg), although a variant of this fabric containing round to sub-round (<15mm diameter) flint pebble inclusions (SFVT2) made up a further 1.525kg of these briquetage pedestals. All of these appear to have been carefully moulded; some 75% of which were classifiable as being round in cross-section, the remainder being sub-round to sub-square. The latter were quite similar to the round cylindrical shaft forms, although it may be significant that the largest example of this sub-round to sub-square type (SF3, 0.91kg) was composed of the pebbly fabric SFVT2. No other obvious briquetage elements could be identified amongst the small group of less diagnostic fragments (12b).

Daub

- B.8.4 Three small fragments of a pale yellow-brown fired clay, most probably classifiable as daub, possessing a distinctive silty 'brickearth' rather than a 'briquetage' type composition, were recovered from the fill of Period 1 pit 1009 in Area 2. These may represent the decayed washed-out fragments from a daub wall structure, but they could not be typologically dated.

Discussion

- B.8.5 Burnham-on-Crouch and its hinterland along the Essex coast, in particular the shores of the Crouch and Blackwater estuaries, was one of the chief locations for salt production (with saltern hearths and associated spreads of sleeted and burnt silt and briquetage debris) from the Bronze Age to the end of the 18th century. After this date the production of sea salt moved to nearby Maldon, whilst industrial production was undertaken in Cheshire with deep extraction from brine wells and the mining of rock salt.
- B.8.6 The Crouch estuary features one of the earliest Bronze Age salterns, as well as a number of coastal brushwood structures of uncertain function. The Late Bronze Age

saltworking site at Crouch Site 2 near Woodham Ferrers produced assemblages of briquetage that included hearth structures, salt pan (vessels), firebars and small pedestal supports, most of the latter being short, less than 40mm in diameter, and with horned terminations, a characteristic of these prehistoric pedestal forms (Wilkinson & Murphy 1995). By the Late Iron Age and Early Roman period the number of saltworking sites present along the north side of the Crouch Estuary had grown, and had spread to the east and west of Burnham, represented by the larger proto-industrial burnt saltern mounds referred to generically in this part of Essex as the 'red hills'. The briquetage debris associated with these earlier Roman sites does resemble some of the prehistoric examples of containers and supports (Lane & Morris 2001), yet the former were larger and less crudely made, and could easily be differentiated (Wilkinson & Murphy 1995).

- B.8.7 Unusual also in the present case is the complete absence from the collected assemblage of other briquetage elements. In fact the recovery of these pedestals from a single pit begs the question as to whether these are in fact items of salt-production briquetage furniture, or whether they might instead be items linked to briquetage manufacture. If this was the case, then they must first have been removed from the hearths or kilns associated with their firing.
- B.8.8 An almost complete assemblage of briquetage furniture associated with prehistoric saltmaking was recovered from a Late Bronze Age pit at Mucking, Essex during the course of excavations carried out there by Margaret Jones in the 1960s (Jones 1977). This included a number of round cross-section cylindrical pedestals, the shafts of which were much narrower (30-40mm diameter) and the pedestals shorter than the present examples. Furthermore, these examples had strongly flared (*i.e.* much wider) flat bases and sometimes cupped or spatulate terminals upon their tops (Jones 1979, 52 Fig. 3). Rather similar-looking assemblages of a similar date have been recorded from other Essex sites such as Corringham (Barford 1985 Fig. 1: no's 1+5), as well as from Northey near Peterborough in Cambridgeshire (Gurney 1980). In fact flat-based pedestals have been found at a number of the Essex Red Hill prehistoric saltmaking production sites, and have been interpreted as forms specifically designed to be set upon flat clay 'working floors' (de Brisay 1972).
- B.8.9 Although incomplete, a closer match perhaps with the Burnham pedestals may be found in the Late Bronze Age briquetage assemblage excavated at Cliffe in Kent (Kinnes *et al.* 1998). One of the round tapered cylindrical pedestal (shafts) from this site measured 110mm (long) by 76mm (diameter) and weighed 0.688kg – thus quite similar in proportion if not in form to the present examples. A photograph of this pedestal may be viewed within the British Museum digital collection.
- B.8.10 Yet another possible comparison may be drawn with the Middle Iron Age briquetage assemblage recovered from Site B of the Stanford Wharf Nature Reserve excavation on the Thames Estuary, Essex (Poole 2012). A series of plain round cylindrical pedestals (Type PD3/PD16) broadly dated as being Middle Iron Age were found to consist of small (25-45mm diameter by 48mm long), medium (70mm diameter by 120mm long) and large (90-120mm diameter by 105mm long) forms. The medium ones, being the most similar to the Burnham examples, were round to oval (68x72mm) to D-shape (53x71mm) in cross-section; possessing in some respects a similarity with the T-

pedestal types found at Tollesbury (de Brisay 1978) and at Blackwater in Essex (Barford 1995). The closest parallel with the Burnham ones amongst these can be seen in the Type PD3 pedestal shaft (Fabric X3/6) shown by Poole (*ibid.* 34, fig. 8.3). The fabric composition of these PD3/PD16 plain round cylindrical pedestals in some respects compare also with Burnham-on-Crouch; *i.e.* the Fabrics FC3-5 from Stanford Wharf which consist of a red-orange-brown clay with fine-medium round- sub-round sand and in some cases (FC4) a coarse flint grit with inclusions up to 12mm in diameter. Yet other fabrics (such as X6) include an organic temper, therefore being similar but more generically 'briquetage-like' in appearance than the Burnham examples.

B.8.11 Cylindrical Late Iron Age pedestal supports were also recorded from one of the Red Hills at Peldon, Essex (de Brisay 1978, Figure 7, p.43). These were up to 280mm tall, round and between 50-100mm in diameter, with a strongly flared (everted) base, a narrower waisted middle (c.50mm) and a T-shaped projection on top for the support of a pan.

B.8.12 Particularly large Roman briquetage pedestals up to 50cm tall, cylindrical, and weighing up to 5kg were recovered in 2001 from the excavation of a coastal site at St. Georges, Weston-super-Mare, North Somerset (Darvill 2015). Furthermore, other moderately large (but slightly smaller) cylindrical pedestals were recovered from a Late Roman (3rd-4th century AD) salt production site at Middleton in Norfolk (Lane & Morris 2001). In one or both of these cases such pedestals may have been used to support stone or lead pans, rather than the much thinner and lighter briquetage containers. Perhaps a little closer in form to the present examples were the Late Roman (3rd-4th century AD) tapered cylindrical pedestal supports recovered during excavations at Site B Stamford Wharf Nature Reserve (Poole 2012). Nevertheless, significant differences exist between these pedestals and the Burnham-on-Crouch examples. This includes the former's squarer cross-sectional profile, the absence of a (slightly) everted base, and the considerably greater size of the shafts (300mm in length) – suggesting once again that these objects had been designed to support larger and much heavier pans than the earlier supports. Once again, a possible indication of a much later date for the saltmaking process.

B.8.13 In conclusion, based on form alone, the closest parallels with the Burnham-on-Crouch pedestals are to be found in the Middle Iron Age examples recorded from this part of the Essex coast, although there are strong similarities also with some of the Late Bronze Age forms. The pottery dates from this pit suggest that we are looking at the latter, or possibly even a rare instance of Early Iron Age saltmaking – in which case these could be rare examples.

Archive retention and dispersal

B.8.14 All of this material should be retained for further study and for illustration at the publication stage. The briquetage assemblage, though incomplete, is very well-preserved and possibly unique in terms of its type and condition for the date that is suggested. It is worthy of a note within an academic journal, if not a dedicated section within a published summary of the site.

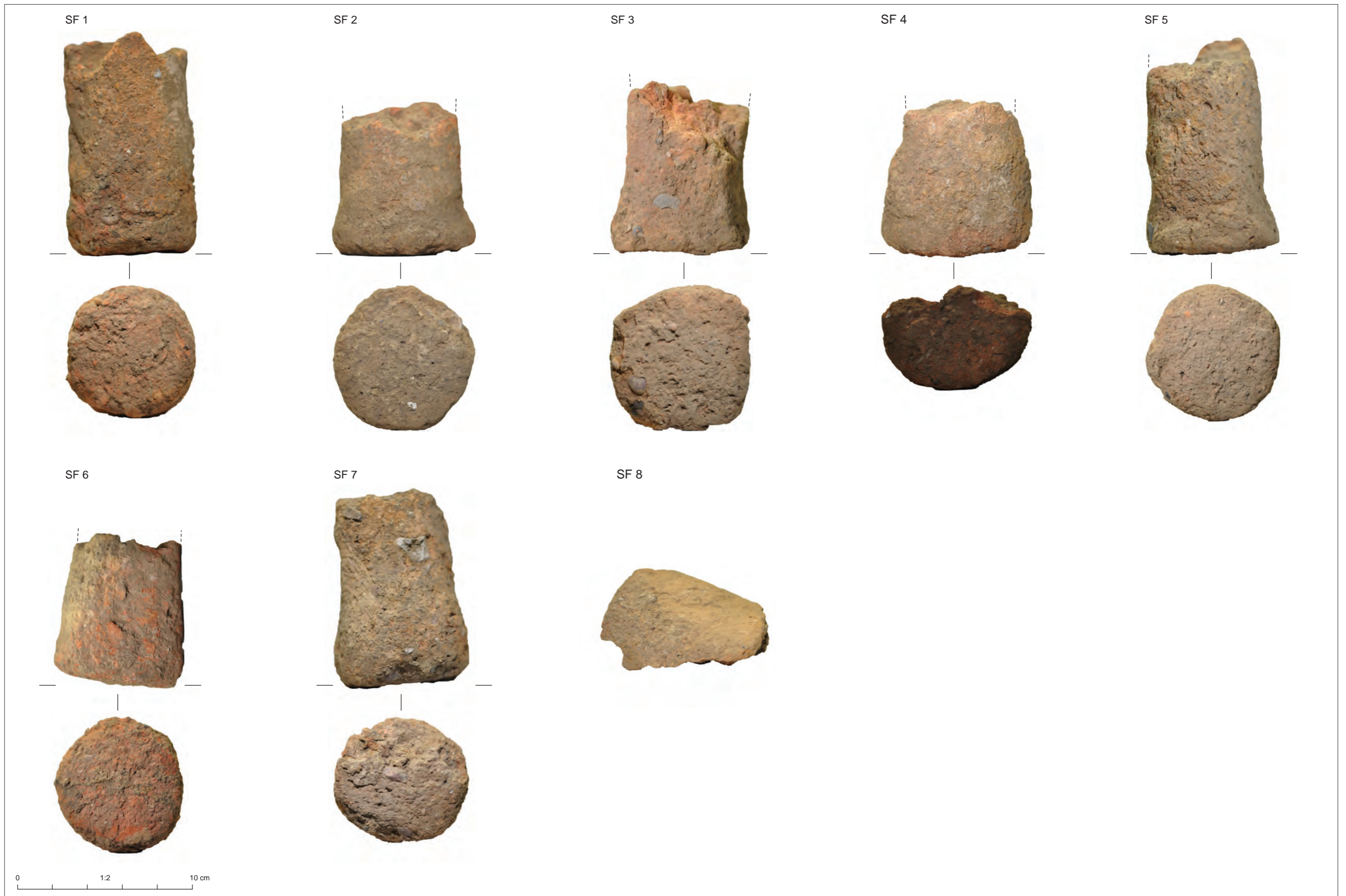


Figure B.8.1: Period 1 fired clay (briquetage) pedestal fragments from Period 1 pit 11

APPENDIX C ENVIRONMENTAL REPORTS

C.1 Animal bone

By Zoë Uí Choileáin

Introduction

- C.1.1 Excavations at the site uncovered a total of seven recordable fragments of animal bone, all from Periods 3 and 4. Of these only three fragments were identifiable to species: cattle, horse and pig. The remaining four fragments were categorised as large mammal and are recorded in Table 14.
- C.1.2 This assemblage dates in its entirety to the post-medieval period. Only hand collected material has been recorded. The bulk of the assemblage is primarily from ditches.

Methodology

- C.1.3 The method used to quantify this assemblage was a modified version of that devised by Albarella and Davis (1996). Identification of all bone was attempted but only those that could be clearly narrowed to species were used for NISP (Number of identifiable species) and MNI (minimum number of individuals) counts. Both epiphyses and shaft fragments were identified where possible. Fragmented elements are not counted multiple times which narrows down the assemblage and produces more accurate NISP and MNI results. MNI (minimum number of individuals) was calculated for all species present. MNI estimates the smallest number of animals that could be represented by the elements recovered. Identification of the faunal remains was carried out at Oxford Archaeology East. References to Hillson (1992), Schmid (1972) were used where needed for identification purposes.
- C.1.4 The surface condition of the bone was assessed using the 0-5 scale devised by McKinley where 0 represents no erosion and 5 represents the total erosion of the surface bone (2004, 16, fig. 6).
- C.1.5 Tooth wear was recorded using Grant (1982) and fusion data is based on Silver (1970) and Reitz and Wing (2004).

Results

- C.1.6 The surface condition of the bone is variable however most fragments represent a 2 on the McKinley scale (2004, 16, fig. 6), meaning that some patchy erosion is present. The fragmentation levels of the bone are high.
- C.1.7 Three species were identified: cattle, horse and pig. Unfortunately, the small size of the assemblage does mean that any interpretation on prevalence would be greatly biased; only one specimen of each taxon is present.
- C.1.8 The cattle metatarsus and horse metacarpus were both fused at the proximal end suggesting an age of 24-36 months.

Discussion

- C.1.9 Primarily these specimens represent domestic waste. Due to the small size of the assemblage few other conclusions can be reached as regards the butchery or dietary practices of this population.

Catalogue

Cxt.	Cut	Group	Period	Type	Taxon	Element	Count	Erosion
2004	2000	-	4	Pit	Large mammal	Vertebra	1	2
2011	2010	-	4	Pit	Large mammal	Scapula	1	2
2013	2012	Encl. 2012	4	Ditch	Cattle	Metatarsus	1	2
2013	2012	Encl. 2012	4	Ditch	Large mammal	Scapula	1	3
2015	2014	Ditch 2014	3	Ditch	Large mammal	Rib	1	2
2015	2014	Ditch 2014	3	Ditch	Pig	Maxilla	1	2
2015	2014	Ditch 2014	3	Ditch	Horse	Metacarpus	1	1
Total							7	

Table 14: Catalogue of animal bone by context

C.2 Marine mollusca

By Carole Fletcher

Introduction

- C.2.1 A total of 0.128kg of shells were collected by hand from Period 3 Ditch 2014 in Area 3 (Table 15). The shells recovered are all edible species, oyster *Ostrea edulis*, from estuarine and shallow coastal waters. The shell is mostly poorly preserved and has suffered post-depositional damage.

Methodology

- C.2.2 The shells were weighed and recorded by species, with right and left valves noted, when identification could be made, using Winder (2011) as a guide. The minimum number of individuals (MNI) was not established, due to the small size of the assemblage.

Assemblage

- C.2.3 Ditch cut **2014** contained 24 oyster shells or fragments of mainly small or small to medium shells (0.128kg). All of the oyster shell has suffered varying degrees of post-depositional damage, some have broken and almost all are powdery, but most have survived with only minor damage, mainly to the ventral margin.
- C.2.4 The shell assemblage indicates transportation of a marine food source to the site. The quantities are too small to represent anything other than casual disposal of rubbish.

Retention, dispersal and display

- C.2.5 The marine mollusca are in poor condition and may be deselected prior to archive deposition.

Catalogue

Cxt.	Cut	Group	Period	Spp.	Com. Name	Habitat	No. of left valve	No. of right valve	Description/Comment	Total Wt. (kg)
2015	2014	Ditch 2014	3	<i>Ostrea edulis</i>	Oyster	Estuarine and shallow coastal water	14	10	Five near-complete small/medium right valves, one near-complete small right valve, one partial small right valve, and three fragments of small right valve. One near-complete medium left valve, eight small/medium left valves, three of which have worm burrows and/or sponge borings on the outer shell. One of the non-parasitised small/medium shells has a distinct and crude shucking mark. Three incomplete small left valves, two fragments of (probably) small left valves. Most of the shells are powdery and damaged, often on the ventral edge	0.128
Total							14	10		0.128

Table 15: Catalogue of marine mollusca

C.3 Palaeoenvironmental remains

By Mairead Rutherford

Introduction

- C.3.1 Four sub-samples (60.1-60.4) were taken from bulk samples from deposit 1023 within Period 1 palaeochannel **1022**. Unfortunately, none of the four sub-samples contained pollen.

Quantification

- C.3.2 The samples were prepared by RPS laboratories at Northwich, Cheshire, using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles > 170 microns, silicates, and cellulose, respectively. The samples were then stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000cs silicone oil. Slides were examined at a magnification of 400x by ten equally spaced traverses across two slides to reduce the possible effects of differential dispersal on the slides (Brooks and Thomas 1967).

Results

- C.3.3 None of the assessed sub-samples contained a viable pollen assemblage. The sub-sample at 60.2 contained a possible cereal-type grain and a pine pollen grain. The sub-sample at 60.4 contained an oak pollen grain and a lime pollen grain. The residues contained very little organic material, suggesting the lithologies were too minerogenic and insufficiently organic for pollen preservation.

C.4 Environmental samples

By Martha Craven and Rachel Fosberry

Introduction

- C.4.1 A total of eight bulk samples were taken from features within the excavated areas of the site. The samples were taken from a variety of features dating to either the Late Bronze Age/Early Iron Age or post-medieval periods. The purpose of this assessment is to determine whether plant remains and environmental indicators such as molluscs are present, their mode of preservation and whether they are of interpretable value for inferring such things as: diet, environment, economy and waste disposal.

Methodology

- C.4.2 Each sample was processed by tank flotation using modified Siraf-type equipment for the recovery of preserved plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve.
- C.4.3 A magnet was dragged through each residue fraction for the recovery of magnetic residues prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds.
- C.4.4 The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 16.
- C.4.5 Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers *et al.* 2006) and OAE's reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (2010) for other plants. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

- C.4.6 For the purpose of this assessment, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories:
- # = 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens
- C.4.7 Items that cannot be easily quantified such as molluscs have been scored for abundance:

+ = rare, ++ = moderate, +++ = frequent, ++++ = abundant, +++++ = super abundant

Results

- C.4.8 The botanical material from this site consists of both waterlogged and carbonised material.
- C.4.9 Charcoal is present in all but one of the samples in varying quantities. Sample 11, fill 10 of Period 2 pit/hearth **9** (Area 1), contains the largest quantity of charcoal recovered from these samples, a total of 100ml. Aside from the charcoal, the carbonised plant remains consist of a few scarce cereals, grass (*Poaceae sp.*) seeds, campion (*Silene sp.*) seeds, an unidentifiable seed and bramble (*Rubus sp.*) thorns. The cereal grains consist of wheat (*Triticum sp.*) grains and grains that were too poorly preserved to be identifiable.
- C.4.10 Waterlogged material is present in two of the samples from this site. Sample 110, fill 2001 of Period 4 quarry pit **2000** (Area 3) contains a rich waterlogged plant assemblage. The waterlogged remains include seeds of fat-hen (*Chenopodium cf. album*), rushes (*Juncus sp.*), black nightshade (*Solanum nigrum*) and hemlock (*Conium maculatum*). Other waterlogged material recovered from this sample includes ostracods and water-flea egg cases (*Cladocera ephippia*). A small quantity of waterlogged rush seeds is also present in Sample 10, fill 1 of Period 2 posthole **2** (Area 1).

Discussion

- C.4.11 The small quantity of carbonised cereal grains and weed seeds recovered suggest that there were not high levels of domestic activity occurring in Area 1. This assemblage most likely represents a background scatter of refuse from the surrounding area.
- C.4.12 The waterlogged assemblage from Period 4 quarry pit **2000** is largely suggestive of Area 3 being composed of a mixed habitat of arable land and waste-ground; with plants such as fat-hen and black nightshade typically growing in these habitats (Stace, 2010). A wetland habitat is also indicated by the presence of such remains as rushes, hemlock, *Cladocera ephippia* and ostracods. The small quantity of waterlogged rushes in Sample 10 is also suggestive of this posthole feature having been filled with water at some point in time. Foraminifera were not present in any of the samples which suggests that the site was not subject to marine incursion.

Sample No.	Context No.	Cut no.	Group	Period	Area No.	Feature type	Volume	Flot Volume	Aethusa	Anthemis	Brassica sp.	Cereal indet.	Chenopodium	Cirsium sp.	Fallopia	Galium	Indet. Seeds	Juncus sp.	Lamium sp.	Lapsana	Papaver	Persicaria	Poaceae sp.	Polygonum	Prunella	Rubus thorns	Ranunculus	Raphanus	Rumex cf.	Sambucus	Silene cf.	Solanum	Solanum	Triticum sp.	Urtica dioica	Insects	Ostracods	Cladocera	Snails	Charcoal Volume (ml)		
10	1	2	Posthole Group 1	2	1	Posthole	8	40	0	0	0	0	0	0	0	0	0	#w/l	0	0	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
11	10	9	Pit Group 1	2	1	Pit/hearth	16	100	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
12	12	11	Pit Group 1	2	1	Pit	16	200	0	0	#	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	0	40
13	14	13	Posthole Group 1	2	1	Posthole	8	50	0	0	0	#	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	+	15
14	18	17	Pit Group 1	2	1	Pit	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	7	
16	51	50	Pit Group 1	2	1	Pit	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
60	1023	1022	-	1	2	Palaeochannel	17	70	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	0	0	0	0	0	0	0	#	0	0	0	0	0	0	0	0	0	10	
110	2001	2000	-	4	3	Quarry pit	10	20	w/l	w/l	w/l	w/l	w/l	w/l	w/l	w/l		w/l	w/l	w/l	w/l	w/l	w/l	w/l	w/l	##	w/l	w/l	w/l	w/l	w/l	w/l	w/l	w/l	w/l	w/l	##	###	####	####	0	

Table 16: Catalogue of environmental samples

Key to table: f=fragment w/l=waterlogged
 Quantity of seeds and grains: # = 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens
 Abundance (molluscs etc.): + = rare, ++ = moderate, +++ = frequent, ++++ = abundant, +++++ = super abundant

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APPENDIX E SITE SUMMARY DETAILS / OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3-383986		
Project Name	Late Bronze Age/Early Iron Age Settlement Remains and Post-Medieval Activity on Land off Southminster Road, Burnham-on-Crouch, Essex		
Start of Fieldwork	27th July 2020	End of Fieldwork	12th August 2020
Previous Work	yes	Future Work	unknown

Project Reference Codes

Site Code	BCSR19	Planning App. No.	APP/X1545/W/15/3009772
HER Number	BCSR19	Related Numbers	n/a

Prompt	NPPF
Development Type	Residential
Place in Planning Process	After full determination (eg. As a condition)

Techniques used (tick all that apply)

- | | | |
|--------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Aerial Photography – interpretation | <input type="checkbox"/> Grab-sampling | <input type="checkbox"/> Remote Operated Vehicle Survey |
| <input type="checkbox"/> Aerial Photography - new | <input type="checkbox"/> Gravity-core | <input type="checkbox"/> Sample Trenches |
| <input checked="" type="checkbox"/> Annotated Sketch | <input type="checkbox"/> Laser Scanning | <input type="checkbox"/> Survey/Recording of Fabric/Structure |
| <input type="checkbox"/> Augering | <input checked="" type="checkbox"/> Measured Survey | <input type="checkbox"/> Targeted Trenches |
| <input type="checkbox"/> Dendrochronological Survey | <input checked="" type="checkbox"/> Metal Detectors | <input type="checkbox"/> Test Pits |
| <input type="checkbox"/> Documentary Search | <input type="checkbox"/> Phosphate Survey | <input type="checkbox"/> Topographic Survey |
| <input checked="" type="checkbox"/> Environmental Sampling | <input type="checkbox"/> Photogrammetric Survey | <input type="checkbox"/> Vibro-core |
| <input type="checkbox"/> Fieldwalking | <input type="checkbox"/> Photographic Survey | <input type="checkbox"/> Visual Inspection (Initial Site Visit) |
| <input type="checkbox"/> Geophysical Survey | <input type="checkbox"/> Rectified Photography | |

Monument	Period	Object	Period
Palaeochannel	Uncertain	Pottery	Early Iron Age (- 800 to - 400)
Posthole	Early Iron Age (- 800 to - 400)	Briquetage	Early Iron Age (- 800 to - 400)
Pit	Early Iron Age (- 800 to - 400)	Flintwork	Early Iron Age (- 800 to - 400)
Ditch	Post Medieval (1540 to 1901)	Burnt flint	Early Iron Age (- 800 to - 400)
Pit	Post Medieval (1540 to 1901)	Pottery	Early Medieval (410 to 1066)
Posthole	Post Medieval (1540 to 1901)	Pottery	Post Medieval (1540 to 1901)
	Choose an item.	Clay tobacco pipe	Post Medieval (1540 to 1901)
	Choose an item.	CBM	Post Medieval (1540 to 1901)
	Choose an item.	Animal bone	Post Medieval (1540 to 1901)
	Choose an item.	Oyster shell	Post Medieval (1540 to 1901)

Project Location

County	Essex	Address (including Postcode) Land off Southminster Road, Southminster Road, Burnham-on-Crouch, Essex CM0 8QG
District	Maldon	
Parish	Maldon	
HER office	Chelmsford	
Size of Study Area	3.9ha	
National Grid Ref	TQ 94617 97766	

Project Originators

Organisation	OA East
Project Brief Originator	Maria Medlycott
Project Design Originator	Patrick Moan
Project Manager	Patrick Moan
Project Supervisor	Tim Lewis

Project Archives

	Location	ID
Physical Archive (Finds)	CIMS	BCSR19
Digital Archive	OA East	BCSR19
Paper Archive	CIMS	BCSR19

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ceramics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Remains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Metal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media

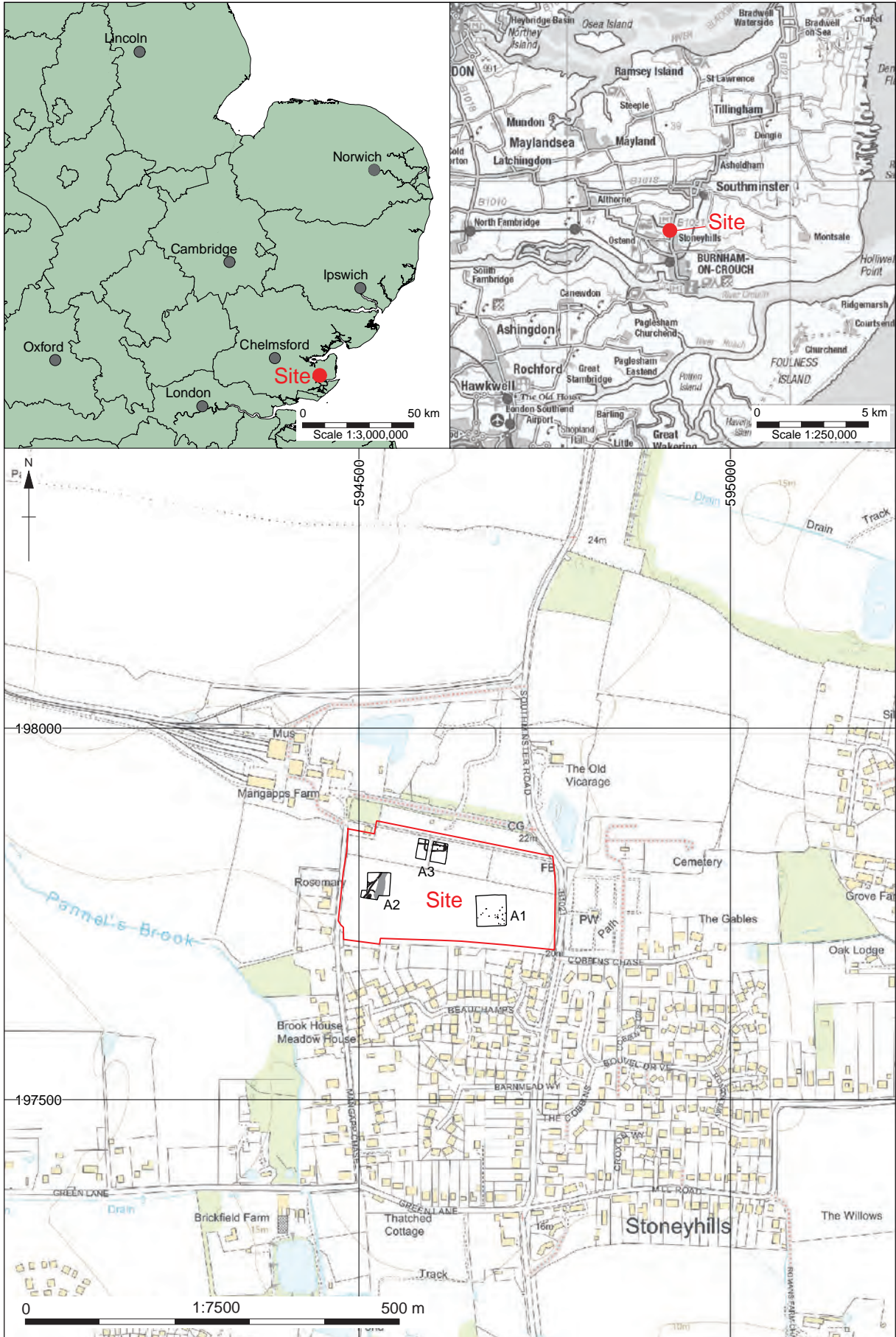
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Geophysics	<input type="checkbox"/>
Images (Digital photos)	<input checked="" type="checkbox"/>
Illustrations (Figures/Plates)	<input checked="" type="checkbox"/>

Paper Media

Aerial Photos	<input type="checkbox"/>
Context Sheets	<input checked="" type="checkbox"/>
Correspondence	<input type="checkbox"/>
Diary	<input type="checkbox"/>
Drawing	<input checked="" type="checkbox"/>

Moving Image	<input type="checkbox"/>	Manuscript	<input type="checkbox"/>
Spreadsheets	<input checked="" type="checkbox"/>	Map	<input type="checkbox"/>
Survey	<input type="checkbox"/>	Matrices	<input type="checkbox"/>
Text	<input checked="" type="checkbox"/>	Microfiche	<input type="checkbox"/>
Virtual Reality	<input type="checkbox"/>	Miscellaneous	<input type="checkbox"/>
		Research/Notes	<input type="checkbox"/>
		Photos (negatives/prints/slides)	<input type="checkbox"/>
		Plans	<input type="checkbox"/>
		Report	<input checked="" type="checkbox"/>
		Sections	<input checked="" type="checkbox"/>
		Survey	<input checked="" type="checkbox"/>

Further Comments



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Figure 1: Site location

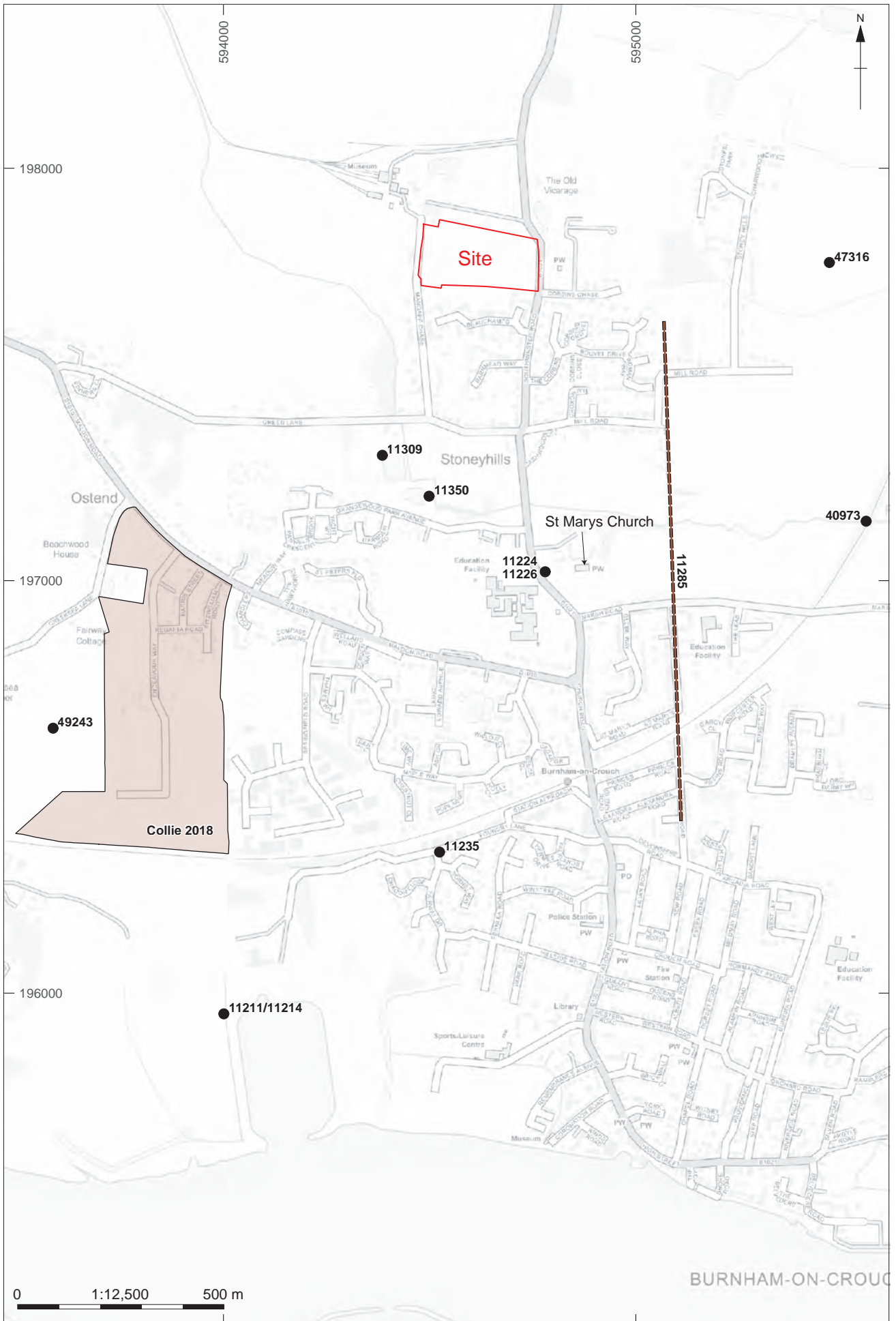


Figure 2: Selected HER entries

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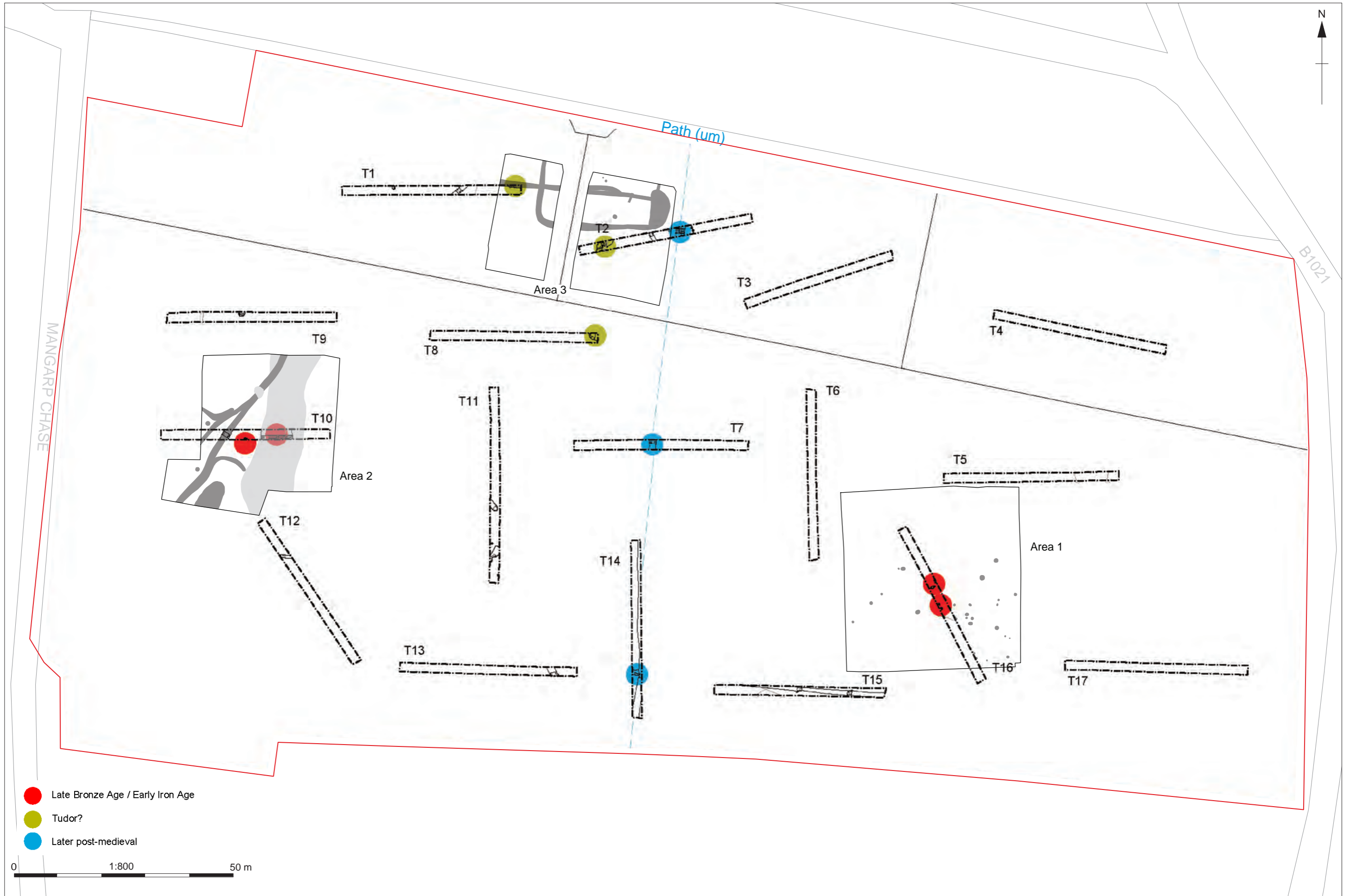


Figure 3: Excavation areas overlaid on ASE evaluation results (Hogg 2019, fig. 16)

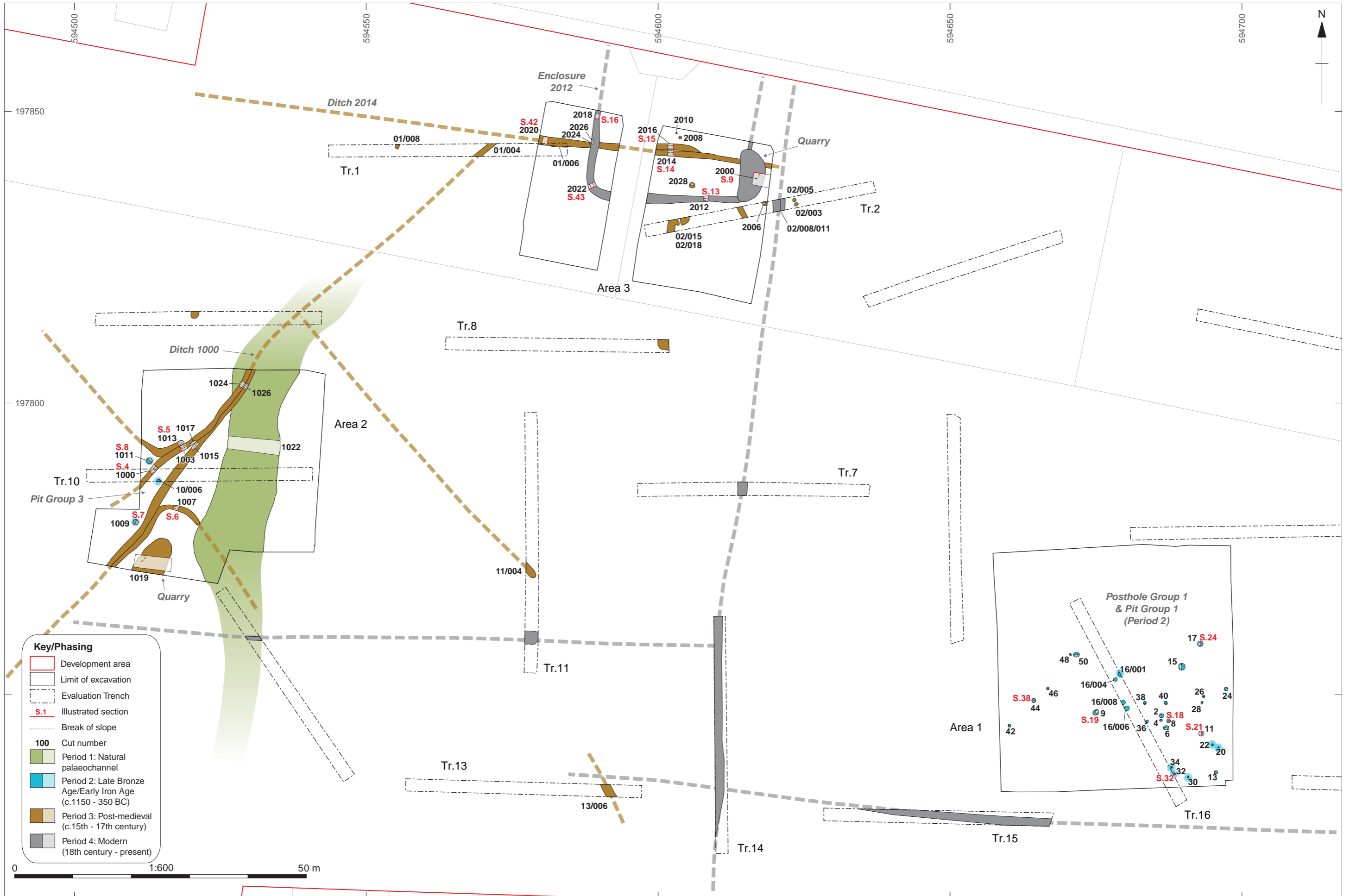


Figure 4: Overall phase plan with grouping and results of evaluation trenches

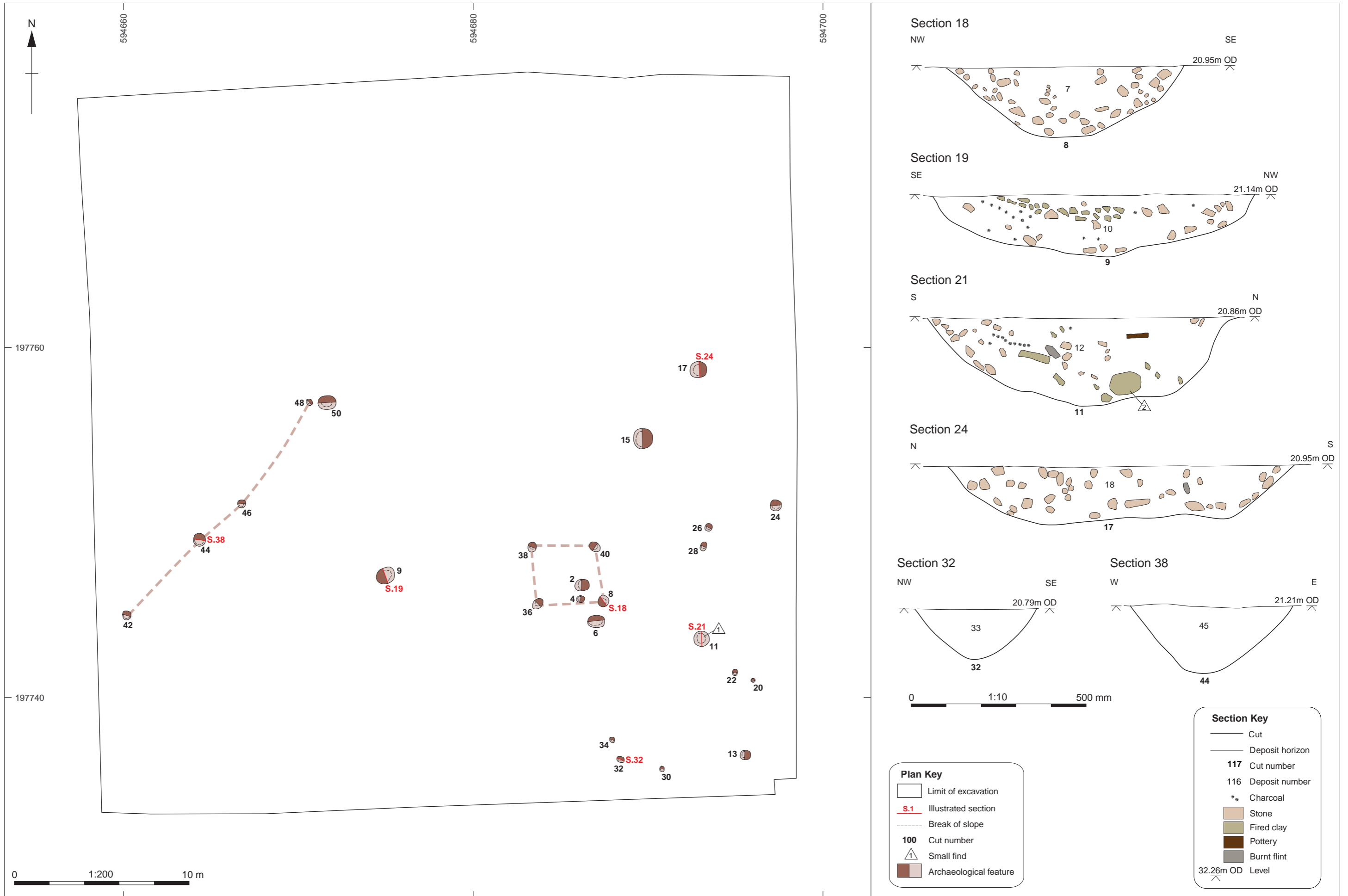


Figure 5: Area 1 plan, with selected sections

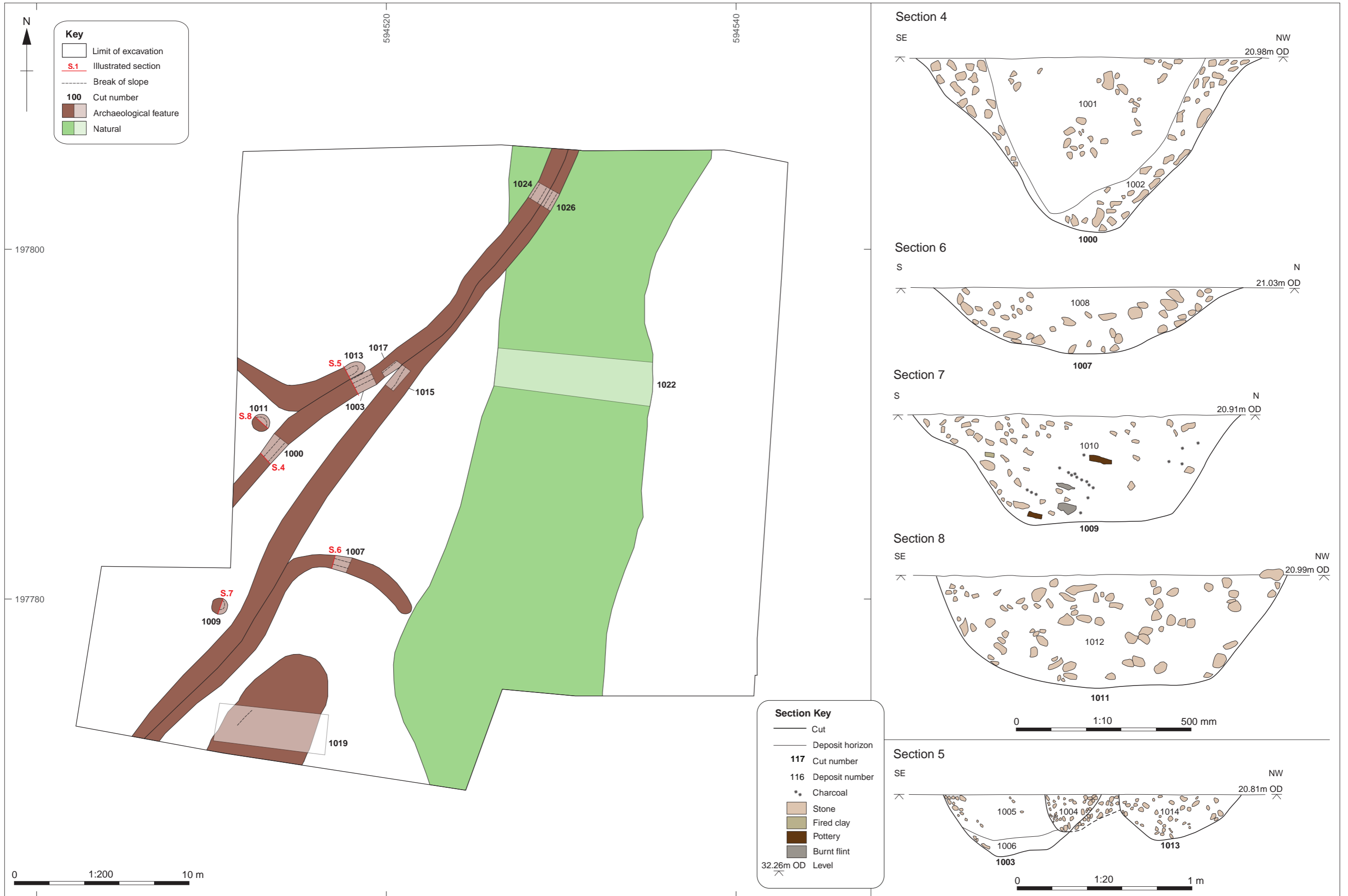


Figure 6: Area 2 plan, with selected sections

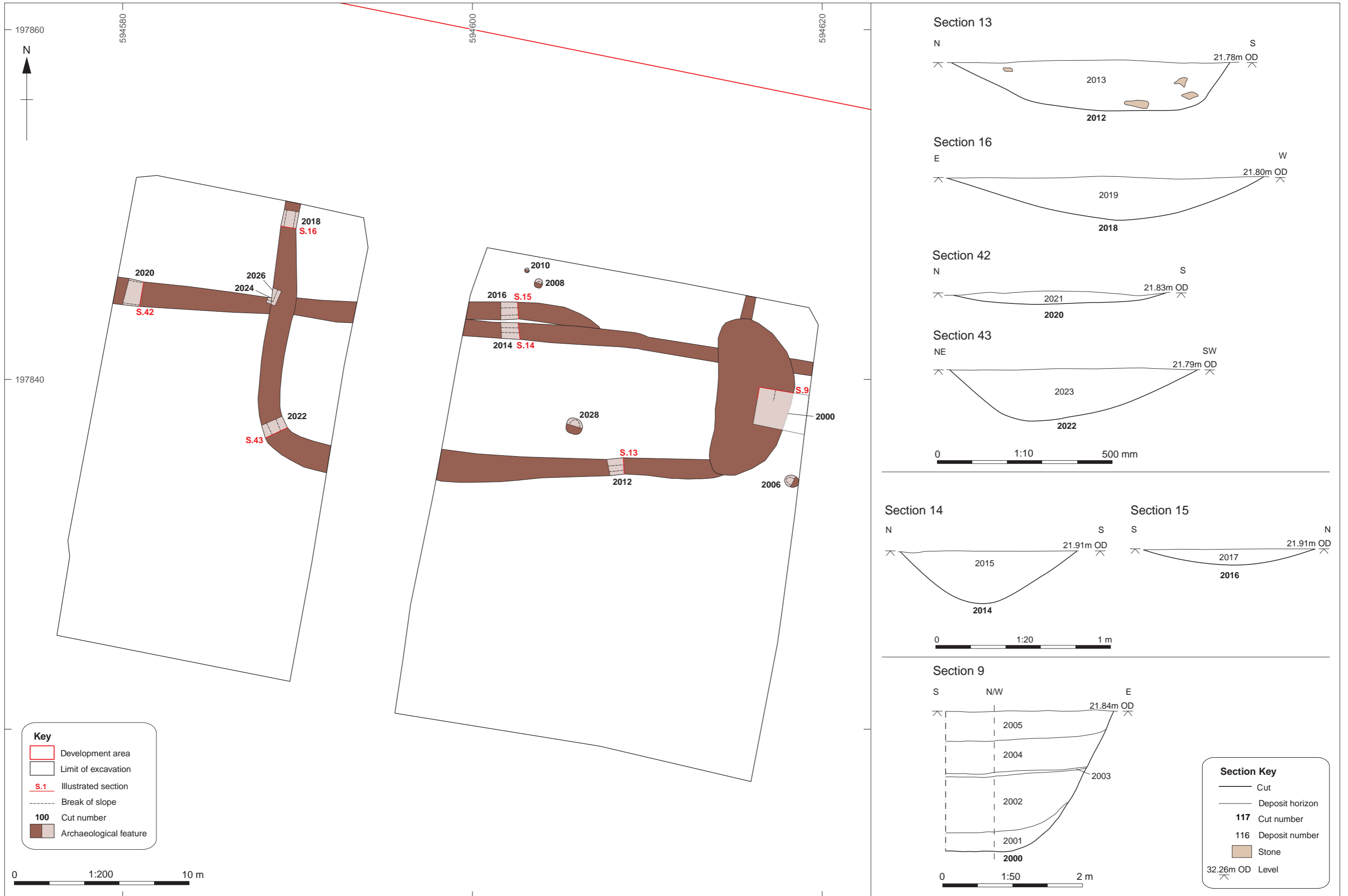


Figure 7: Area 3 plan, with selected sections

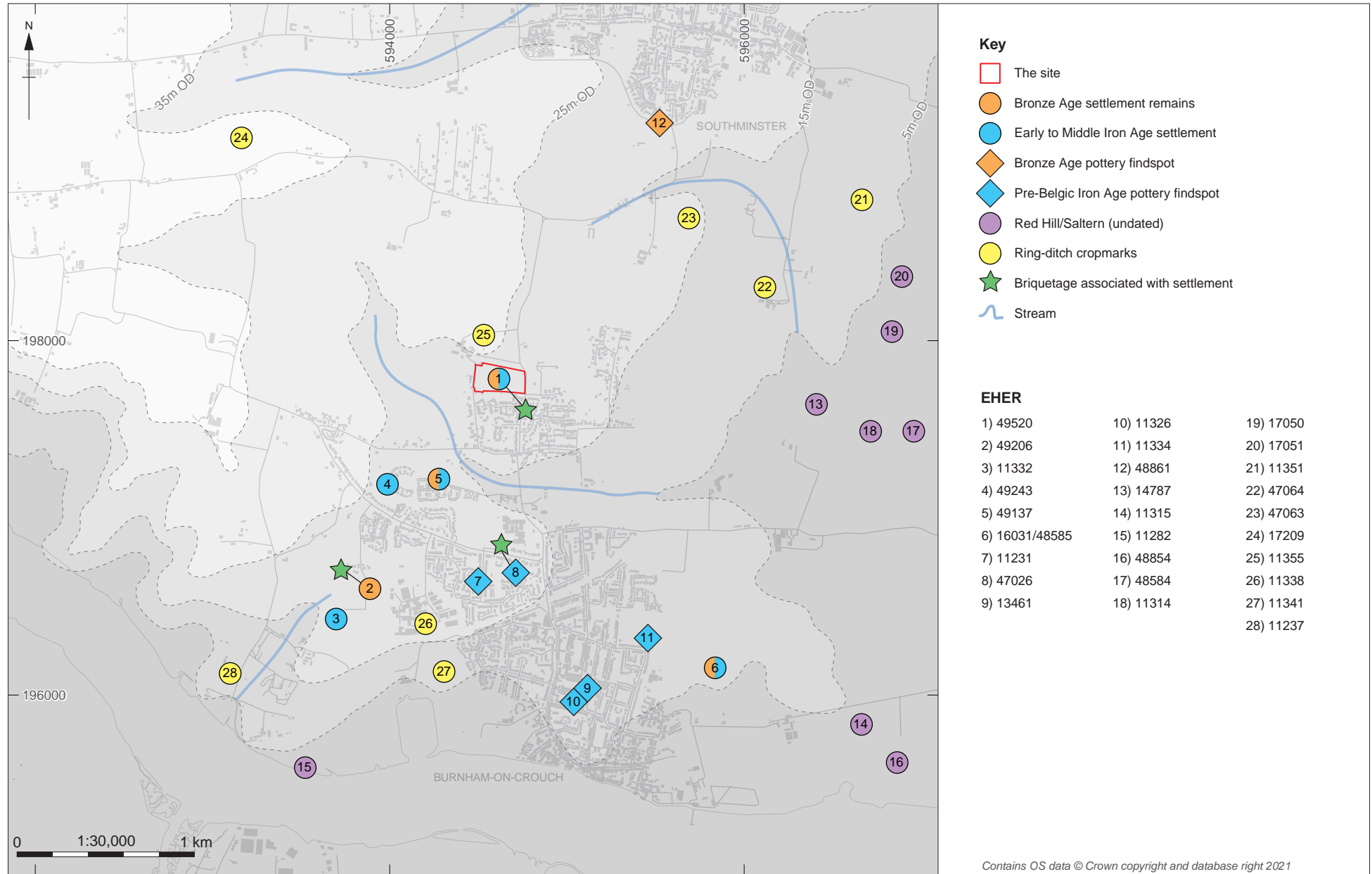


Figure 8: Overview of known Bronze Age and Iron Age remains in vicinity of site (based on information from www.heritagegateway.org.uk and <https://magic.defra.gov.uk/>)

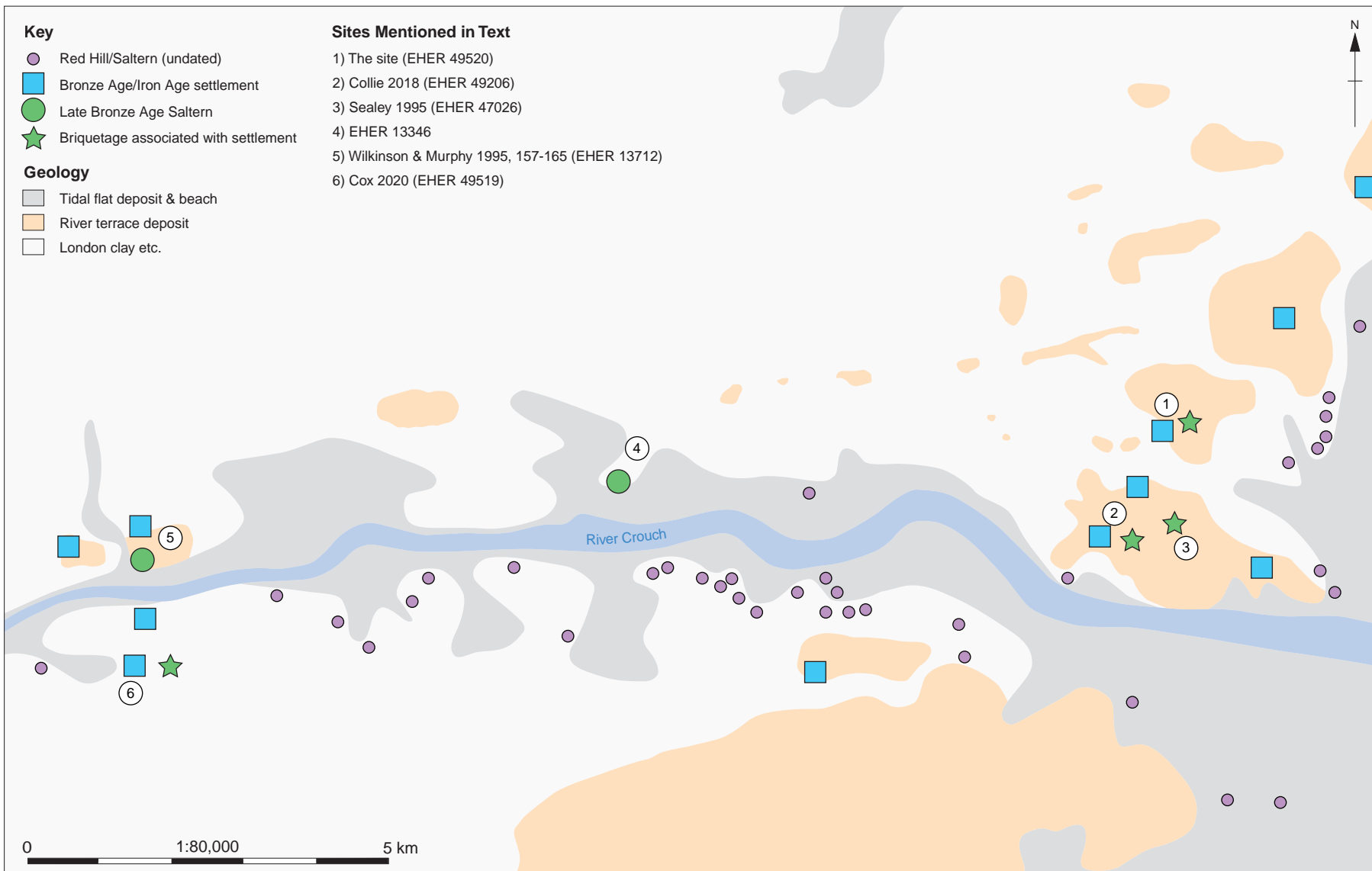


Figure 9: Overview of known Bronze Age and Iron Age salt-making (based on information from www.heritagegateway.org.uk, <https://magic.defra.gov.uk/> and <https://www.bgs.ac.uk/>)



Plate 1: Area 1, Period 2 posthole 13, looking east



Plate 2: Area 1, Period 2 pit 11 with SF 1 (pedestal), looking north



Plate 3: Area 1, Period 2 pit 9, looking east



Plate 4: Area 2, Period 2 pit 1009, looking west



Plate 5: Area 2, Period 3 ditches **1003** and **1013**, looking south-east



Plate 6: Area 2, Period 3 ditch **1007**, looking east

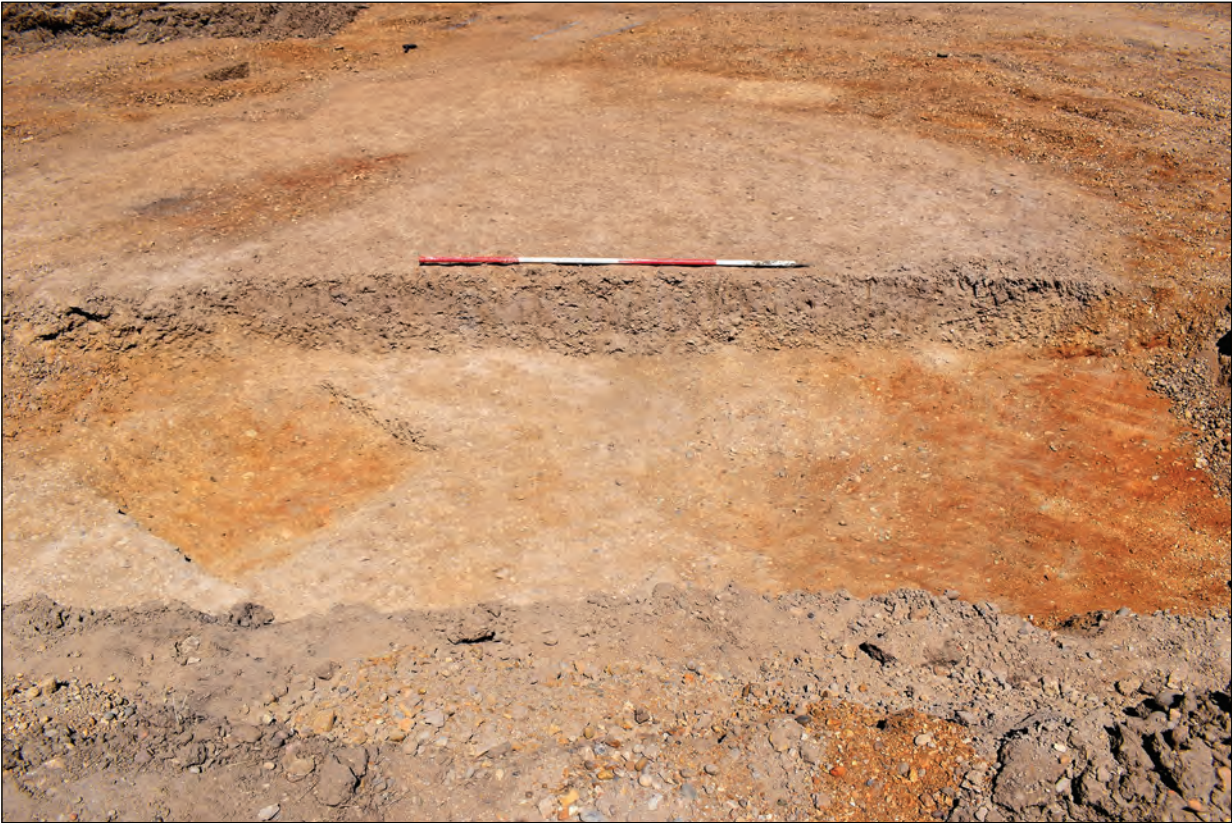


Plate 7: Area 2, Period 3 quarry pit **1019**, looking north



Plate 8: Area 3, Period 3 ditch **2014**, looking east



Plate 9: Area 3, Period 4 ditch **2022**, looking south-east



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