Archaeology South-East

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ARCHAEOLOGICAL TRIAL-TRENCHING AND EXCAVATION

LAND WEST OF SOUTHMINSTER ROAD, BURNHAM-ON-CROUCH, ESSEX, CM0 8NX

POST-EXCAVATION ASSESSMENT AND UPDATED PROJECT DESIGN REPORT

ASE Project No: 170696
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April 2018

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NGR: 594388 197170 (TQ 94388 97170)

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Abstract

This report presents the results of archaeological investigations carried out by Archaeology South-East on land west of Southminster Road, Burnham-on-Crouch, Essex, in June-August 2017. The fieldwork was commissioned by CgMs Consulting, on behalf of Persimmon Homes, in advance of residential development.

Archaeological evaluation, comprising the excavation of fifty-five trenches across the 14.68ha site, established the presence of archaeological remains of later prehistoric and medieval date concentrated in the central south of the site and limited remains of both possible Roman and post-medieval/modern date across the site. Excavation, covering a 0.926ha area targeted on the later prehistoric and medieval features, was consequently required in order to mitigate the effects of the forthcoming development.

The recovery of a small amount of residual worked flint of Mesolithic to Neolithic date provides evidence of a limited and most likely transitory earlier prehistoric presence in the landscape at this time. The remains of a possible structure dated to the Late Bronze Age are perhaps indicative of more permanent land use by the later prehistoric.

The main phase of occupation and land use occurred during the Middle Iron Age. The excavation uncovered the remains of a large sub-rectangular enclosure (c.4,650sq m), from which large quantities of Early/Middle Iron Age pottery were recovered from its ditch. Located within the main enclosure were three ring-gullies indicative of probable roundhouses of similar date, a sub-enclosure and a number of later prehistoric and undated pits and gullies. Together with moderate quantities of animal bone, largely dominated by cattle, and limited charred remains of wheat, barley and peas/beans, these features are indicative of a Middle Iron Age farmstead and associated agricultural land use. A further small enclosure with two large pits were identified to the east of the main enclosure, from which moderate amounts of Early to Middle Iron Age pottery and animal bone were retrieved. These features were most likely associated with the occupation of the settlement enclosure.

Only limited evidence encountered at the site dated to the Roman period. The small quantities of fragmentary and degraded Late Iron Age/Early Roman and Roman pottery were largely considered intrusive in earlier features. A single gully north of the Middle Iron Age enclosure was most likely Roman in date; however, its function could not be established.

The remains of a probable strip field, extending for c.85m, were recorded to cut the north-west of the main enclosure. Whilst very little material evidence was recovered from the strip gullies, given the lack of Roman activity at the site and the stratigraphy of the features in this area of the site, the field system is most likely medieval in date. It indicates the agricultural nature of land use of the area during this period. In addition, two large soil deposits containing large domestic assemblages of medieval pottery were encountered in the north-east of the site. These remains provide evidence for medieval activity within the vicinity of the site, presumably relating to the medieval village of Burnham, the focal point of which is considered to have been St Mary's Church located east of the site.

Post-medieval and modern features were identified across the site. In particular, two east/west aligned ditches comprised the remains of later post-medieval field boundaries. Corresponding with boundaries depicted on the 1849 tithe map and later

OS maps of Burnham-on-Crouch, these remains are indicative of the continued agricultural use of land.

Both the evaluation and area excavation phases of fieldwork are reported upon here. This report is written and structured to conform to the standards required of post-excavation analysis work as set out in the National Planning Policy Framework and Management of Research Projects in the Historic Environment (MoRPHE), Project Planning Notes 3 (PPN3): Archaeological Excavation (Historic England 2008). Interim analysis of the stratigraphic, finds and environmental material has indicated a provisional chronology, and assessed the potential of the site archive to address the original research agenda, as well as assessing the significance of those findings.

This has identified that further analysis work is required in order to enable suitable dissemination of the findings in a final publication. It is proposed that an article for the county journal, Essex Archaeology & History, is produced that disseminated the project results and discusses their significance in terms of the archaeology of Essex.

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1.0 INTRODUCTION

1.1 Site Location

1.1.1 The site consists of 14.68ha of arable fields, located towards the north edge of Burnham-on-Crouch, Essex (NGR: TQ 94388 97170; Fig. 1). The site is bounded by Green Lane, a fishing lake and horticultural fields to the north, Southminster Lane to the east, Ormiston Rivers Academy to the south, and trees and residential gardens to the west. Ditches, fences, roads and trackways border the site's fields.

1.1.2 Burnham-on-Crouch lies within the Dengie Peninsula in south-east Essex. The peninsula is formed by the River Blackwater to the north, the North Sea to the east and the River Crouch to the south.

1.2 Geology and Topography

1.2.1 The topography of Burnham-on-Crouch is slightly undulating. It has a south-facing slope, falling from 30m to 5m OD. An un-named small stream sources at Althorne Lodge to the north-west, and runs east and south-east towards Brook Farm, east of Southminster Road. It edges the site and its course is channelled by ditches, some of which are *c.*1.8m deep.

1.2.2 Dengie Marshes east of Burnham, and much of the land immediately south of the River Crouch, are very flat, near to sea level. They mainly comprise reclaimed tidal creeks and marsh land.

1.2.3 The geology of Burnham-on-Crouch comprises London Clay and Thames Group clay, silt and sand overlain by superficial deposits of alluvial clay, silt and sand, and brickearth (BGS 2017).

1.3 Planning Background

1.3.1 Planning Consent FUL/MAL/16/00093 permitted use of the site for the construction of 180 dwellings, public open space, landscaping and associated infrastructure, including drainage, footpath and cycleway, and vehicular access from Southminster Road. Condition 10 of that consent stated that no demolition or groundwork was to begin until a Written Scheme of Investigation (WSI), in response to an archaeological brief, had been submitted to and approved by the Local Planning Authority in writing.

1.3.2 A Desk-Based Assessment (DBA) submitted in support of the planning application had established that the site was of archaeological interest (Archaeological Solutions 2012).

1.3.3 Essex County Council (ECC) Place Services recommended and monitored the archaeological work on behalf of Maldon District Council. An archaeological brief for the fieldwork was issued 23 May 2017 (ECC Place Services 2017).

1.3.4 In accordance with this, Archaeology South-East (ASE) was commissioned by CgMs Consulting, on behalf of Persimmon Homes, to undertake an archaeological evaluation by trial-trenching and, subsequently, an open area

excavation of part of the site in order to mitigate the impact of development. Both phases of fieldwork followed methodologies of approved Written Schemes of Investigation (ASE 2017a, b).

1.4 Circumstances and Dates of Work

1.4.1 The evaluation trenching and excavation were undertaken in advance of residential development. The archaeological trenching took place between 12 June and 11 July 2017, and the excavation between 31 July and 25 August 2017.

1.4.2 The fieldwork was carried out by ASE staff. It was managed by Andy Leonard and directed in the field by Mark Germany. The archaeological fieldwork was monitored by Maria Medlycott of ECC Place Services.

1.5 Archaeological Methodology (Evaluation)

1.5.1 The archaeological trenching consisted of fifty-five trenches, each measuring 2m wide and 50m long (Fig. 2). Removal of the topsoil and subsoil of each trench was undertaken by a tracked excavator, equipped with a 2m wide toothless ditching bucket. The underlying surface of natural deposits was then visually inspected for the possible presence of archaeological cut features and finds. The stripping of the trenches was archaeologically supervised.

1.5.2 The general aim of the trenching was to determine, as far as reasonably practicable, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains within the bounds of the site and by such enable ECC's Archaeological Advisor to make an informed decision as to the requirement to any further work.

1.5.3 The site-specific aims of the evaluation included recovery and recording of prehistoric finds and features, and remains related to the prehistoric to Roman transition. Others were to investigate the town's Saxon and manorial past, and its role in the fishing trade.

1.5.4 The evaluation trench plan, as shown in the WSI (ASE 2017a), was partly dictated by two water mains and a sewer, which crossed the site from north to south, north-west to south-east, and south-west to north-east, and by an overhead electricity cable, which bordered the site's western edge. No archaeological excavation was permitted to take place close to these modern services.

1.5.5 Alterations had to be made to the trench plan during the trenching because of unforeseen obstacles, resulting in only five of them being dug in their intended locations (Trenches 32, 33 and 43 to 45). These included the presence of large bales of hay, overhead tree canopies, newt fences and avoidance of cutting-off access routes for vehicles.

1.5.6 Trenches 43, 46 and 47 were extended during the evaluation in order to understand better the extent and nature of their archaeological remains. This was requested by ECC Place Services. Each trench extension retained the

number of its parent. Trench 49 near the east end of the site straddled an unforeseen hedge and was subsequently divided.

1.5.7 All of the trenches, archaeological features and sections were accurately located and planned by use of a Digital Global Positioning System (DGPS).

1.5.8 The archaeological work followed the conditions set out in the approved WSI (ASE 2017a). The site code was BCGL17.

1.5.9 Standard ASE excavation, artefact collection and recording methodologies were employed throughout and in accordance with the Chartered Institute for Archaeologists (CIfA) *Code of Conduct* (CIfA 2014a), and standards and guidelines (CIfA 2014b, c).

1.5.10 All archaeological features were excavated and recorded using the ASE recording system. Features and deposits were recorded on pro-forma context record sheets, feature sections were drawn at 1:10 and digital photographs were taken of all trenches, excavated features and of work in progress. The minimum intervention percentage per cut feature was 50% per pit and post-hole, and 10% per gully and ditch.

1.5.11 Nineteen feature deposits were bulk sampled and wet sieved for small animal bones and carbonised plant macrofossils, in order to obtain information about the site's past economy and environment. The sample volumes were 30-40 litres per context.

1.5.12 All finds from excavated deposits were collected and retained in accordance with the ASE artefacts collection policy. No finds covered by the Treasure Act were discovered.

1.5.13 The trenches were metal-detected for pre-modern metal artefacts.

1.6 Archaeological Methodology (Excavation)

1.6.1 The excavation took place within the central south part of the site, within the south parts of the two fields that had been previously investigated by evaluation Trenches 37, 38, 39, 40, 41, 47 and 55 (Fig. 2). The west part of these was stripped, mapped and assessed prior to excavation. The size of the excavation area was 0.926ha.

1.6.2 The excavation site was stripped of its topsoil and subsoil by a tracked excavator, equipped with a 2m wide toothless ditching bucket. The stripping was archaeologically monitored.

1.6.3 The methodology of the excavation fieldwork, as set out in a separate WSI (ASE 2017b), was akin to that of the evaluation phase and in accordance with CIfA standards and guidelines (CIfA 2014a, c, d).

1.6.4 The minimum intervention percentages per feature type were 50% of each pit and post-hole, and 10% of each gully or ditch.

1.6.5 The collection of soil samples for obtaining small animal bones and plant macrofossils was mostly restricted to well-dated contexts.

1.6.6 Feature sections were drawn at 1:10 and digital photographs were taken of all features, and of work in progress. Boundaries, section lines and archaeological features were planned and spot-heighted by use of a DGPS.

1.7 Organisation of the Report

1.7.1 This post-excavation assessment (PXA) and updated project design (UPD) has been prepared in accordance with the guidelines laid out in *Management of Research Projects in the Historic Environment (MoRPHE), Project Planning Notes 3 (PPN3): Archaeological Excavation* (Historic England 2008).

1.7.2 It places the results of the site within their local archaeological and historical setting. It quantifies and summarise them, specifies their significance and potential, and assesses their ability to address the original research aims. Further analytical and reporting work, if needed, is identified.

1.7.3 The results of the evaluation trenching and open area excavation have been integrated into this single report. Individual archaeological contexts are referred to in square brackets; the evaluation contexts are preceded by their trench number, *e.g.* [01/001], whereas those of the excavation begin with [1] and are numbered sequentially.

1.7.4 References to sections within this report are referred to thus (3.7).

2.0 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The following archaeological and historical background information is drawn from the Historic Towns Assessment Report for Burnham-on-Crouch (ECC 1999) and the DBA (Archaeological Solutions 2012). These are based on evidence held in the Essex Historic Environment Record (EHER), the Essex Record Office (ERO) and other readily available sources. Figure 1 shows the locations of archaeological sites and find spots mentioned in the text.

2.2 Prehistoric

2.2.1 Examples of flint artefacts and debitage from Burnham-on Crouch are comparatively sparse, compared to other parts of Essex. Most of its worked flints have been found west of the town, within the area between the railway line and the River Crouch to the south. These include two Palaeolithic cores and flakes from Thatched Cottage (EHER 11350, 11310) near the site's north-east corner and a semi-leaf-shaped flint tool (EHER 11318) recovered *c*.250m to the south. Other notable findings recorded within the vicinity of the site are Clactonian (Palaeolithic) implements (EHER 11214) and a founder's hoard of six Bronze Age loopless palstaves (EHER 11211), both *c*.700m to the south.

2.3 Iron Age and Roman

2.3.1 Located *c*.600m to the south of the site, the earliest nucleated settlement at Burnham-on-Crouch appears to have been a Late Iron Age to Romano-British farmstead (EHER 11332) situated on the Dengie Peninsular between the town of *Caesaromagus* (Chelmsford) to the west and the fort at *Othona* (Bradwell) to the east. The Burnham-on-Crouch Archaeological Society undertook an archaeological excavation of the farmstead, at Springfield Industrial Estate, in the 1970s. Its findings have not been published, although photographs at Burnham Museum show Roman remains underneath *c*.1m of alluvium (ECC 1999, 7).

2.3.3 Iron Age burials (EHER 11235) and cropmark enclosures of Late Iron Age or Roman date (EHER 11338, 11341) south of the site and west of the town are indicative of occupation activity close to Burnham-on-Crouch during this period (ECC 1999).

2.3.4 A 1st-century AD Romano-British farmstead succeeded the Late Iron Age farmstead (EHER 11333, 15291). The Dengie peninsula was an ideal location for salt extraction, given its estuaries and coastal location. Stoneyhills (EHER 47316), *c*.1km north-east of the site, has a large red hill more than 220m wide. Archaeological excavation of a red hill at Bradwell-on-Sea to the north-east, revealed platforms of red earth and numerous pieces of briquetage (Ennis 2014, 87-102). The Bradwell-on-Sea red hill was probably in use *c*.10-60 AD.

2.3.5 Re-used Roman ceramic building material (CBM) is part of the fabric of St Mary's Church (EHER 11225), located on the opposite side of Church Road to the east.

2.4 Anglo-Saxon and Medieval

2.4.1 Burnham-on-Crouch is recorded in the Domesday Book of 1086. Its form during that period is uncertain, although it may have consisted of a small village focused on St Mary's Church, whose current building (EHER 11226, 11227, 25032) was first erected in the 14th century but may have been preceded by earlier structures.

2.4.2 A moat at Hall Farm (EHER 11224), near St Mary's Church, is posited to have been the site of a homestead or hall central to the town's original medieval core. It is postulated that the area surrounding Hall Farm, possibly encroaching on the site, may be the location of a Deserted Medieval Village (DMV) (EHER 11223), although this would be beyond the postulated extent of the 'Church and Hall complex' (ECC 1999, 22).

2.4.3 In 1253, a manor was granted to the Fitzwalter family who owned the manor of Burnham. It is possible that this coincided with the shifting of the settlement's core to the riverside where the modern day quay and High Street are situated. Elements of the later medieval town appear to have been deliberately planned (ECC 1999, 7).

2.5 Post-Medieval and Modern

2.5.1 The mainstays of Burnham-on-Crouch's economy during the post-medieval/modern period were oysters and fishing, and the ancillary trades of boat building and coopering (ECC 1999, 8). The boat building trade currently depends on recreational craft rather than fishing boats.

2.5.2 Burnham Hall, the manor of Burnham, remained situated on the northern edge of the town and was built in the 17th century on the moated site at Hall Farm (HER 25033, 47426) adjacent to the east of the site on the opposite side of Church Road. Other surviving buildings from this period include the red brick Cherry Garden on Maldon Road (EHER 38778) and the Old Vicarage, Stoneyhills (EHER 38783).

2.5.3 A brickworks (EHER 11309), consisting of pits and kilns, straddled Green Lane, adjacent to the north central part of the site, during the late 19th to early 20th century. The south half of the brickworks extended into north-west part of the archaeological evaluation area. Historic Ordnance Survey mapping shows the remainder of the site to have been an agricultural landscape of broadly rectilinear fields. Due to boundary loss, the complexity of this enclosed landscape lessened through the 20th century.

3.0 ORIGINAL RESEARCH AIMS

3.1 General Aims

3.1.1 The WSIs of both the evaluation and excavation phases of fieldwork set out the general aims of the archaeological investigations (ASE 2017a, b), which were as follows:

- To preserve by record the location, extent, date, character, condition, significance and quality of all surviving archaeological remains.
- To further determine the date and purpose of the features recorded in the evaluation and to discover whether they were part of a larger group of features.

3.2 Site-Specific Aims

3.2.1 Following the evaluation phases, the excavation WSI (ASE 2017b) identified a series of seven Original Research Aims (OR1–7) with reference to the *Research and Archaeology Revisited: a Revised Framework for the Eastern Counties* (Medlycott 2011), as follows:

OR1 Examination of the inter-relationships between settlements, together with variation and changes in settlement types to explore social changes taking place *(*Medlycott 2011, 20*)*

OR2 The development of enclosed settlement and fields from the Bronze Age through to the Roman period (Medlycott 2011, 21)

OR3 Understanding more about settlement patterns and use of the landscape during the Early Iron Age (Medlycott 2011, 29-30)

OR4 At what date(s) are extensive Iron Age field systems and enclosures established, and how do these relate to earlier systems and settlements? (Medlycott 2011, 31)

OR5 The nature of the agrarian economy needs further study. Is a real understanding of continuity and change emerging? What are the relative proportions of cereals and livestock and is there a changing dynamic throughout the [Iron Age] period? (Medlycott 2011, 31).

OR6 What form do farms take, and is the planned farmstead widespread across the region? (Medlycott 2011, 47).

OR7 How far can the size and shape of fields be related to the agricultural regimes identified, and what is the relationship between rural and urban sites? (Medlycott 2011, 47).

4.0 EVALUATION RESULTS

4.1 Introduction

4.1.1 A comprehensive trial trench evaluation was undertaken across the site, with the excavation of fifty-five trenches, each measuring 50m by 2m, with extensions to Trenches 43, 46 and 47.

4.1.2 Archaeological deposits and features were recorded in twenty-six evaluation trenches. These are discussed in sections 4.3-4.8 under provision period headings, established during analysis following the excavation phase of fieldwork (see 5.1). Evaluation trenches with archaeological remains relevant to the excavation are only briefly discussed here, their results being integrated with those of the excavation phase.

4.1.3 Recorded archaeological features comprised ditches, pits and post-holes. Plans of trenches containing archaeological features are illustrated in Figures 3-27, along with selected sections and photographs.

4.1.4 No archaeological features were recorded in twenty-nine trenches. A summary of these trenches is presented in section 4.9, with further details given in Appendix 1.

4.2 General Soil Descriptions

4.2.1 Excavation of the evaluation trenches revealed a straightforward sequence of topsoil and, where present, subsoil deposits overlying the natural geological deposit. The overlying deposits were formed of a topsoil typically of dark greyish brown sandy silt or silty clay (0.18-0.66m thick) covering the entire site and, where present, a subsoil typically of mid greyish brown silty clay (0.02-0.28m thick). The natural deposits generally consisted of light yellowish brown silty clay/brick earth, with darker patches and patches of gravel noted in some trenches.

4.2.2 Archaeological remains were encountered below the topsoil and subsoil layers, and were cut into the top of the natural deposit.

4.2.3 Modern intrusions, mainly field drains, were noted in a number of trenches containing archaeological features.

4.3 Period 1: Earlier Prehistoric (Mesolithic and Neolithic)

4.3.1 A small assemblage of twenty-one pieces of struck flint and eighty-three pieces of fire-cracked flint (FCF) was recovered during the evaluation phase. They were recovered from eight contexts across six evaluation trenches (Trenches 4, 37, 39, 43, 47 and 51). The majority of these artefacts were residual within later features or found in undated features, including a post-hole adjacent to a later prehistoric enclosure ditch excavated in Trench 37 (see 4.4), and a small number were unstratified.

4.3.2 The assemblage of struck flint largely comprised flakes, with the addition of two bladelets, two flake cores and a piece of waste. They are products of a

blade-orientated technology and provided limited evidence of a Mesolithic or Early Neolithic presence at the site.

4.3.3 Burnt flint, whilst not closely datable, is frequently considered indicative of prehistoric activities.

4.3.4 The presence of worked and burnt flint is suggestive of limited earlier prehistoric occupation activity at the site. This correlates with the low incidence of earlier prehistoric finds recorded in the wider vicinity of the site.

4.4 Period 2: Later Prehistoric (Late Bronze Age to Middle Iron Age) (Figures 6, 9, 17 and 23)

4.4.1 A large proportion of the archaeological features identified during the evaluation phase that can be dated to the later prehistoric period were concentrated in the south towards the centre of the site, with outlying features of similar date recorded in the south-west.

4.4.2 In the south-west of the site, east/west aligned ditch [18/008] crossed Trench 18. Measuring 0.97m wide and 0.18m deep, it had gradual sloping sides and a concave base. Its single fill [18/007] of soft, dark grey silty clay with gravel, stone and flint inclusions contained two sherds of pottery of possibly Middle Bronze Age to Late Iron Age date. The ditch was not found to continue eastwards into blank Trench 19.

4.4.3 In Trench 22, situated to the east of Trench 18, was gully [22/005] on an east/west orientation and extending beyond the trench limits. The gully measured 0.20-0.42m wide and 0.15m deep, and had concave sides gradually breaking into a concave base. Its single fill [22/004] consisted of firm, mid greyish brown clay with moderate amounts of pebbles, from which six sherds of Early/Middle Iron Age pottery were retrieved (however, it is noted that this ditch aligned with [18/006] to its west, from which medieval pottery was recovered).

4.4.4 Located in Trench 43 was sub-rectangular pit [43/007], measuring 0.78m x 1.48m and 0.07m deep, that extended beyond the trench limit and was cut by a later, possibly Roman, ditch (section 4.5). Its single fill [43/006] comprised brownish grey and pale orange silty clay with infrequent stones and flecks of charcoal, from which three sherds of Early to Middle Iron Age pottery were recovered.

4.4.5 The majority of the later prehistoric features were excavated in Trenches 37-41, 47 and 55. Given the extent of the features found within these trenches, the subsequent excavation area targeted these remains in order to investigate fully their extent, character and date. The remains identified in these evaluation trenches are only briefly considered here and are discussed in more detail as part of the excavation results in section 5.4.

4.4.6 A number of ditches were recorded in Trenches 37, 47 and 55, and, during the excavation phase, these were found to form parts of several enclosures and a structure (see 5.4). Together, ditches [37/008] and [47/007] contained more than 200 sherds of pottery dating between the Early and Middle Iron Age.

4.4.7 A small number of pits were also recorded across Trenches 38, 40, 41 and 47, which contained Late Bronze and earlier Middle Iron Age pottery. These are considered in more detail in section 5.4.

4.4.8 The archaeological features excavated during the evaluation phase provided evidence of occupation activity during the later prehistoric period. Given the limited evidence of similar date known within the wider vicinity of the site, the evaluation demonstrated the potential of the site to further understand the significance of the occupation and nature of land use activities in this area of south-east Essex and so warranted further excavation (see 5.0).

4.5 Period 3: Late Iron Age and Roman (Figure 23)

4.5.1 The evaluation phase of investigations identified few remains relating to the Late Iron Age and Roman phase of the site. The recovered finds dating to this period comprised a small number of Late Iron Age/Early Roman and Roman pottery sherds and fragments of Roman CBM, the majority of which were residual in later contexts (in fills of .

4.5.2 Located in the north-west of Trench 43 was ditch [43/005], which may have been Late Iron Age/Early Roman in date. Situated on a NNW/SSE alignment and extending beyond the trench limits, the ditch measured 1.80m wide and 0.66m deep, and had moderately steep, concave sides and a concave base. Its single fill [43/004] of compact, mid darkish brown silty clay contained thirteen sherds of pottery of mixed Early/Middle Iron Age (possibly residual) and Late Iron Age/Early Roman fabrics and a ceramic triangular loom weight (RF<7). The ditch cut later prehistoric pit [43/007] (see 4.4) and so is considered probably later in date.

4.5.3 The limited nature of the remains dated to the Late Iron Age and Roman phase of the site provides little information regarding the nature of the occupation and land use at this time.

4.6 Period 4: Medieval (Figures 6, 15-19 and 24)

4.6.1 Located in the north-east of the site, Trench 46 contained two deposits ([46/004] and [46/005]), both dating to the medieval period. Situated in the north of the trench, deposit [46/004] consisted of firm, dark brown grey, with occasional orange mottling, clay silt with frequent charcoal flecks. It measured more than 10m long and 1.75m wide, extending beyond the north and east trench limits, and it was 0.19m thick. A total of 310 sherds of medieval pottery of various fabrics and vessel forms (see 6.4) were retrieved from this deposit, as well as one piece of animal bone, three fragments of CBM, a copper-alloy annular brooch (RF<1>) of late 13th- to 14th-century date and a small iron masonry hinge pintle (RF<6>) of similar date.

4.6.2 The second deposit [46/005] extended beyond all trench limits and so a 3.70m by 1.00m box section was excavated towards the centre of Trench 46. This deposit consisted of soft, mid brown clay silt from which a smaller assemblage of forty pieces of abraded medieval pottery similar to that in

[46/004] was collected by hand, as well as four pieces of animal bone, twenty-nine fragments of shell and a residual piece of Roman CBM.

4.6.3 The material evidence retrieved from both deposits in Trench 46 appears domestic in nature, particularly the pottery with the usual mixture of tablewares and kitchenwares. This material provides evidence for medieval activity within the vicinity of the site, corresponding with the site of the medieval village, the focal point of which is considered to have been St Mary's Church located east of the site.

4.6.4 Located in the south-west of the site, in Trench 18, was medieval gully [18/006]. Aligned east/west, this gully measured more than 2m long, extending beyond the trench limits, 0.52m wide and 0.15m deep, and had gradually sloping sides and a concave base. Its single fill [18/008] consisted of firm, dark brown clay with rounded stones and contained two sherds of medieval pottery.

4.6.5 Recorded in Trenches 35-39 were the remains of a series of mostly parallel and regularly-spaced strip gullies, which are discussed in more detail in section 5.6. They generally measured 0.65-1.45m wide and 0.13-0.40m deep, and typically had gradually sloping sides and concave bases, although some were square-sided. They contained single fills typically consisting of yellow/orange brown to grey brown silty clay. The dating evidence recovered from these features was limited, comprising one sherd of Middle to Late Iron Age pottery and three sherds of Roman pottery, all of which are considered residual. The gullies are considered to be medieval in date as they stratigraphically post-date the prehistoric enclosure (see 4.4 and 5.4) and pre-date the ENE/WSW post-medieval field boundary recorded in Trenches 38-40 and 47 (see 4.7 and 5.7).

4.7 Period 5: Post-Medieval and Modern (Figures 7-9, 18-20, 25-27)

4.7.1 A small number of post-medieval features were encountered within the site and these typically comprised ditches.

4.7.2 An ENE/WSW aligned post-medieval ditched was excavated in Trench 22. The ditch [22/009] was found below the topsoil and subsoil, cutting into the natural deposits. It measured 1.70m wide and 0.72m deep, and had slightly concave sides gradually breaking into a concave base. It contained a single fill [22/008] of firm, mid greyish brown, slightly sandy clay with moderate flint and stone inclusions. Recovered from this fill were two fragments of early post-medieval (late 15th- to 17th-century) CBM.

4.7.3 This ditch was found to continue eastwards into Trench 20 and westwards into Trench 21, where it was excavated. Ditch [21/005] measured 1.74m wide and 0.41m deep, and had slightly convex sides gradually breaking into a concave base. Its single fill [21/004] comprised compact, mid greyish brown clay, from which three pieces of animal bone were retrieved.

4.7.4 In total, this post-medieval ditch crossed the site for *c*.110m. It appears to be of a similar alignment and in a similar location to a field boundary depicted on the 1849 tithe map and possibly the 1873 and later OS maps. Together with the cartographic evidence, the remains of the post-medieval ditch

identified in Trenches 20-22 provide evidence for the agricultural nature of land use during the post-medieval and modern periods.

4.7.5 A second, possibly early post-medieval ditch was recorded in Trench 21. Ditch [21/007] was on a NNE/SSW alignment, different to that of ditch [21/005]. It measured 0.80m wide and 0.34m deep, and had steep, concave sides and a concave base. Its single fill [21/006] consisted of compact, dark brownish grey clay with chalk fragments, from which one fragment of possibly early post-medieval tile and an iron kettle handle (RF<5>) of late post-medieval date was recovered. This ditch most likely correlated to that depicted on the 1849 tithe map and possibly that on the 1873 OS map, attesting to the agricultural land use at the site during the post-medieval/modern period.

4.7.6 Located in Trench 40 was an ENE/WSW aligned ditch. Ditch [40/009] measured *c*.2.00m wide and 0.75m deep, and had concave sides gradually breaking into a concave base. Its single fill [40/010] comprised compact, mid greyish brown silty clay with moderate flint inclusions. The ditch contained a ceramic drainage pipe, as well as three fragments of post-medieval CBM and six pieces of shell. It continued eastwards into Trench 47, where it was investigated further during the excavation phase (see 5.7), and westwards in Trenches 39 and 38, where it remained unexcavated. The ditch broadly corresponded to a field boundary shown on the 1849 tithe map but does not appear on the 1873 OS map.

4.7.7 In Trench 51, in the east of the site, was broadly north/south aligned ditch [51/006]. Extending beyond the trench limits, the ditch measured 1.35m wide and 0.38m deep, and had concave sides and base. It contained two fills: an upper fill [51/005] of loose, dark brownish grey silt clay with charcoal and a lower fill [51/004] of compact, mid darkish brown silty clay. Whilst the lower fill was devoid of finds, the upper contained nine sherds of medieval pottery. As the sherds were abraded, the pottery is considered residual in nature, suggesting that the ditch is post-medieval in date. Environmental sample <1> collected from the upper fill of this ditch contained a moderate amount of charcoal, including oak, and small quantities of FCF, fired clay, magnetised material and charred plant macrofossils, including cereal remains, such as wheat and barley, and wild/weed seeds, notably stinking chamomile. Although not dated by its artefacts, the ditch most likely is associated with a short boundary depicted on the 1849 tithe map, although their positions do not exactly correlate (Fig. 34).

4.7.8 Further east, Trench 53 contained broadly north/south aligned ditch [53/005]. Extending beyond the trench limits, the ditch measured 1.3m wide and 0.44m deep, and had steep sides sharply breaking into a flat base. Its single fill [53/004] comprised compact, dark greyish brown silty sand with occasional flecks of charcoal and stone inclusions. Although no dating evidence was retrieved, its north/south alignment fits with the surrounding enclosed landscape as shown on historic OS mapping.

4.7.9 The limited post-medieval evidence uncovered across the south of the site is indicative of the agricultural nature of land use during this period. The alignments of the ditches broadly correspond to those of field boundaries shown on the 1849 tithe map and historic OS maps, although their positions

do not exactly match, demonstrating the continued agricultural land use of the area.

4.7.10 Modern field drains were observed in a number of evaluation trenches that contained archaeological features (Trenches 3, 9, 10, 18, 28-30, 32, 36, 47 and 53). A modern pit was recorded in Trench 10 ([10/004]), as well as two large modern features in Trenches 3 ([3/004]) and 9 ([9/004]).

4.8 Undated

4.8.1 Undated archaeological features, comprising ditches/gullies, pits and post-holes, was recorded in a number of evaluation trenches, largely located across the south and north-east of the site. They generally lacked diagnostic material evidence, morphological characteristics or relationships, and spatial patterning.

4.8.2 A number of undated pits and post-holes were revealed in Trenches 18, 28, 34, 36, 37 and 39-41. Within Trench 18 in the south-west of the site was small, oval pit [18/004], measuring 0.34m by 0.47m and 0.12m deep. It had gradually sloping sides and a curved base, and contained a single fill [18/003] of firm, light greyish brown silty clay. Similarly, two post-holes ([28/005] and [28/007]) and an elongated pit ([28/009]) were excavated in Trench 28 and devoid of finds. In Trench 34, possible post-hole [34/009] was recorded in the west of the trench, measuring 0.69m by 0.20m and 0.30m deep. Similar to other features, it contained a single fill [34/008] of firm, mid brownish grey silty clay with occasional flint and chalk inclusions, and flecks of charcoal. Collected from this fill was environmental sample <3>, from which small quantities of charcoal, burnt bone, fired clay, FCF, flint, coal, magnetised material, glass and charred remains of wild/weed seeds were recovered. Located towards the east of Trench 36 was oval pit [36/004], measuring 1.47m by 0.72m and 0.19m deep. It had concave sides gradually breaking into a concave base and contained a single fill [36/003] of firm, dark brownish grey silty clay with frequent flecks of charcoal. The remaining undated pits and post-holes that were first encountered in evaluation Trenches 37 and 39-41 are discussed in detail in section 5.8.

4.8.3 A small number of undated pairs of broadly parallel gullies were identified in Trenches 29, 35, 36, 41 and 42. These features were generally 0.40-1.00m wide and 0.11-0.23m deep, and found on varying alignments. They typically contained single fills of grey brown silty clay with few inclusions. Environmental soil sample <5>, collected from fill [41/009] of gully [41/010], contained small quantities of charcoal, magnetised material and charred remains of black bindweed. Given their lack of dating evidence and spatial patterning with other dated features, the function and potential date of these gullies is unknown.

4.8.4 Other singularly occurring ditches/gullies were recorded in Trenches 30, 32, 34 and 43. Narrow ditch [30/005] crossed the centre of Trench 30 on a NW/SE alignment, measuring 0.62m wide and 0.18m deep. It had steep sides gradually breaking into a curved base and contained a single fill [30/004] of soft, dark brownish grey silty clay with few stone inclusions. In Trench 32, gully [32/006] extended for *c.*18m across the south of the trench on a broadly north/south alignment and measured 0.30-1.00m wide. The

feature was not excavated and so it remains undated. Curvilinear gully [34/005]/[34/007] was broadly NE/SW aligned, had a rounded terminus and extended beyond the south trench limit, measuring *c*.3.4m long by 0.55m wide and 0.15-0.23m deep. It contained a single fill of firm, mid greyish brown silty clay with occasional flint inclusions. Located in the south-east of Trench 43 was NE/SW aligned ditch [43/009]. Extending beyond the trench limits, it measured 1.09m wide and 0.34m deep, and had steep sides and a concave base. It contained a single fill [43/008] of loose, mid brownish grey silty clay.

4.8.5 These undated features, unfortunately, contribute little to the wider understanding of the occupation and land use of the site. Whether any of these constitute the further extents of the system of parallel medieval strip gullies is unclear.

4.9 Archaeologically Negative Trenches

4.8.1 Twenty-nine trenches (Trenches 1, 2, 4-8, 11-17, 19, 23-27, 31, 33, 44, 45, 48, 49, 50, 52 and 54), distributed largely across the western half of the site, with some in the east and north-east, contained no archaeological remains.

4.8.2 Modern impacts, mainly field drains, were found crossing the site and were observed in a number of the blank trenches (Trenches 1, 2, 4, 6-8, 12, 14, 16, 25-27, 31, 33, 44, 49.1 and 52). Areas of modern disturbance were also identified in Trenches 5 and 54 located in the north and east of the site, respectively.

4.8.3 Variations in the natural geological deposits, comprising areas of gravel deposits and darker natural deposits were also noted in a number of the blank trenches (Trenches 6, 7, 8, 11-17, 23, 26, 31 and 33).

5.0 EXCAVATION RESULTS

5.1 Introduction

5.1.1 Subsequent to the evaluation phase, an excavation area was investigated in the south towards the centre of the site, comprising an area measuring *c*.0.93sq m (encompassing evaluation Trenches 37-41, 47 and 55). Its location, in relation to the evaluation trenches, is shown in Figure 2.

5.1.2 The excavation results are described and discussed, incorporating the relevant results from the preceding evaluation. A context list providing further details is presented in Appendix 1.

5.1.3 The archaeological records, plans, section drawings, photos, context and register sheets of the site have been sorted and checked. The context data has been entered into ASEBASE, ASE's online database, and the features and fills, where possible, have been provisionally dated and grouped by use of spot dates, and spatial and stratigraphic relationships.

5.1.4 Individual contexts, referred to thus [***] not (***), have been sub-grouped and grouped together during post-excavation analysis and features are generally referred to by their sub-group (SG**) or group label (G**). In this way, linear features, such as ditches that may have numerous individual slots and context numbers, are discussed as single entities, and other cut features, such as ring-gullies, pits and post-holes, are grouped together by structure, common date and/or type. Environmental samples are listed within triangular brackets <**> and registered finds thus: RF<*>.

5.1.5 The majority of the recorded archaeological remains were dated by recovered diagnostic artefacts to the later prehistoric period, with scattered features of Roman, medieval and post-medieval/modern dates. These features have been provisionally assigned to one of five periods determined primarily through the assessment of the dateable artefacts, predominantly the pottery, and secondarily through the creation of relative chronologies where stratigraphic relationships exist. The periods are as follows:

Period 1: Late Bronze Age
Period 2: Later Prehistoric (Bronze Age to Middle Iron Age)
Period 3: Late Iron Age and Roman
Period 4: Medieval
Period 5: Post-Medieval and Modern

5.1.6 The recorded archaeological remains are described and discussed under provisional period headings. All recorded features are shown on a multi-phase plan (Fig. 28), with context numbers labelled and excavation extents indicated. Group numbers and land use entities are marked on subsequent Period/Phase plans for the excavation areas (Figs 32-34). Selected sections are shown in Figures 29 and 30. A selection of photographs are presented in Figure 31.

5.1.7 Past land use entities (as opposed to modern imposed excavation areas) are provisionally identified. Primarily defined by the archaeological remains of boundaries (*e.g.* ditches, gullies, etc.), these entities are termed and

numbered sequentially (*e.g.* 'Open Area' – OA1, OA2, etc., ''Enclosure' – ENC1, 'Structure' – S1) for ease of reference to given parts of the landscape exposed within the site in any period/phase.

5.2 Natural Deposits

5.2.1 Excavations in all parts of the site revealed a typical stratigraphic sequence of 0.33-0.51m of topsoil [1], and 0.02-0.35m of subsoil [2] where present, overlying the natural deposits [3], which comprised a fairly consistent orange/yellowish brown grey sandy, silty clay with varying amounts of small, rounded gravel stones.

5.2.2 All archaeological remains were found below topsoil, and subsoil deposits where these existed, unless indicated otherwise.

5.3 Residual Earlier Prehistoric

5.3.1 Forty-two pieces of struck flint imply a low level of human activity across the site during the earlier prehistoric periods. None of these flints are closely datable, although some are perhaps Mesolithic/Early Neolithic. All are either unstratified (*i.e*. surface finds or in topsoil) or residual items from post- Period 1 contexts. Most are widespread and thinly scattered, with no concentrations evident. Six of the flints were found in Period 4 medieval pot dump (G49). The assemblage includes two cores, a hammer-stone, flakes and bladelets.

5.3.2 An assemblage of 7,431g of fire-cracked flint (FCF) was retrieved from forty-three contexts. Fire-cracked flints (FCF) are often considered prehistoric in date but are otherwise not closely datable. At least some of this is likely to be residual and to have derived from earlier prehistoric activity.

5.4 Period 1: Middle to Late Bronze Age (Figure 32)

5.4.1 Only a small number of Middle/Late Bronze Age pits (G27: [205 / 41/008], [218], [226], [248], [260]) were present within the south-west of the area (OA1) to the west of ENC1. Three elongated, sub-oval pits ([218], [226], [248]) were situated in a line on the same NW/SE alignment. They measured 1.80-2.90m long, 0.66-1.45m wide and 0.13-0.43mm deep, and they had concave sides gradually breaking into concave bases (Fig. 30, section 19). They contained between one and four fills that generally consisted of orangey to grey brown silty clay, from which thirty-five sherds of Middle and Late Bronze Age pottery, as well as a small quantity of worked flint, FCF and fired clay were retrieved. Environmental samples <17> and <18> were collected from [226] and [248], respectively, from which small quantities of charcoal, FCF, pottery, flint, fired clay, magnetised material and charred plant macrofossils, including oat, wild pea/bean, knotgrass and goosefoot, were recovered. Located *c*.7.5m to the north-east and perpendicular to these pits was pit [41/008 / 205]. Sub-rectangular in plan and measuring 2.10m by 0.68m and 0.26m deep, this pit also contained thirty sherds of probable Late Bronze Age pottery.

Together with undated G37 pits on a similar orientation and alignment, these G27 pits may have formed part of an earlier rectilinear enclosure or land division that pre-dated the Middle Iron Age enclosure. However, this

perceived alignment may, at least in part, have been influenced by Trench 41.

5.4.2 Although few in number, these pits containing broadly Late Bronze Age pottery provide evidence of occupation activity, perhaps of an agricultural nature, that took place prior to the establishment of the Middle Iron Age enclosed farmstead.

5.5 Period 2: Later Prehistoric (Figure 32)

Main Enclosure (ENC1)

5.5.1 A Middle Iron Age farmstead within a large ditched enclosure (ENC1), which is assumed to have been sub-rectangular, occupied the central part of the site during Period 2. The main enclosure (ENC1) was *c*.58m wide and *c*.80m long (totalling *c*.4,650sq m). Its north and south extents were not encountered.

5.5.2 The profile of the ENC1 ditch (G1-G11) generally consisted of a concave break of slope at the surface above moderate to steep-sloping sides and a concave base. It was *c*.3-4m wide and 1m deep.

5.5.3 The excavated ditch segments ([37/008, 117, 185, 266, 251, 238, 191, 130, 27, 47/007, 86]; G1-G11 respectively) contained between two and nine fills, which generally consisted of yellowish to brownish grey silty clay with varying amounts of flint, pebble and charcoal inclusions. Ditch segment G11 ([86]) contained nine fills (Fig. 29, section 11), from which a small assemblage of cultural material was recovered, including forty-nine fragments of earlier Middle Iron Age pottery, thirteen pieces of animal bone, two pieces of FCF and eight fragments of fired clay.

5.5.4 Perhaps the most informative of the ENC1 ditch interventions was G6 ([238]) on its central-west side. A much larger assemblage of Early to Middle Iron Age pottery, comprising more than 400 sherds, was retrieved from the four fills [236], [237], [243] and [268], with the majority coming from its secondary fill [268] (Fig. 29, section 10). This fill comprised a linear deposit of mid brownish grey silty clay, measuring *c*.10m thick and *c*.4m long. It ran parallel with the course of the ditch and it included numerous pieces of animal bone, FCF, fired clay and a ceramic triangular loom weight (RF<12) in addition to the pottery. Environmental sample <19>, collected from this fill, contained further pieces of animal bone and pottery, as well as charcoal, fired clay, flint and magnetised material.

5.5.5 Other finds recovered from the various excavated segments of the ENC1 ditch included a copper-alloy awl (RF<3>) dated to the Bronze Age and another ceramic loom weight (RF<10>). The distribution of the finds from the ENC1 ditch suggested that they may have been cast been into the ditch from the surface of its exterior edge. If ritual activity was part of their deposition, then it has yet to be ascertained.

5.5.6 Three further environmental soil samples were collected from the ENC1 ditch. Samples <2> collected from fill [47/005] (G10), <11> from fill [115] (G2) and <12> from fill [116] (G2) contained small quantities of charcoal,

FCF, fired clay, magnetised material, animal bone/teeth and pottery, as well as charred plant macrofossils, including cereal remains, notably wheat, bread-type wheat, barley and pea/bean, and wild/weed seeds, comprising goosefoot and grasses (see 6.16).

5.5.7 Few of the fill sequences of the eleven interventions (G1-G11) of ENC1 ditch provided any indication for it having had an inside or outside edge perimeter bank. The earliest parts of the fill sequences of G11 and G3 on its east and west sides, respectively, suggested the latter rather than the former, although neither was strongly convincing. Furthermore, no signs of a revetment to a former bank or a palisade structure were identified along the inside edge. Neither was the position of an entranceway determined.

ENC1 Internal Features and Structures

5.5.8 Within the middle of ENC1 were three shallow ring-gullies that most likely functioned as drainage or wall foundation trenches of probable roundhouses (S1-S3), although limited evidence of associated post-holes, hearths or internal room divisions survived.

5.5.9 Ring-gully S2 (G16: [56], [58] and G17: [29], [37], [60], [40/007]) was fragmentary and the full extent of structures S1 (G15: [88], [100], [134], [136], [138], [140]) and S3 (G18: [178], [269] and G19: [104], [172]) were not fully exposed due to the constraints of the excavation site boundary. The external diameters of structures S1 and S2 were 10m and 11m, respectively. The diameter of structure S3 could not be reliably estimated but was most likely similar. This structure was cut by later strip gullies G18 and G19, parts of probable medieval field system 1 (FS1).

5.5.10 The three ring-gullies measured 0.30-0.65m wide and all had concave profiles (Fig. 30, sections 12-14), the largest and deepest being that of structure S3. They typically contained single fills that generally consisted of orangey to greyish brown silty clay and contained moderate amounts of Early to Middle Iron Age pottery, animal bone and fired clay, small quantities of 'slag' and worked flint, as well as a small amount of intrusive post-medieval/modern glass and CBM (presumably deriving from overlying FS1?). Environmental soil sample <9>, collected from the fill of S2 G16 [58], contained moderate amounts of charcoal, including oak, ash and blackthorn/wild cherry, and small quantities of FCF, pottery, stone, flint, magnetised material, animal bone/teeth and charred cereal remains, including wheat and barley. Sample <10> was collected from the fill of S3 G18 [269], which contained moderate amounts of charcoal and small quantities of FCF, fired clay, burnt bone, pottery, magnetised material and animal bone/teeth, as well as charred plant macrofossils, including wheat and six types of wild/weed seeds, such as wild radish, goosefoot, and knotweed.

5.5.11 The projected circumference of S2 surrounded three slightly curved gullies (G24: [54] / [68], G25: [41] and G26: [39] / [44]), which may have been remnants of preceding or succeeding Period 2 structures. They measured *c*.2.60-3.50m long, 0.42-0.80m wide and 0.12-0.50m deep. These features contained single fills of grey brown silty clay, from which pieces of fired clay,

later prehistoric pottery sherds and animal bones were retrieved. It is notable that the G26 gully appears to run concentrically inside S2.

5.5.12 An L-shaped ditch (G14: [12], [16], [35], [92], [40/016]) in the south part of ENC1 was perhaps part of a small sub-enclosure (ENC3) or one side of a north-west/south-east funnel (associated with a postulated entrance on the south-east side of ENC1?) for controlling of livestock. The ditch measured *c*.16m long, 0.80-1.21m wide and 0.20-0.58m deep, and generally had concave sides gradually breaking into a concave base. It contained a single fill of orange to grey brown silty clay, from which more than fifty sherds of Early to Middle Iron Age pottery, 155 pieces of animal bone, fifty fragments of fired clay, a ceramic triangular loom weight (RF<8>) and single pieces of worked flint, 'slag' and shell were recovered.

5.5.13 Other features encountered within ENC1 were mainly located within its western half. Most consisted of small to mid-sized pits and short stretches of gully, and many remain undated because they had no or too few datable artefacts (see 5.8). Those that could be more securely dated included two short curvilinear gullies (G22: [123] / [125] and G23: [62] / [66]) located to the north-west of structures S1 and S2. They were both broadly NE/SW aligned, measuring 4.56-5.00m by 0.40-0.81m and 0.13-0.20m deep, and had concave sides gradually breaking into concave to flat bases. They contained single fills that generally consisted of orangey brown silty clay, from which Early to Middle Iron Age pottery, FCF and animal bone were retrieved. Environmental sample <8>, collected from fill [61] of G23 gully segment [62], contained quantities of charcoal, including oak, ash and field maple, FCF, pottery, animal bone/teeth, magnetised material and charred botanical remains, including hazel nut shell, unidentified cereals and goosefoot. A third curvilinear gully (G21: [94] / [96] / [98] / [132]) of similar characteristics did not contain sherds of later prehistoric pottery, although eleven pieces of FCF, two of fired clay and three of animal bone were recovered from this feature.

5.5.14 Three groups, G40 ([102], [158], [160], [162], [166]), G41 ([70], [121], [150], [154], [207]) and G42 ([40/004]), comprised small to moderately sized pits measuring 0.34-2.34m long by 0.29-1.66m wide and 0.07-0.37m deep. They typically contained single fills that generally comprised dark grey to greyish brown silty clay with occasional charcoal and stone inclusions. Assemblages of Early to Middle Iron Age pottery, animal bone, FCF, fired clay and 'slag' were recovered from across these pits, with more than 150 sherds of pottery being recovered from the G41 . Environmental sample <4> collected from pit [40/004] (G42) contained small amounts of charcoal, pottery, fired clay, animal bone/teeth and magnetised material, as well as plant remains, including indeterminate cereals and goosefoot.

Open Area 1 (OA1)

5.5.15 Open Area 1 is defined as that part of the investigated landscape outside, and west of, ENC1. The evaluation trenching did not identify linear boundary ditches of Middle Iron Age date outside of the main enclosure and it is possible that there was no real distinction between OA1 and OA2.

5.5.16 No pits of demonstrably Early/Middle Iron Age date were identified in OA1. However, some or all of the G38 and G39 ([174], [176], [242]) undated pits/postholes could in fact have been contemporary.

Small Eastern Enclosure (ENC2)

5.5.17 Two ditches (G12: [110] and G13: [106] / [108]) located at the east end of the excavation site are conjectured to have defined part of a small enclosure (ENC2) with an entranceway facing ENC1 to the west. Only the west side of the possible enclosure was discerned, it measuring *c*.16m wide and more than 4m long. While the eastern recorded end of curving ditch G13 had a distinct rounded terminal, that of opposing ditch G12 was indistinct and petered out. It is possible that, if shallow, the eastern extents of the enclosure had been removed by later agricultural activity. The excavated ditches were 0.19-0.26m deep and contained single fills of grey brown silty clay with occasional charcoal and stone inclusions; however, no finds were recovered from either ditch to indicate a date for this possible enclosure. Nevertheless, given the characteristics and positioning of the ditches, the possible enclosure most likely dated to the later prehistoric period and so an association with ENC1 is proposed. No features were found in its interior to either clarify its date or function. Arguably, ENC2 could be regarded as an occupying feature/entity *within* OA2.

Open Area 2 (OA2)

5.5.18 Open Area 2 is defined as that part of the investigated landscape outside, and east of, ENC1. As previously noted, it is possible that there was no real distinction between OA1 and OA2 and that the landscape around ENC1 was essentially open.

5.5.19 Located to the west of ENC2 and east of ENC1 were two large, 1m-deep pits (G45: [47/011] and G47: [10] / [33]). Both were sub-oval to irregular in plan, measuring *c*.5.50m by 2.78-3.21m, and had moderately sloping sides and concave bases (Fig. 30, section 18). They contained one to two fills of grey brown clayey silt, from which fifty-seven sherds of Early to Middle Iron Age pottery, as well as thirty-five pieces of animal bone, six fragments of fired clay and one piece of worked flint were retrieved. Their functions were not evident, although they are most likely associated with the occupation of the main Middle Iron Age settlement enclosure – perhaps being quarry pits subsequently used for rubbish disposal? The location of these pits either side of the entranceway into posited ENC2 may be significant and have been deliberate.

5.5.20 No other pits of Early/Middle Iron Age date, or indeed of any date, were identified in OA2.

Evaluation Trenches

5.5.21 As discussed above (see 4.4), a small number of features encountered in several of the evaluation trenches outside the excavation area have been dated to the later prehistoric period. The limited nature of these outlying features, found outside the Middle Iron Age settlement enclosure, perhaps attest to the agricultural nature of land use in the surrounding vicinity.

5.6 Period 3: Late Iron Age and Roman (Figure 23)

5.6.1 Very small numbers of fragmentary and degraded Roman pottery sherds were present within some of the fills of the main enclosure ditch (ENC1) but were most likely intrusive. No features encountered within the excavation area were securely dated to this period.

5.6.2 The only possible feature that may be of Late Iron Age/Roman date was the ditch encountered in evaluation Trench 43. As already discussed in section 4.5, ditch [43/005] (G68) contained a small amount of Late Iron Age/Early Roman pottery, a ceramic triangular loom weight (RF<7) and possibly residual Early/Middle Iron Age pottery sherds. However, the ditch was not found to continue into nearby trenches or the excavation area to the south, providing little indication of its function.

5.7 Period 4: Medieval (Figure 33)

5.7.1 A series of gullies in the north-west part of the excavation site and Trench 35 represented a strip field system (FS1). They extended across Period 2 features and were probably in use during Period 4. Eight gullies ran parallel to each other on an ENE/WNW alignment and a ninth ran perpendicular to these on a NNW/SSE alignment. Other recorded medieval remains were ditched enclosure (ENC4), sporadic pieces of medieval or later roof tile and a large spread of medieval pottery (G49).

Field System (FS1)

5.7.2 The broadly NE/SW orientation of the strip gullies was dissimilar to the post-medieval/modern field boundary ditches encountered during the evaluation and excavation phases and also to existing nearby boundaries, buildings and roads. These included Green Lane to the north, Maldon Road to the south and Southminster Road to the east.

5.7.3 The excavated gullies (G29-G36) extended *c*.85m across the excavation area and continued in Trench 35 (G54) to the west. The berms between them varied between 4.2-5.5m wide; strip field gully (G32) appeared to be a later insertion. While the north-east extent of these gullies was not determined, to the south-west they clearly conjoined with NNW/SSE aligned ditch/gully [35/005 / 35/007]. This feature likely marked some sort of axial division within the system – perhaps denoting a field boundary proper. A further set of parallel ENE/WNW aligned gullies evidently extended off from it to the west. The further westward extents of these were not traced by the evaluation. Overall, these gullies collectively a cohesive field system, and/or system of land drainage, that has been traced across the site for a distance of approximately 120m NE/SW by 35m NW/SE.

5.7.4 The profiles and depths of the FS1 gullies varied within and between them. Most were of concave profile, although some were square-cut, and they measured 0.16-1.45m wide and 0.13-0.40m deep. Each contained one or two fills that generally comprised yellow/orange brown to grey brown silty clay. The artefactual dating evidence collected from the strip gullies was minimal. It comprised residual later prehistoric pottery sherds and several

small sherds of Roman pottery, a ceramic triangular loom weight (RF<11>) of Iron Age/Early Roman date and a small fragment of clay tobacco pipe, which would most likely have been intrusive. Environmental sample <14>, collected from fill [179] of G34 [182], contained small amounts of charcoal, animal bone/teeth, coal, flint, fired clay, FCF, magnetised material and glass, as well as charred plant remains, including wheat, bread-type wheat, unidentified cereals and goosefoot. Sample <16> was collected from G36 [216], from which pottery, fired clay, FCF and magnetised material were retrieved. Segment [182] is within the Period 2 settlement enclosure and close to the remains of roundhouse S3. It is possible that much of the earlier artefacts have been disturbed from the roundhouse and/or other occupation features in this immediate vicinity.

5.7.5 The gullies are considered to be medieval in date as they stratigraphically post-date the prehistoric enclosure (see 5.4) and pre-date the ENE/WSW post-medieval field boundary recorded across the excavation area and evaluation trenches (see 4.7 and 5.7).

Enclosure (ENC4)

5.7.6 A relatively large ditch (G62: [194] / [203]) immediately north-west of the strip gullies was possibly the east corner of a ditched enclosure (ENC4), most likely associated with FS1. It was markedly larger than the gullies but it shared their alignment, its south side being with G29-G36 and similarly spaced. As exposed within the north-west corner of the excavation area, the ENC4 ditch ran for *c*.12m on a NE/SW alignment before turning NW/SE for *c*.19.50m. The ditch cut was 0.80-1.13m wide and 0.38-0.62m deep, and had steep, straight sides and a slightly concave base (Fig. 30, section 16). The excavated segments contained single fills of firm, brownish grey and greyish orange silty clay, from which a prehistoric worked flint, four fragments of animal bone and pieces of baked clay were retrieved. Whether G62 constituted a true enclosure ditch, or just a field boundary corner, is unclear. Its further extents were not identified by the evaluation.

Evaluation Trenches

5.7.7 As described in section 4.6, the north end of evaluation Trench 46 exposed overlying layers of dark brown and greyish brown silty clay (G49: [46/004], [46/005]). These extended *c*.10m into the trench and were present between topsoil and natural. They had a combined thickness of *c*.0.19m. Finds recovered from these deposits included a copper-alloy annular brooch (RF<1>) of late 13th- to 14th-century date and a small iron masonry hinge pintle (RF<6>) of similar date and nearly 400 sherds of medieval pottery comprising a domestic assemblage of bowls, jugs and cooking pots. Located to the north-east of the excavation area, this material nevertheless provides evidence for medieval activity within the vicinity of the site, presumably relating to the medieval village of Burnham, the focal point of which is considered to have been St Mary's Church located east of the site.

5.7.8 Located in the south-west corner of the development site, in Trench 18, was a medieval gully (G59: [18/006]) (see 4.6). Containing two sherds of medieval pottery, this feature provides limited evidence for medieval land use in this area of the site.

5.8 Period 5: Post-Medieval and Modern (Figure 34)

5.8.1 Post-medieval and modern remains were thinly scattered and mostly present within the evaluation trenches (see 4.7). These features are indicative of the continued agricultural nature of land use in this area.

Field System (FS2)

5.8.2 The main feature of this date encountered across the excavation area was large, post-medieval to modern ditch G20 ([52] / [220] / [232] / [38/014] / [39/014] / [40/009] / [47/009]), which was recorded on a broadly east/west alignment for *c*.150m. The excavated segments generally measured 1.40-2.00m wide and 0.40-0.77m deep, and typically had moderate to steep concave sides and a concave base. The ditch contained one to two fills that generally consisted of orangey grey brown silty clay with moderate flint and stone inclusions. The ditch contained a ceramic drainage pipe. In total, five sherds of modern pottery, seven fragments of post-medieval CBM, six pieces of shell and a copper-alloy buckle (RF<4>) of late post-medieval date were retrieved from the ditch fills.

5.8.3 As discussed in section 4.7, this ditch broadly corresponded to a field boundary shown on the 1849 tithe map but does not appear on the 1873 OS map. The ditch functioned as a field boundary/drain and was clearly part of the wider agricultural field system (FS2).

Other Features

5.8.4 In the south-west of the excavation area was G28 sub-oval pit [230], in amongst pit cluster G37. Measuring 0.61m x 0.83m and 0.15m deep, the pit had steep sides and an irregular base. It contained a single fill [229] of mid greyish brown silty clay, from which three sherds of modern pottery were recovered. It is not entirely discounted that this late dating evidence is intrusive.

5.9 Undated

5.9.1 A number of archaeological features recorded across the excavation area remain undated due to a paucity of material evidence, but they are most likely associated with the later prehistoric activity at the site. As such, they are described below, grouped by the Period 2 land use areas with which they coincide.

Open Area 1 (OA1)

5.9.2 Four pits (G37: [214], [228], [240], [41/010]) and a gully (G37: [41/014]) contained no dating evidence; however, given their positioning with relation to the dated features of G27, they most likely are associated with the possible Late Bronze Age pit alignment or boundary located south-west of the main enclosure.

5.9.3 Two parallel, east/west aligned gullies (G37: [41/012], [41/016]) were recorded in the south-west; however, their relationship with the other features in this area and their function is unknown. A single sherd of very

abraded earliest to Early Iron Age pottery was retrieved from the fill of [41/016]; however, this provides little reliable indication of the date of the feature. As discussed above (see 4.8), similar pairs of parallel gullies are found elsewhere across several evaluation trenches.

5.9.4 A series of five undated pits/post-holes (G38: [39/019], [39/021], [39/024], [39/026], [39/028]) were positioned in a line on a NW/SE alignment, parallel to the western boundary of ENC1 but also possibly aligned on the ENC4 corner. They ranged in shape, from circular to sub-oval, and size, measuring 0.35-0.71m wide and 0.09-0.21m deep. They contained one or two fills typically of greyish brown silty clay with few inclusions and no finds. Although undated, these post-holes may be the remains of a possible fence line associated with the agricultural land use during the later prehistoric or perhaps medieval period. However, it needs to be acknowledged that these were all dug in Trench 39 and it is possible that they have been selectively or erroneously identified – thus resulting in their perceived linearity.

Main Enclosure 1 (ENC1)

5.9.5 A number of undated pits/post-holes (G74: [142], [152], [156], [164], [40/012]; G75: [18], [20], [22], [24], [46], [48], G46: [5], [7]; and G61: [37/004], [37/006]) and a short undated gully (G42: [20]) were recorded within the boundaries of the ENC1 ditch. The pits/post-holes ranged in shape from sub-circular to sub-rectangular and varied in sized, measuring 0.35-1.19m long, 0.28-1.05m wide and 0.05-0.39m deep. They generally contained single fills of grey brown silty clay with few inclusions. Two G42 pits, [22] and [48], had environmental soil samples, <6> and <7> respectively, collected from their fills. The analysis of the samples identified small quantities of charcoal, FCF, fired clay, magnetised material, coal, shell and charred cereal remains, including oat and unidentified examples. Curvilinear G42 gully [20] measured *c*.3.40m by 0.40m and 0.05m deep and contained a single fill of yellowish brown silty clay. Although undated, most if not all of these features most likely relate to occupation activity associated with the Middle Iron Age farmstead.

Evaluation Trenches

5.9.6 Undated archaeological features were encountered in a number of the evaluation trenches, mostly concentrated in trenches located in the south of the site. Discussed in more detail in section 4.8, these undated features provide little information in relation to the wider occupation and land use of the site. Nevertheless, given the limited number of archaeological remains, both dated and undated, encountered across the site outside the main excavation area, it is likely that previous land use was agricultural in nature.

6.0 FINDS AND ENVIRONMENTAL MATERIAL: ASSESSMENT

6.1 Summary

6.1.1 A large assemblage of finds was recovered during the evaluation and excavation. All finds were washed and dried or air-dried as appropriate. They were subsequently quantified by count and weight and were bagged by material and context. Hand collected bulk finds are quantified in Appendix 3. Registered finds are quantified separately in Table 10, whilst material recovered from the residues of environmental samples are detailed in Appendix 4. All finds have been packed and stored following CIfA guidelines (2014c).

6.2 **The Flintwork** Karine Le Hégarat

6.2.1 A total of forty-one pieces of worked flint, weighing 350g, and a flint hammerstone, weighing 235g, were recovered during the evaluation and subsequent excavation (Table 1). The flints were collected through hand collection and from three bulk soil samples. A small amount of burnt unworked flint fragments (7,431g) was also recovered from forty-three numbered contexts and from unstratified deposits. No diagnostic tools were found and, based on technological and morphological traits, only a broad Mesolithic to Late Bronze Age/Early Iron Age can be proposed for the assemblage.

Category type	**Total no**
Flake	27
Blade, bladelet, blade-like flake	8
Irregular waste	4
Core	2
Hammerstone	1
Total	*42*

Table 1: Quantification of flintwork by type

Methodology

6.2.2 The pieces of struck flint were individually examined and classified using standard set of codes and morphological descriptions (Butler 2005; Ford 1987; Inizan *et al.* 1999). Basic technological details, as well as further information regarding the condition of the artefacts (evidence of burning or breakage, degree of cortication and degree of edge damage), were recorded. Dating was attempted when possible. The assemblage was catalogued directly onto a Microsoft Excel spreadsheet and summarised in Table 1. The burnt unworked flint was quantified and scanned for worked pieces.

The flint assemblage

6.2.3 With the exception of the hammerstone, the assemblage consisted entirely of knapping waste. Flakes dominated, but four bladelets, a blade and three blade-like flakes were also present. Some of them displayed parallel ridges and parallel lateral edges. They are products of a blade-orientated technology and suggest a Mesolithic or Early Neolithic presence. The flakes were principally small, fragmentary and irregular. Where the platforms were present, they consisted mostly of plain or cortical platforms, but platforms with minimal preparation were also noted. Two cores were collected: a multiplatform flake core (97g) and a single platform flake core (44g). No conclusive date can be given for these artefacts. The flint hammerstone consisted of a small round nodule; it displayed clear facets in several areas.

6.2.4 The condition of the flints varied, but the majority displayed slight to moderate edge damage suggesting minimum degree of post-depositional edge damage. The raw material consisted of a light to dark grey flint with a stained mainly thin (<2mm) cortex. The pieces were thinly spread coming from twenty-six numbered contexts. The largest concentration came from context [39/008] (six pieces).

6.2.5 The unworked burnt flint (7,431g) was distributed across the site with no apparent clustering. The pieces came from forty-three numbered contexts, all producing small amounts of burnt material. Burnt flints are frequently associated with prehistoric activities, although in this case they might relate to more recent field or hedge clearance.

6.3 The Prehistoric and Roman Pottery by Anna Doherty

6.3.1 A relatively large assemblage of prehistoric and Roman pottery, totalling 1,854 sherds, weighing 17.07kg, was recovered during the evaluation and excavation. The earliest material comprises fragmentary pottery of Middle to Late Bronze Age date. The vast majority of the pottery, recovered predominantly from features associated with enclosure (ENC1), is of Early to Middle Iron Age date. There is some evidence for chronological variation within this assemblage, but most of the material probably falls within the range *c*.500-300 BC. In addition, a very small number of Late Iron Age/Early Roman grog-tempered sherds were recovered, seemingly mostly as intrusive elements in Early/Middle Iron Age features. Two conjoining Roman sherds were also noted in a post-medieval ditch.

6.3.2 The pottery was examined using a x20 binocular microscope and quantified by sherd count, weight, and Estimated Vessel Number (ENV) on *pro forma* records and in an Excel spreadsheet. Prehistoric pottery has been recorded according to a site-specific fabric type-series, according to the guidelines of the Prehistoric Ceramic Research Group (PCRG 2010). Fabric definitions are provided in Table 2.

Fabric	Description
GLQU1	Common glauconite of 0.3-0.4mm and rare large quartz grains of up to 0.8mm
GROG1	Common rounded grog of 1-2mm in a fairly low-fired silty matrix
FLIN1	Moderate ill-sorted flint of 0.5-5mm in a dense slightly silty matrix
FLIN2	Moderate ill-sorted flint of 0.5-3.5mm in a dense slightly silty matrix
FLIN3	Common moderately sorted flint of 0.5-2.5mm in a dense slightly silty matrix
FLIN4	Moderate/common well-sorted flint of 0.5-1.5mm in dense silty matrix
FLQU1	Sparse/moderate flint mostly of 0.5-1.5mm (rarely to 2mm) in a fine, slightly micaceous sandy matrix similar to QUAR1
FLQU2	Sparse/moderate flint mostly of 0.5-2mm (rarely to 3mm) in a fine, slightly micaceous sandy matrix similar to QUAR1
FLQU3	Moderate flint mostly of 0.5-3mm (rarely to 4mm) in a fine, slightly micaceous sandy matrix similar to QUAR1
QUAR1	Common fine quartz up to *c*.0.1mm in a slightly micaceous matrix; often contains sparse fine linear voids of up to *c*.7mm in length from burnt out organic material (particularly visible on surfaces)
QUAR2	Moderate to common coarse quartz mostly of 0.4-0.5mm
QUAR3	Moderate to common coarse quartz mostly of 0.5-0.8mm, occasionally with large opaque grains up to 2mm
QUFL1	Rare flint of up to 2mm in a fine sandy, slightly micaceous matrix similar to QUAR1
QUFL2	Rare flint of up to 2mm in a moderately coarse sandy matrix similar to QUAR3

Table 2: Prehistoric pottery fabric definitions

Stratigraphic phasing

6.3.3 At present, defined prehistoric periods comprise Period 1 (Middle/Late Bronze Age) and Period 2 Early/Middle Iron Age). The vast majority of the prehistoric pottery was recovered from deposits assigned to these phases (1,631 sherds, weighing 15.74kg) with a small quantity of similar material either unphased or recovered as residual finds in medieval and post-medieval features. The entire assemblage is quantified by fabric type in Table 3 and the following text addresses the pottery according to its inherent dating evidence.

Fabric	Sherds	Weight (g)	ENV
FLIN1	81	796	18
FLIN2	21	283	6
FLIN3	52	242	24
FLIN4	14	167	7
FLQU1	92	991	39
FLQU2	159	1122	72
FLQU3	289	4742	34
GLQU1	13	50	8
GROG1	15	143	8
QUAR1	648	4428	291
QUAR2	113	1098	47

Fabric	Sherds	Weight (g)	ENV
QUAR3	185	1300	112
QUFL1	157	1555	89
QUFL2	13	136	9
Total	*1852*	*17053*	*764*

Table 3: Quantification of prehistoric pottery by fabric type

Middle/Late Bronze Age

6.3.4 A significant minority of the prehistoric assemblage is made up by non-sandy flint-tempered fabrics, which are not very typical of Iron Age assemblages (Table 3). Fabric FLIN1, in particular, contains quite coarse grades of flint-temper and is often associated with thick-walled vessel profiles characteristic of the Middle Bronze Age Deverel-Rimbury (DR) tradition. More moderately coarse, non-sandy flint-tempered wares, such as FLIN2 and FLIN3, and fine well-sorted fabrics, such as FLIN4, are probably most typical of Late Bronze Age post-Deverel-Rimbury (PDR) assemblages, though it is not inconceivable that such fabrics could occur occasionally in the earlier Iron Age. A cluster of pits in the south-west corner of the excavation area, [205]/[41/008], [218] and [226], contained only probable Middle/Late Bronze Age fabrics without any demonstrably later pottery. This includes nearly half a kilogram of fragmented sherds from [226]. This material appears to come from one or two diagnostic DR vessels: comprising sherds from a neutral urn and non-fitting sherds of similar fabric and finish, featuring a horizontal row of finger impressions. A single partial rim from pit [41/008] also appears to be a thin-walled hook-rim jar of typical early PDR character.

Early/Middle Iron Age

6.3.5 Most of the remainder of the assemblage is made up by Early to Middle Iron Age pottery. A large proportion of this material (totalling 1,451 sherds, weighing 14.20 kg) came from features associated with enclosure (ENC1), particularly from those located close to the possible roundhouses in the central part of the excavation area. This includes one very large group of over 400 sherds from main enclosure ditch (G6), large aggregate assemblages of over 100 sherds from pit group (G41) and main enclosure ditch (G10), as well as moderate sized groups of fifty sherds or more from the main enclosure ditch (G1 and G5) and structures (S1: G15 and S2: G17 and G26).

6.3.6 Fabrics in these groups can be broken down into three broad categories. Purely quartz-rich wares (QUAR fabrics) are by far the most common and these are predominantly very fine, slightly micaceous fabric variants (QUAR1), though some coarse sandy wares are also present (QUAR1, QUAR2). Sandy flint-tempered wares (FLQU fabrics) generally contain sparse to moderate frequencies of flint temper in a range of sizes. Of these, a surprisingly coarse variant (FLQU3), with inclusions of up to 4mm, is the most common, though finer variants (FLQU1 and FLQU2) are also represented. Also recorded were sandy fabrics containing rare flint (QUFL fabrics). In addition to these three principle fabric types, there are also a

handful of sherds with glauconite inclusions (GLQU1), which are of non-local, possibly north Kentish, origin.

6.3.7 In the enclosure (ENC1) assemblage, fabrics with sparse to moderate frequencies of flint-tempering make up about 20% of the assemblage and similar fabrics with much rarer flint inclusions make up another 12%. Just under two thirds of the assemblage is made up by purely sandy fabrics. In general, there is a chronological trend in eastern England for assemblages to move from predominantly non-sandy flint-tempered wares in the early 1st millennium BC, to sandier flint-tempered wares in the earliest Iron Age (*c*.800-500 BC), to mixed assemblages of sandy flint-tempered and purely sandy wares in the transition from Early to Middle Iron Age (*c.*500-300 BC), to predominantly sandy non-flint-tempered wares in well-developed Middle Iron Age assemblages post-dating *c*.300 BC. Taken as a whole, the proportions of fabrics from enclosure ENC1 are probably suggestive of a peak in activity around the very early Middle Iron Age, since sandy wares are clearly dominant, but sandy flint-tempered wares are still a significant element of the assemblage. On the other hand, the ratios of these main fabric types are not constant across all feature groups. For example, sandy flint-tempered wares make up over half of the sherds from the two largest assemblages in ditch (G6) and pit group (G4) but make up lower proportions in most other groups and are practically absent from S2 ditch groups G17 and G26. This suggests that activity associated with enclosure ENC1 may have been fairly long-lived, with different elements being deposited at different times—probably mostly during the 5th to 4th centuries BC and perhaps even slightly further into the Middle Iron Age in the case of some of the latest groups.

6.3.8 In terms of diagnostic forms, the assemblage also appears generally in keeping with an Early to Middle Iron Age attribution. Diagnostic Early Iron Age carinated bowl forms are absent, but there is a minority of jars with distinctly Early Iron Age traits. This includes at least five examples of jars with long flaring necks and flattened rim profiles. In addition, 12% of diagnostic rims feature fingertip or fingernail impressed decoration along the rim top and three other Iron Age vessels had finger-tipping on the shoulder or body. This is a classic earlier Iron Age decorative element that often survives to some degree in early Middle Iron Age assemblages but would be expected to die out over the course of the 4th century BC. The vast majority of rimsherds (with over thirty examples) come from jars with sinuous necked 5:3:9 profiles, a type that tends to become dominant during the Middle Iron Age. Some examples have rather weakly defined necks and squared rims, suggesting some element of continuity with Early Iron Age jar forms, but most examples have more rounded rims that are very typical of the Middle Iron Age.

6.3.10 A number of Early/Middle Iron Age vessels were oxidised to a bright orange hue. This trait is often found in pottery assemblages from salt-working sites, although it is unclear whether it is a direct effect of exposure to salt and/or evaporation processes or whether it simply represents differing firing techniques used by domestic potters who also happened to make briquetage. Although known evidence for salt-working in the immediate vicinity of the site is Late Iron Age/Early Roman in date (Sealey 1995, 65-9), the oxidised nature of much of the Early/Middle Iron Age assemblage may

provide some indirect evidence for earlier salt-working in the wider landscape. Having said that, there is no clear-cut evidence that any of the pottery was used in salt-working processes; for example, there were no vesicular fabrics types and no evidence of bleaching or salt residues on surfaces was noted.

Late Iron Age/Early Roman

6.3.11 A total of fifteen Late Iron Age/Early Roman grog-tempered sherds were noted in the assemblage. The grog-tempered fabrics (GROG1) were typically rather low-fired and could represent a pre-Conquest fabric variant. In most cases, these were extremely fragmentary sherds found singly in features that were otherwise well dated to the Early/Middle Iron Age and are therefore interpreted as intrusive. Five of the grog-tempered sherds were found in Period 3 gully [43/005] (G68), which also contained some more typically Early/Middle Iron Age fabric types.

Roman

6.3.12 Two conjoining Roman body sherds in an unsourced grey ware fabric were probably residual in medieval strip-ditch (G32), part of field system (FS1).

6.4 The Post-Roman Pottery by Helen Walker

6.4.1 A total of 386 sherds of pottery, weighing 4,257g, was excavated from ten contexts and has been catalogued according to Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985, 1-16; expanded by Drury *et al.*1993; Cotter 2000). Some of Cunningham's rim codes are quoted in this report. The pottery data have been entered onto an Excel spreadsheet and the pottery is tabulated by ware in Table 4.

Pottery by ware	**Sherd Nos**	**Wt (g)**
Shell-tempered ware	5	32
Medieval coarseware	290	3291
Mill Green ware	5	51
Sandy orange ware	22	114
Colchester-type ware	35	344
Surrey white ware	20	267
Post-medieval red earthenware	2	83
Porcelain	2	9
Modern earthenware	3	34
Slipped kitchen earthenware	1	16
Flowerpot	1	16
Total	*386*	*4257*

Table 4: Post-Roman pottery, shown in approximate chronological order

6.4.2 Pottery dating from the early medieval to modern periods is present, but the bulk of the assemblage comprises a deposit (G49: [46/004]) of 14th-century pottery from the north end of Trench 46, in the north-east corner of the site. This deposit produced 311 sherds, weighing 3,782g, with an average sherd weight of 12g. Some of the material is abraded and some unabraded. Wares

present consist of Mill Green ware, Surrey white ware, Colchester-type ware, non-specified sandy orange ware and medieval coarseware. Vessel forms and featured sherds are itemised as follows:

Bowls

- Carinated bowl with 'hammer head' rim in Surrey white ware: it is fragmented, but the whole profile is present showing a green glaze on the inside of the base with splashes of green and yellowish-green glaze on and around the rim and vertical streaks of glaze on the internal surface. This is probably Kingston-type ware datable to the mid- to late 14th century (*cf*. Pearce and Vince 1988, 47, fig.97.338), but this form also occurs in coarse border ware (another type of Surrey white ware) that has a longer currency, dating from the mid-14th to the mid-15th century (Pearce and Vince 1988 fig.44; fig.118.503-4). Fire-blackening around the rim and sides of this vessel shows the bowl has been heated.

Jugs

- A slip-coated and green glazed sherd of Mill Green fineware is most likely from a jug.

- A fragment from the upper half of a jug in a sandy version of Mill Green ware, decorated with slip-painting under an olive-green glaze

- Remains of one to two small jugs in Surrey white ware, probably Kingston-type ware, green-glazed and showing incised bands; one fragment possesses a narrow neck and may be from a conical jug dating to the late 14th century (*cf*. Pearce and Vince 1988, 29, fig.82.188).

- Fragments from the upper half of a large rounded Colchester-type ware jug show a flat-topped rim and are decorated with a slip-painted lattice design interspersed with dots. The remains of circular decoration are also present and have a plain lead glaze.

- Fragments of decorated sandy orange ware are most likely from jugs. One shows an all over slip-coating but no glaze and a second is slip-painted with an olive-green glaze.

- An in-turned jug rim is in medieval coarseware.

- A B2 rim from a large medieval coarseware jug shows broad strap handle decorated with central column of oblique stab marks.

Cooking-pots (all in medieval coarseware)

- An H1 cooking-pot rim is wheel-thrown and in an oxidised fabric; it is abraded.

- An H3 cooking-pot rim has a uniform pale grey fabric but shows a pale orange core where the vessel walls are at their thickest. Faint fire-blackening is present around part of rim and shoulder.

- The remains of seven cooking-pots have E5 rims; the most complete all show sagging bases as opposed to flat bases and are partially oxidised typically showing grey surfaces but an oxidised core. Two of the more complete vessels also show signs of fire-blackening and one example shows fire-blackening on the underside of the base and the body, but unusually there is none around the rim

Other vessels

- An internally glazed sagging base in medieval coarseware is most likely from a cooking-pot. It shows fire-blackening at the basal angle and above the base and there is also fire-blackening on a horizontal break-line about 2cm above the basal angle suggesting the vessel was reused after breakage.

6.4.3 The latest datable pottery from deposit [46/004] comprises the Surrey white ware vessels, the bowl dating from the mid- to late 14th century or later, and the possible conical jug dating to the later 14th century. None of the decorated jugs are particularly closely datable spanning the mid-13th to 14th centuries with the exception of the slip-coated but unglazed sandy orange ware example that could be later 14th-century. The H3 and the E5-rimmed cooking-pots are late 13th- to late 14th-century types, but none possess the flat bases typical of the end of this date range. Some of the pottery could be earlier than 14th century, such as the H1 cooking-pot rim, which is a 13th-century type, although the fact that it is wheel-thrown precludes a date before the mid/late 13th century. The medieval coarseware jug fragment with the broad stabbed handle, however, is probably mid 13th-century. Most of the pottery could have been current during the mid-14th century, but it is possible the pottery was deposited over a long period of time, perhaps from the mid-13th to late 14th centuries, or that this is not a discrete group and is contaminated by earlier material.

6.4.4 A second deposit in this trench, [46/005] (G9), produced a smaller group of medieval to late medieval pottery similar to that in [46/004], totalling fifty-nine sherds weighing 275g. Most of this pottery is abraded and has a very small average sherd weight of 5g indicating it is probably residual. Sandy orange ware, Colchester-type ware and medieval coarseware are again present, but there is no Mill Green ware or Surrey white ware. The only featured material is a slip-painted and glazed body sherd of Colchester-type ware that is from the same, or a similar vessel, to that found in [46/004] and the pad base from a cup form or other small vessel in sandy orange ware, which is of 14th-century or later date. The vessel is extremely abraded and there is no remaining glaze or decoration. It is probable that the material from [46/005] derives from deposit [46/004].

6.4.5 Trench 51 produced abraded sherds of shell-tempered ware from, fill [51/005] of ditch [51/006] (G70) and subsoil [51/009] (G72). This ware spans the 11th to early 13th centuries and indicates there was some early medieval activity in this area of the site. The only other medieval pottery to be found was a medieval coarseware sagging base from gully [18/006] (G59). In addition, a sherd of post-medieval red earthenware from topsoil [53/001] may be of an earlier type dating to the 16th century, although a later date cannot be precluded.

6.4.6 The remaining pottery is modern, dating from the 19th to 20th centuries and comprises only eight sherds. Pottery of this date was excavated from post-medieval G20 ditch segments [52] and [220], G37 pit [230] and subsoils [51/009] and [54/002]. This material is not of archaeological significance but has been recorded for the archive.

Discussion

6.4.7 The only significant evidence of occupation is the medieval pottery found in Trench 46, the latest of which dates to the mid to late 14th century. Most pottery is of local origin, but the Surrey white ware is a traded ware. Although found all over Essex, the most common vessel type encountered in Surrey white ware is the jug; Surrey white ware kitchenwares (such as bowls and jars) appear to be confined to sites on, or with access to, the greater Thames Estuary, as here at Burnham. Other find spots are at Stanford-le-Hope, Horndon-on-the-Hill and Rochford (Walker 2005, fig.7.3; Walker forthcoming a, b). It seems likely that Surrey white ware kitchenwares were traded along the River Thames from Surrey via London and thence to the Essex Thames. The jugs found on inland sites must have had a different mechanism of distribution.

6.4.8 The pottery assemblage appears domestic in nature with the usual mixture of tablewares—the decorated jugs and the ?drinking jugs—and kitchenwares—the cooking-pots, coarseware jugs and the Surrey white ware bowl. The reused base and the cooking-pot without fire-blackening around the rim hint at specialised activity. The assemblage does not shed light on the status of the site.

6.5 The Ceramic Building Material Isa Benedetti-Whitton

6.5.1 Only a small assemblage totalling twenty-two pieces of ceramic building material (CBM), weighing 2,823g, was collected from both the evaluation and excavation stages of work. A breakdown of the CBM recovered from each respective stage by quantity and weight is shown below in Table 5 and, although some stray pieces of Roman CBM were present, generally the material suggested an early post-medieval date of the 16th or 17th century.

Form	Quantity	% of total	Wt (g)	% of total
CBM from evaluation				
Tile	9	40.9	484	17.1
Brick	2	9.1	190	6.7
?tegula	1	4.5	39	1.4
Sub-total	12	54.5	713	25.3
CBM from excavation				
Tile	6	27.3	145	5.1
Paving brick	1	4.5	1103	39.1
Brick	1	4.5	81	2.9
?Roman	1	4.5	20	0.7
?tegula	1	4.5	48	1.7
Total	*22*	*100%*	*2823*	*100%*

Table 5: Quantification of ceramic building material

6.5.2 All material was quantified by form, weight and fabric, and recorded on standard recording forms. This information was then entered into a digital Excel table. Fabric descriptions were developed with the aid of a x20 binocular microscope and use the following conventions: frequency of inclusions as sparse, moderate, common or abundant; the size of inclusions as fine (up to 0.25mm), medium (up to 0.25 and 0.5mm), coarse (0.5-1.0mm) and very coarse (larger than 1.0mm). The same fabric codes were used for both the evaluation and excavation CBM, descriptions for which are provided in Table 6.

Fabric	Description
B1	Red-orange fabric with common coarse and very coarse quartz, occasional calcium carbonate and black iron oxide (up to 1.5mm). Museum of London Archaeology fabric 3046/65.
T1	Orange fabric with coarse-moderate round coarse and very coarse quartz.
T1A*	Like T1 but with common coarse and very coarse round and sub-rounded quartz.
T2*	Micaceous and finely-gritty-looking fabric.
T3	Gritty-looking medium orange-coloured fabric with common fine mica, black speckle and sparse unsorted quartz.
R1	Micaceous brown/orange fabric with moderate unsorted quartz. Not dissimilar to T3.
*Fabric only recorded in evaluation assemblage.	

Table 6: Fabric descriptions for ceramic building material

The assemblage

6.5.3 The same range of fabric and forms were present within the assemblages collected from the evaluation and excavation stages. However, slightly more material, and in many instances better-preserved material, was recovered during the evaluation. For the purposes of the following report, all CBM will be discussed as a single assemblage.

6.5.4 A small quantity of Roman CBM was collected from contexts [249], [254] and 46/005], all in the same fabric type R1. This fabric type was often the only criteria upon which to distinguish the Roman material, as the original form of some of the Roman CBM no longer survived. The only exception to this was the ?tegula piece found during the evaluation, the thickness of which was correct for a fragment of Roman tegula, and the combination of this and the type of coarse moulding sand and reduced core were also typical of Roman CBM.

6.5.5 Most of the assemblage was made up of fragments of flat roof tile in four different fabrics, collected from [15], [69], [221], [249], [21/006], [40/010], [46/004], [46/005] and [51/009]. No peg holes or nibs were present on any of the tiles, which does not help dating as peg tile changes very little in form between the 1400s and 1900s and without additional characteristics often cannot be dated precisely. However, the coarse and gritty quality of most of the roof tile fabrics could indicate an earlier post-medieval date, which is also suggested by the brick fragments collected.

6.5.6 Only four brick pieces were recovered. Three of these, from [103] and [22/008], were irregular chunks with no intact surfaces, all made from low-fired sandy fabric B1. This type of brick fabric is most prevalent during the early post-medieval period, from the late 15th-17th century. A better-preserved piece of paving brick, vitrified solid, was also collected from [51]. It measured ?? x 100 x 52mm, which would generally be indicative of an early post-medieval date, although as a paving brick one would expect a thinner brick and it could be as late as the 18th century. Based on the rest of the assemblage, however, a 16th- to 17th-century date is most likely.

6.6 **The Fired Clay** by Trista Clifford

6.6.1 A small assemblage of 391 fragments, weighing a total of 5,343g, was recovered during the archaeological fieldwork. The assemblage was examined by eye for diagnostic features and fabrics were assessed using a x20 magnification binocular microscope. A series of seven primary fabrics was recorded (Table 7). The assemblage includes at least seven triangular loom weights that have been assigned registered find numbers and are discussed in section 6.14.

Fabric	Description
B1	Briquetage fabric. Frequent chalky inclusions and circular voids up to 3mm
B2	Abundant organics
F1	Sparse very fine quartz, sparse to moderate calcareous inclusions to 2mm, sparse grassy/organic voids
F2	Abundant fine to medium rounded quartz, sparse very fine quartz, sparse coarse rounded pebble, moderate grassy voids
F3	Abundant fine to medium coarse quartz
F4	Moderately sandy with iron rich inclusions
F5	Silty fabrics with sparse coarse rounded quartz and sparse organic voids

Table 7: Fired clay fabric descriptions

Briquetage

6.6.2 The briquetage is very abraded and mostly undiagnostic of function, although small fragments from Period 2 ditch fill [115] could be vessel wall fragments. A possible base or rim fragment was recovered from [43/004].

Loom weights

5.6.3 Loom weights or possible loom weights make up 61% of the assemblage by weight. At least seven triangular loom weights are represented in the assemblage (RF<7-13> Table 10). These are all from Period 2 features apart from RF<11>, which was recovered from ditch [182] that cut Early/Middle Iron Age roundhouse S3. Less diagnostic pieces from Period 2 ditch fills [47/005], [79], [195] and [196] may also be part of loom weights but lack enough features to be definite in this identification. The prevalent fabrics are F4 and F5.

Other diagnostic material

6.6.4 A small number of other pieces exhibit wattle impressions and are likely to be fragments of structural daub, including one piece exhibiting five intersecting wattle impressions 10-14mm in diameter from Period 2 pit fill [40/003] in fabric F1. A slab fragment with vertical piercing and recessed edge was also recovered from Period 2 gully fill [93]; this piece is probably also structural in nature.

6.7 The Clay Tobacco Pipe by Elke Raemen

6.7.1 A single fragment of clay tobacco pipe was recovered from [198]. The stem fragment, weighing 0.5g, is plain and unmarked and dates to *c.*1750-1910.

6.8 The Glass by Elke Raemen

6.8.1 A small assemblage of five fragments (weight 268g) was recovered from four different contexts. All are of late post-medieval or modern date. Included are two green wine bottle fragments. A fragment from [43] dates to the 19th to mid 20th century, whereas a piece from [221] is of 19th-century date. Two shoulder fragments from a colourless preserve jar of mid 19th- to mid 20th-century date were found in [87]. In addition, [54/002] contained a small cylindrical half pint bottle embossed with “HOWARDS DAIRIES WESTCLIFF” and “SUNGLO ORANGE DRINK” across the shoulder and “V887 C2 UGB” beneath the base. Howards Dairies was founded in 1911 and sold during the 1970s.

6.9 The Geological Material by Luke Barber

6.9.1 The archaeological works at the site produced thirty-four pieces of stone, weighing 1,581g, from one of ten individually numbered contexts. Of this total, twenty-two pieces (323g) were recovered from one of six environmental residues. The whole assemblage has been recorded on *pro forma* for archive and the information subsequently used to create an Excel database during this assessment. An overview by period is given here.

Periods 1 and 2: Later Prehistoric

6.9.2 The eleven pieces of stone (1,534g) allocated to this period are in one of five different stone types. Although most of these are not native to the area, they all can be found locally following fluvial or/and glacial transportation. Fine-grained, non-calcareous sandstone, probably from the Midlands/Yorkshire originally, accounts for three pieces (190g), most of which show heat damage; these were retrieved from ditches [58], [117] and [238] of ENC1. The four pieces of quartzite and one of white quartz are all from probable heat-shattered pebbles and cobbles (*e.g.* gully [269], G34, ENC3). The single flint pebble and scatter of greensand chert are more likely to have a closer geological origin. None of the material shows signs of having been humanly modified.

Period 5: Post-medieval/Modern

6.9.3 The thirteen pieces of stone from deposits of this period consist of twelve small granules of coal and a piece of Lower Greensand chert. A further nine granules of coal (unphased) are likely to belong to this period.

6.10 The Metallurgical Remains by Luke Barber

6.10.1 The evaluation and subsequent excavation produced very little slag from the site. Just three pieces (5g) of hand-collected material is present, with the remaining 35g deriving from the residues of one of eighteen environmental samples. Most of the residue material consisted of the magnetic fraction. The whole assemblage has been recorded on *pro forma* for archive and the information subsequently used to create an Excel database during this assessment.

Periods 1 and 2: Later Prehistoric

6.10.2 Eight different contexts containing ‘slag’ have been allocated to this period. With one exception, all of this material consists of magnetic fines: granules of ferruginous stone and clay whose magnetic properties have been enhanced through burning. This material is not diagnostic of any particular process and could be produced by a range of high temperature events, including domestic hearths or bonfires. There were also two tiny pieces of fuel ash slag (G42 pit [40/004] and main enclosure G2 ditch [117]), a type not diagnostic of process. Certainly, there is no evidence of metalworking in the assemblage.

Period 4: Medieval

6.10.3 The two deposits allocated to this period produced just 12g of waste, virtually all of which consisted of magnetic fines. Just three granules (<1g) of undiagnostic fuel ash slag were recovered from G34 ditch [182], fill [179].

Unphased

6.10.4 A further 9g of material was recovered from deposits currently unphased (though most are suspected of being later prehistoric). All consist of magnetic fines with the exception of two more tiny pieces of undiagnostic fuel ash slag.

6.11 The Bulk Metalwork by Trista Clifford

6.11.1 A small assemblage of three iron objects, weighing a total of 235g, was recovered from two contexts. Deposit [46/004] contained a single general-purpose nail with square head and square section. The nail is probably contemporary with the other finds of medieval date from this feature. Subsoil [54/002] contained a large square-headed bolt of probable 20th-century date and a modern circular sectioned general-purpose nail.

6.12 The Animal Bone by Emily Johnson

6.12.1 An assemblage of 1,033 animal bones, weighing 6,365g in total, was analysed from the evaluation and excavation. The material derived from both hand collected and bulk-earth sampled features subject to flotation. Preservation was generally moderate to poor, with some flaking of the cortical surface and erosion of bone edges, likely due to acidic soils. The majority of the material dates to later prehistory (Periods 1 and 2, n=900), with further post-medieval/modern occupation also represented (Period 5, n=75). The majority of the faunal material derived from Period 2, when the site was occupied by an Early/Middle Iron Age farmstead within a large-ditched enclosure with remains of three roundhouses (Table 8).

Period		**N**	**NISP**	**Preservation %**		
				Poor	*Moderate*	*Good*
0	Undated	58	39	12.1	58.6	29.3
1-2	Later prehistoric	900	397	29.6	64.4	6.0
5	Post-Med/Modern	75	52	37.3	62.7	0
Total		*1033*	*488*	*29.1*	*64.0*	*6.9*

Table 8: Zooarchaeological assemblage by period, showing total fragment count (N), the number of identifiable specimens (NISP) and the proportion of bones displaying varying preservation levels.

Method

6.12.2 The assemblage has been recorded onto an Excel spreadsheet. Where possible, bones were identified to species and element (Schmid 1972; Hillson 1992) and the bone zones present noted (Serjeantson 1996). Determination of sheep and goat teeth used criteria outlined in Halstead and Collins (2002). Elements that could not be confidently identified to species, such as long bone, rib and vertebral fragments, have been recorded according to size and categorised as large, medium or small mammal, or bird.

6.12.3 Mammalian age-at-death data was collected where possible. The state of epiphyseal bone was recorded as fused, unfused and fusing, and any determinations of age made using Silver (1969). Dental eruption and attrition was recorded using Payne (1973) for ovicaprids and Grant (1982) for cattle, using age stages in Halstead (1985) revised by Jones and Sadler (2009). Specimens have been studied for signs of butchery, burning, gnawing, non-metric traits and pathology. The assemblage contained no measurable long bones of domestic mammals.

Assemblage

6.12.4 The assemblage was dominated by domestic mammal bones (Table 9). A total of 230 specimens were identifiable to taxa and 253 were identifiable to taxa size or type. Cattle were the most commonly identified taxa (n=137), followed by ovicaprids (n=60), horse (n=24) and pig (n=7). The wild species identified included rabbit (n=1) and frog (n=2).

Taxa	**NISP**	**Period**		
		0	**1-2**	**5**
Cattle	137	16	106	15
Ovicaprid	58	3	55	
Sheep	2		2	
Goat	2		2	
Pig	7		7	
Horse	24		17	7
Rabbit	1		1	
Large mammal	150	11	111	28
Medium mammal	101	9	91	1
Small mammal	3		2	1
Bird	1		1	
Anuran	2		2	

Table 9: Taxa abundance by Number of Identifiable Specimens (NISP)

Period 2: Later prehistoric

6.12.5 The later prehistoric zooarchaeological assemblage was dominated by cattle (n=106), with ovicaprids including sheep and goat also well represented (n=55). Horse bones were present in small numbers (n=17), as were pig (n=7) and rabbit (n=1). Some bird (n=1) and anuran (n=2) bones were also identified.

6.12.6 The cattle bones from the later prehistoric assemblage allowed some analysis of age-at-death, sex and pathology. Cattle were largely killed when juvenile at prime-meat age, with the small assemblages for both postcranial fusion and dental eruption and attrition agreeing on a slaughter event around 18 months. All fusion epiphyses in stage 1 and 2, up to 18 months, were fused (n=6), whereas 50% (n=4) and 25% (n=4) were fused in stages 3 (24-36m) and 4 (37-48m) (Silver 1969). Tooth eruption and attrition analysis of mandibles from contexts [26], [34] and [268] showed all were juvenile; the

fourth deciduous premolar was present in each. All three gave similar age stages: 8-18 months for [34] and 8-30 months for [26] and [268]. The presence of female animals is indicated by a pelvis with female sexually dimorphic characteristics. Animals used for traction may be in evidence in pathological changes to a cattle metacarpal from this period, which exhibited eburnation and grooving consistent with osteoarthritis (Baker and Brothwell 1980). It is possible, therefore, that those animals surviving the possible 18 month slaughter 'event' were animals used for traction, and/or breeding and dairy.

6.12.7 There was less evidence available for ovicaprid slaughter as these species were not so well represented. Four bones were analysed for fusion, one of which was foetal or neonatal, suggesting that the site was occupied during the birthing season. A distal femur was unfused, indicating age-at-death younger than 30-42m (Silver 1969). Five mandibles were subject to eruption and attrition analysis, one identified as goat, two as sheep and two ovicaprid. The sheep mandibles were aged at 6-12 months and 2-3 years. The goat mandible from context [34] showed antemortem tooth loss of the second premolar and a wear stage of 2-3 years. The indeterminate ovicaprids in context [111] and [47/004] gave ages of 6-30 months, a range defined by the presence of D4, and 1-2 years respectively (Payne 1973; Silver 1969). The ovicaprid mandible in context [47/004] had malocclusion of the third deciduous premolar, causing grooving in DP4. It is unlikely that this condition affected the animal and may have been resolved if the animal had lived to attain its full adult dentition. This brief age data could indicate prime meat consumption of ovicaprids between 1.5-2.5 years old (Hambleton 1998) but is less defined than the cattle age-at-death analysis.

6.12.8 Pig (NISP=7) and horse (NISP=17) remains were largely represented by tooth fragments. Aside from these, a pig distal tibia (older than 24-36 months) and horse proximal femur (older than 3-3.5 years) (Silver 1969) were fused. Pigs were only present in later prehistoric ditch contexts.

6.12.9 Other species identified from single specimens were rabbit in context [222], long bone fragments identifiable as avian in context [47/005]) and frog species in environmental sample <19> from context [268]. These species could have been intrusive or potentially indicate exploitation of wild resources, but with such a small sample size it is impossible to form valid conclusions.

Period 5: Post-medieval/Modern

6.12.10 Zooarchaeological conclusions from this period are limited due to the size of the assemblage (n=75). Cattle remained the most abundant taxa in terms of the NISP (n=15), with horse the only other taxa represented in this period (n=7). One cattle calcaneum was unfused indicating some slaughter younger than 37-48m (Silver 1969), but all horse bones were fused (n=3), suggesting survival into fusion maturity.

Surface modification

6.12.11 Butchery was uncommonly identified on just eight bone specimens (NISP=12, 1.2% of the assemblage), 7 of which were dated as later

prehistoric. The low prevalence of butchery could be a result of the poor preservation of bone surfaces. The types of marks identified were cut marks (MNE=6), likely from meat stripping and disarticulation using a smaller cutting implement. One cattle mandible was affected by chop marks, indicative of processing with a cleaver. Only one bone showed evidence for fresh fracture, although fracture analysis was impeded by erosion and post-excavation fragmentation.

6.12.12 A total of 186 specimens showed evidence of exposure to heat. Both periods were relatively equally affected, at 17.3% (n=900) for later prehistory and 16.0% (n=75) for the post-medieval/modern assemblage. All of the burning seen was either carbonised (n=13) or calcined (n=173), indicating high temperatures. Not all contexts were affected by burning, and further analysis of context could inform interpretations on deposition practices.

6.12.13 A number of bones were affected by taphonomic agents. Canid gnawing was identified on twenty-three specimens in the assemblage, equally affecting material from both periods at just over 2%. Prevalence of gnawing differed slightly within contexts. Erosion was recorded on thirteen bone fragments, weathering on two fragments and copper staining on two fragments. Where fracture freshness type was observable, the majority were dry (n=11) or mineralised (n=3), suggesting some taphonomic disturbance.

6.13 The Shell by Trista Clifford

6.13.1 The excavations produced a small assemblage of land and marine mollusc, weighing a total of 240g.

6.13.2 Marine mollusc was recovered from three separate contexts: Period 4 ditch fill [40/010], Period 4 deposit [46/005] and Period 2 ditch fill [15]. The assemblage consists predominantly of common oyster (*Ostrea edulis*), although ditch fill [015] contained a tiny fragment from a cockle shell (*Cerastoderma sp.*). Three individual oyster valves exhibit evidence of parasitic worm *Polydora hoplura* (2) and *Polydora ciliata* (1).

6.13.3 Two contexts produced land snail remains. Period 2 ditch fill [47/006] contained a single Banded snail *(Cepaea sp.)* shell, while post-medieval/modern ditch fill [47/008] contained both Banded snail and Garden snail (*Cornu aspersum*). Both species are edible.

6.14 The Registered Finds by Trista Clifford

6.14.1 A small assemblage of thirteen objects spanning a wide chronological range was recovered. The assemblage consists of metal objects and ceramic weights. All metal objects have been x-rayed and conservation has been carried out where required. The assemblage is outlined in Table 10 and the finds discussed by chronological period.

Bronze Age

6.14.2 A single copper-alloy awl (RF<3>), measuring 62.2mm in length and 3.8mm in diameter, was recovered from the primary fill of main enclosure G4 ditch segment [266]. The awl tip is pointed and circular in section at one end,

widening towards the centre before flattening and tapering through the tang to a chiselled edge and rectangular section at the opposite terminal, a form classified by Thomas (1968) as type 2B. Although the form originates during the Middle Bronze Age, it continues into the Roman period (Pendleton 1999); the presence of Late Bronze Age and Early Iron Age pottery within the same feature here suggests a slightly later date or a curated object.

6.14.3 Parallels for the awl can be drawn from across Britain. Awls fairly often form constituents of Bronze Age burial assemblages but are also increasingly recovered from settlement contexts and as isolated metal detector finds.

Iron Age/Roman

6.14.4 Fragmentary remains of at least seven fired clay triangular loom weights were recovered (RFs<7>-<13>). These mainly consist of apex fragments broken along lateral piercings; no complete objects were recovered and, in many cases, the fragments are significantly abraded. There is some discussion as to what the purpose of these weights may have been (see Poole 1995); however, the usual interpretation is that of loom weights. The form is ubiquitous in Middle to Late Iron Age contexts; however, previous work in Burnham produced a complete weight associated with Late Bronze Age/Early Iron Age pottery (Couchman 1977, 75) and a 5th-century BC example was recovered at Orsett (Hedges and Buckley 1978, 292). More recently, excavations at St Osyth produced a large corpus of Middle Iron Age weights (Major 2007, 79).

Medieval

6.14.5 Deposit [46/004] produced a small copper-alloy annular brooch (RF<1>, ext.di.247mm) with pin *in situ*. The brooch has a good parallel from London (Egan and Pritchard 1991, no 1307), which is of late 13th- to 14th-century date. Of similar date is a small masonry hinge pintle, RF<6>, from the same context. The pintle is of a size suitable for hanging windows or shutters (*e.g*. Egan 1998, 44).

Post-medieval

6.14.6 Post medieval finds include a very worn copper-alloy penny (RF<2>) from the topsoil of evaluation Trench 17, a double looped harness buckle of 18th- to 19th-century date (RF<4>) and the handle (RF<5>) from a cast iron kettle of Victorian or later date.

RF No	Context	Feature type	Object	Material	Wt (g)	Period	Notes
1	46/004	ditch	BROOCH	COPPER	4	MED	Ext di.24.7mm Int di.18.7mm Pin L23mm
2	17/001	topsoil	COIN	COPPER	10	LPMED	Penny. Victoria c1860- Elizabeth II c.1960 Di.30.2mm EW/EW
3	265	ditch	AWL	COPPER	3	BA	L62.2mm Thomas 1968 Type 2B
4	221	ditch	BUCKLE	COPPER	8	LPMED	Probable harness buckle, offset/recessed strap bar, rectangular double looped L23.3mm W31.3mm
5	21/006	ditch	KETTLE	IRON	222	LPMED	Strap handle from cast iron kettle L180mm
6	46/004	ditch	HINGE	IRON	25	MED	Masonry pintle L55.3mm H44mm
7	43/004	ditch	LOOM	CERA	64	IA-ER	Triangular loom weight
8	34	gully	LOOM	CERA	532	IA-ER	Triangular loom weight
9	93 or 113	gully	LOOM	CERA	858	IA-ER	Triangular loom weight
10	116	ditch	LOOM	CERA	83	IA-ER	Triangular loom weight
11	179	ditch	LOOM	CERA	147	IA-ER	Triangular loom weight
12	268	ditch	LOOM	CERA	222	IA-ER	Triangular loom weight
13	254	pit	LOOM	CERA	143	IA-ER	Triangular loom weight

Table 10: Overview of the Registered Finds

6.15 **Condition Assessment and Conservation Report** by Elena Baldi

6.15.1 A very small assemblage of metal finds was recovered during the evaluation and excavation, which underwent a condition assessment in order to determine conservation requirements (Table 11). All finds were examined and their condition assessed under a x20 binocular microscope. All conservation work was undertaken abiding with professional guidelines and standards, such as those outlined by the Institute of Conservation (ICON 2014).

Condition assessment: bulk finds

6.15.2 The bulk finds consist of three iron objects from contexts [46/004] and [54/002], totalling to 291g in weight. These are two small and one very large complete nails. Overall, the objects were covered with silt and small stone inclusions, as well as a layer of orange/brown corrosion products.

Material	Quantity
Iron (Bulk)	EV 3 pieces, 235 g
Iron RF	EV: RF <5-6> EX: RF <3>
Copper RF	EV: RF <1-2> EX: RF <4>

Table 11: Quantification of metal objects subject to conservation assessment

Condition assessment: registered finds

6.15.3 Three finds were selected for radiography, RFs <1>, <2> and <4>; these were x-rayed, following Historic England guidelines (2006). The objects were transported to Fishbourne Roman Villa facilities and processed using a Faxitron 110kV Inspection Cabinet, Model 43855B. One single plate was used for these finds, n. 481; the objects were exposed to different voltage x-rays, ranging from 70 to 100 Kv, for 90 seconds.

Copper alloy

6.15.4 Three copper-alloy registered finds were recovered in total: two from the evaluation phase (brooch RF <1> and coin RF<2>) and one from the excavation (buckle <RF 4>). All were, covered with a thin layer of silt and overlying superficial active corrosion, including of bronze disease. This appeared as pitting on all objects, apart from the coin.

6.15.5 The radiographic plate shows that most objects have a quite thick and strong radiopaque core. No evidence of white metal was recorded.

Iron

6.15.6 Three objects were recovered in total, awl RF <3>, handle <5> and structural fitting <6>, showing similar condition to the bulk iron finds, covered with silt, stone inclusions and a layer of orange/brown corrosion products.

Stabilisation

6.15.7 All copper-alloy finds were first examined under a x20 binocular microscope. Soil and corrosion accretions were lifted in order to expose the original surface, exposing possible surface details and technical features. These actions were carried out mechanically, with scalpel or bamboo sticks, and when necessary a mixture of 50:50 demineralised water and ethanol was applied to the surface. Each object was photographed before and after treatment.

6.15.7 The three copper-alloy registered finds were stabilised chemically with 5% Benzotriazole (BTA) in acetone (Scott 2002) and application of a protective coating of 5% Paraloid B44 in acetone, in order to prevent active corrosion developing during storage. This coating is also necessary to retain the BTA on the surface of the copper alloy and to ensure health and safety when handling the material in the future.

Packaging and long-term storage

6.15.8 All the items were packed according to CIfA (2014c) guidelines. Each object was inserted in a single write-on-panel polythene bag marked on the outside with indelible marker, as well as a Tyvek® label inside the bag and a Jiffy Foam® cut-out that will protect the finds.

6.15.9 Each bag was then placed in a Stewart box, with silica gel bags and indicator strip, in numerical order; the boxes are marked on the outside to allow easy research. For long-term conservation, copper-alloy objects require that RH should be kept below 35% RH.

6.16 Environmental Samples by Lucy Allott

6.16.1 Nineteen bulk environmental samples were collected from feature fills and wet sieved during the evaluation and excavation work, in order to find and recover small artefacts, wood charcoal, carbonised plant macrofossils, animal bones and artefacts. The samples investigated a variety of feature types including pits, post-holes and ditches, some relating to enclosures ENC1 and ENC3. Twelve are Period 1 and 2 contexts (later prehistoric) and two are Period 5 (post-medieval/modern); four are undated. The following environmental report summarises the samples' contents and assesses their potential to provide information on the site's past vegetation, fuel use and selection, and agricultural economy.

Methodology

6.16.2 The samples were processed in a flotation tank in their entirety with the residues and flots retained on 500µm and 250µm meshes, respectively. The residues were air-dried and passed through graded sieves of 8mm, 4mm and 2mm, and each fraction sorted (Appendix 4, Table 15). Artefacts other than charcoal and plant macrofossils were distributed to specialists and are incorporated in the relevant sections of this volume where they add further information to the existing finds assemblage. The flots (or 100 ml sub-samples of the largest flots) were scanned under a stereozoom microscope at 7-45x magnifications and their contents recorded (Appendix 4, Table 16). Preliminary identifications of macrobotanical remains were made with reference to modern comparative material and published reference atlases (Cappers *et al*. 2006, Jacomet 2006, NIAB 2004, Zohary and Hopf 2000). Nomenclature used follows Stace (1997).

6.16.3 Charcoal fragments recovered from the heavy residues and flots were fractured along three planes (transverse, radial and tangential) according to standardised procedures (Gale and Cutler 2000; Leney and Casteel 1975). Specimens were viewed under a stereozoom microscope for initial grouping and an incident light microscope at magnifications up to 400x to facilitate identification of the woody taxa present. Taxonomic identifications were assigned by comparing suites of anatomical characteristics visible with those documented in reference atlases (Hather 2000; Schoch *et al.* 2004; Schweingruber 1990). Genera, family or group names have been given where anatomical differences between taxa are not significant enough to permit more detailed identification. Nomenclature used follows Stace (1997),

and taxonomic identifications of charcoal are recorded in Table 15 (Appendix 4).

Results

Sample Overview

6.16.4 Flots ranged in size from 5ml to 155ml. Many were composed of high levels of uncharred organic remains, including rootlets, seeds and occasional twigs, which indicate varying degrees of bioturbation and the potential for intrusive material or mixing within the deposits. Small assemblages of wood charcoal, charred plant macrofossils, bone, burnt bone, marine and land mollusca were present. Bone and burnt bone were recorded in low quantities in more than half of the samples and marine molluscs were noted in sample <7> only. Land snails were observed in low quantities in the residues and flots, and many of those recorded in the residues were *Cecilioides acicula*, a subterranean species that can burrow to more than a metre in depth. As such, they may be intrusive rather than contemporary with the deposits. The residues also produced an array of finds, including fire-cracked flint, fired clay, worked flint, coal, pottery, nails, glass and magnetic material (Appendix 4, Table 15).

Charcoal

6.16.5 Wood charcoal fragments were infrequent in the majority of samples, although the small assemblages of charcoal fragments displayed moderate preservation with little evidence of sediment encrustation or percolation. Only three deposits contained sufficient charcoal for further identification work, two of which have been phased to the later prehistoric (Period 2) based on the presence of earlier Middle Iron Age pottery and the third to Period 5 (post-medieval/modern). Oak (*Quercus* sp.) was the only taxon identified in sample <1> [51/005] from post-medieval ditch [51/006] (G70). Sample <8> [61] from ditch terminus [62] (G23) contained oak, field maple (*Acer campestre*) and ash (*Fraxinus excelsior*), while sample <9> [57] from ditch terminus [58] (G16) forming part of S2 in ENC1 contained oak and ash with the addition of blackthorn/wild cherry (*Prunus* sp.).

Charred Plant Macrofossils

6.16.6 Charred macrofossils were poorly to moderately well preserved with only limited potential for identification to higher taxonomic levels. Many of the cereals were fragmented and pitted, although some retained their overall morphology and epidermis. Samples <1> [51/005] from ditch [51/006] (Period 5) and <14> [179] from ditch [182] (Period 4) produced the largest assemblages of cereal caryopses.

Periods 1 and 2: Later Prehistoric

6.16.7 Of the eleven samples collected from Period 1 and 2 features, eight produced low numbers of an array of cereal caryopses, including barley (cf. *Hordeum* sp.), wheat (*Triticum* sp.) and bread-type wheat (*Triticum* cf. *aestivum*). (Appendix 4, Table 16). Additional taxa include oat (*Avena* sp.) in sample <18> [244] (G37) that may be from a wild or cultivated variety and

a pea/bean (*Pisum/Vicia* sp.) in sample <11> [115] (G2). Similar patterns of preservation were observed in the wild/weed seed assemblage, although where intact these remains were more readily identifiable than the cereals. Taxa noted in twelve of the nineteen samples (Appendix 4, Table 16), albeit in small quantities, include stinking chamomile (*Anthemis cotula*), goosefoot (*Chenopodium* sp.), grasses (Poaceae) including oat/brome grass (*Avena /Bromus* sp.), black bindweed (*Fallopia convolvulus*), bedstraw (*Galium* sp.), knotgrass (*Polygonum* sp.), knotweed (Persicaria sp.), wild radish (*Raphanus raphanistrum*), sedge (*Carex* sp.) and wild pea/vetch (*Vicia/Lathyrus* sp.). Hazel (*Corylus avellana*) nut shell fragments were recovered from the residue of sample <8> [61] fill of ditch [62] (G23). Other charred botanical remains include a spelt/emmer wheat (*Triticum spelta/dicoccum*) glume base in sample <9> [57] from ditch terminus [58] (G16), an oat (*Avena* sp.) awn from sample <10> [111] from ditch [269] (G18) and two possible cereal culm fragments from sample <18> [244] from pit [248] (G37).

Period 4: Medieval

6.16.8 Sample <14> [179] from the upper fill of ditch [182] (G34) in FS1 contained a moderate quantity of bread-type wheat and other less well-preserved wheat and cereal caryopses with occasional charred goosefoot (*Chenopodium* sp.) seeds. This sample was taken from a slot through the east end of the ditch, in close proximity to Structure 3 (a Period 2 feature). Although phased as a medieval feature, the presence of earlier Middle Iron Age pottery and some loom weight fragments suggest reworking of earlier material that may be associated with the structures and enclosures. There is the potential, therefore, that the botanical remains are also of mixed or early origin. Charred plant remains were absent in sample <16> [219] taken from the primary fill of ditch [216] (G36) also located in FS1.

Period 5: Post-medieval/Modern

6.16.9 Sample <1> [51/005] from [51/006] (G70) contained several better-preserved macrofossils and taxa identified include possible barley (cf. *Hordeum* sp.), wheat (*Triticum* sp.) and bread-type wheat (*Triticum* cf. *aestivum*).

Undated

6.16.10 Samples <3>, <5>, <6> and <7> produced very few charred botanical remains with only a few cereal caryopses noted in sample <7> [47] from the fill of pit [48] (G42), goosefoot and stinking chamomile in sample <3> [34/008] from post-hole [34/009] (G56) and black bindweed in sample <5> [41/009] from pit [41/010] (G37).

7.0 GEOARCHAEOLOGICAL ASSESSMENT by Matt Pope, Letty Ingrey and Alice Dowsett

7.1 Pleistocene and Palaeolithic Context

7.1.1 Essex holds an important Pleistocene record of palaeoenvironmental change and deep human prehistory. Most of this relate to material preserved in deposits relating to the lower reaches of the River Thames and Medway systems, the former courses of which extended across Essex, and continue under the North Sea to connect with the fluvial system of the Rhine (Bridgland 1988, 1994, 2003; Bridgland *et al* 1993, 2001, 2006). This record certainly extends in excess of 500,000 years in the county and, more widely in East Anglia, extend back as far as 950,000 years (Parfitt *et al* 2010; O'Connor 2015; Wenban Smith *et al* 2006).

7.1.2 In addition to extensive palaeoenvironmental records recording climate and environmental change through the multiple warm and cold cycles of the Pleistocene, these deposits preserve important artefactual evidence of activity from multiple human species (*Homo heidelbergensis*, *Homo neanderthalensis*, *Homo sapiens*) and span the three main technological stages of the British Lower Palaeolithic, Middle Palaeolithic and Upper Palaeolithic. Essex preserves a Palaeolithic record comprising over 200 locations and thousands of individual artefacts (O'Connor 2015). Key sites include Purfleet (Schreve *et al* 2002), which shows some of the earliest evidence for prepared core technologies and Clacton which produced the world's oldest wooden weapon (the Clacton Spear) and gave its names to a distinctive Lower Palaeolithic technology, The Clactonian (Roe 1968; Wymer 1999)

7.1.3 The site lies in south-east Essex on the southern edge of the Dengie Peninsula, bounded by the Blackwater Channel to the North and the River Crouch to the South. Large parts of the district Maldon is covered by Pleistocene deposits comprising fluvial sands and gravels of the Thames-Medway overlain by finer grained head and loess deposits (Brickearth). These are equated to the Lynch Hill Gravel deposits of the Middle Thames which date to MIS 10-9-8 (Bridgland 1988, 1994, 2003; Wenban Smith *et al* 2006). The Palaeolithic potential for the area of the site was ranked as 'moderate' in the recent mapping and assessment of Pleistocene archaeology for the county (O'Connor 2015)

7.2 Aims

7.2.1 The broad aims of the investigation as a geoarchaeolgical evaluation were:

- To determine the presence or absence of archaeological remains on site
- To assess the character, extent, preservation, significance, date and quality of any remains and deposits
- To assess how they might be affected by the proposed development
- To establish the extent to which previous groundworks and/or other processes have affected archaeological deposits at the site
- To assess what options should be considered for further evaluation or mitigation

7.2.2 Given the known potential for Pleistocene deposits to be preserved at the site, the following specific aims for their evaluation were developed.

- To characterise Quaternary sedimentary bodies present across the site
- Specifically, to broadly constrain, both horizontally and vertically, the distribution of Quaternary deposits across the site
- Establish the nature and archaeological/palaeoenvironmental/scientific potential of deposits under threat from further development of the site.
- Through dating, if suitable deposits are encountered, establish a chronological framework for the sedimentary sequence.
- Assess the potential of deposits encountered at the site to reconstruct palaeoenvironmental and climate change through the sedimentary sequence.
- Relate the sedimentary sequence to other Pleistocene sites and locales (both locally, nationally and internationally).
- Assess the deposits for evidence of human activity at the site and characterise its nature and age.

7.2.3 The work meets the following research agenda aims from the national Palaeolithic Conservation and Management Framework (English Heritage 2008):

- How did Pleistocene faunal communities change over time, and what was the pattern of human interaction with and impact on these?
- Did a significant population crash occur over Lower Palaeolithic/Middle Pleistocene time?
- What were the biological relationships between British Pleistocene populations and those of neighbouring regions?
- Recognition of the potential impact of development and other land-use change in order to protect and conserve the diminishing Palaeolithic resource.
- Reduction of the knowledge gap between Palaeolithic specialists and local authority archaeological curators.

7.2.4 This work meets the following research agenda aims for the Palaeolithic for the Eastern Counties (Historic England 2000):

- Further investigation of the dating of the present Thames terrace deposits is needed. The results of such investigations can also feed into the further work required to link the terrace sequence into the surrounding landscape.
- The potential for broadening chronological understanding through linking sequences both within the region and at national and international levels
- Understanding the location, extent, nature, state of preservation and significance of the surviving resource

7.3 Methodology

7.3.1 Geoarchaeological/Palaeolithic specialists from Archaeology South-East directed the excavation by machine of eighteen 1.8m x 2.0–3.0m test pits. These were taken to the surface of the London Clay where possible. In 17 of the test pits this lay between 0.5m and 3.7m in depth. In one test pit, GTP18, the surface of the London Clay was not reached to allow for safe access for sampling.

7.3.2 A record was made of the depositional sequence in order to record each major lithological unit in terms of matrix, coarse components, colour and consistency. A digital photographic record was made of test pits.

7.3.3 Bulk samples were taken where deposits with potential for palaeoenvironmental material were encountered. OSL samples were taken in suitable sediments in order to date the sequence.

7.3.4 Pleistocene Sediments within the test pits were also trowelled at regular intervals, and spoil from each spit was kept separate and sifted by trowel in order to search for artefacts.

7.4 Fieldwork constraints

7.4.1 The only constraint on fieldwork was the presence of later archaeological features; no test pit had to be moved more than 5m from it's intended position to avoid later archaeology. There was therefore no impact on the sampling strategy.

7.5 Palaeoenvironmental assessment

7.5.1 Samples were taken in order to evaluate palaeoenvironmental potential. A micropalaeontological assessment report is included as Appendix 6 and pollen assessment as Appendix 7.

7.6 Site Archive

7.6.1 The following archive has been generated during the works:

Geoarchaeological Test Pit Log Sheet	18
Digital photos	45
Sample register	1
Photograph Register	1
Context Register	1

Table 1: Quantification of site paper archive

7.7 Geoarchaeological Results and Interpretation

7.7.1 A total of 18 geoarchaeological test pits were excavated to a depth of up to 3.8m. Their locations are shown on Figure 2 (GTP1-18). The logs of the individual test pits are given in Appendix 5.

7.7.2 The purpose of the excavation was to describe and characterise sediments which would be impacted by the development and assess them for the potential

to preserve archaeological remains and palaeoenvironmental information. The following main sedimentary units were identified.

7.7.3 Topsoil: Across the site the uppermost 0.3-0.4m of the sequence was topsoil. This comprised a very light yellow-brown fine silty soil with varying proportions of rounded tertiary pebbles and fluvial pebbles derived from the Terrace Deposits.

7.7.4 Brickearth (Head): Where the site topography dropped into the valley of Pannel's Brook, head deposits comprising fine-grained brickearths, attaining a maximum depth of 2.6m in GTP11 and 2.4m in GTP18. In the latter the Brickearth was sampled for micropaleontology, pollen and OSL samples were taken to bracket the formation of the deposit. The Brickearth did not show clear bedding/lamination in profile, possibly due to cyryoturbation. They contained levels with moderately abundant loess dollen (calcium carbonate concretions 4-20mm in size which most probably reflect rooting. Pollen assessment showed a virtual absence of surviving pollen, similarly assessment for micro palaeontology was negative. A single small undiagnostic mollusc shell fragment was recovered from one micropal sample but otherwise the sediments were barren of meaningful palaeoenvironmental indicators.

7.7.5 Sand and gravel: Below the brickearth or, on higher ground at the south and western margins of the site, below topsoil fluvial sands and gravels were encountered. These deposits varied between 0.3m and 1.5m in thickness but in general the preservation on the higher margins of the site was very patchy and appeared to consist of basal gravels of a formerly more vertically extensive deposit which was removed by landscape denudation. The gravels largely comprised rounded Tertiary pebbles but sub-rounded flint gravels from bedrock sources were also present. Despite sifting, no artefacts or faunal remains were recovered.

7.7.6 London Clay: The solid geology, London Clay, was reached in the base of every test pit except GTP2, GTP9 and GTP18. It can be expected to underlie the whole the site.

7.8 Interpretation

7.8.1 The site preserves the basal remnants of a Fluvial River Terrace deposit which forms part of the Post-Anglian Essex River Terraces, as defined by O'Connor (2015). The base of the intact terrace deposits lies at around 20m OD. A tentative interpretation is that these gravels relates to the post-Anglian Thames-Medway drainage of Marine isotope Stages 10 -9 -8.

7.8.2 The topography of the site represents subsequent incision into this 15m terrace by the drainage of Pannel's Brook and involved the erosion and deposition of terrace gravels as part of it's bed-load, possibly in the last cold stage (Devensian). A single OSL date was obtained for the base of the Brickearth deposits which infill the palae-valley of Pannel's Brook. This date, at 20.7k (± 1.5K) BP indicates an age within the Last Glacial Maximum (See Appendix 8) or Marine Isotope Stage 2. It suggests that the lower parts of the Brickearth sequence date to this period, one for which we have no indication for a human presence in Britain; however, the maximum date range for the Brickearth

sequences and whether this extends into the Late Glacial reoccupation of Britain by Magdalenian populations is currently unknown.

8.0 POTENTIAL & SIGNIFICANCE OF RESULTS

8.1 Realisation of the Original Research Aims

8.1.1 The results of the archaeological trial trenching and excavation can address some of the original research aims (OR1-OR7), which are listed in section 3.2. Research aims OR1-OR3 and OR6 relate to later prehistoric settlement morphology and inter-relationships between settlements, and the excavation of a Middle Iron Age settlement enclosure provides evidence that can help to further understanding in this area of research. However, given the relatively limited area of investigation, the results of the fieldwork contribute little to understanding further the nature of field systems, farms and agricultural regimes (OR4, OR5 and OR7).

Period 1: Middle/Late Bronze Age

8.1.2 Identified Middle to Late Bronze Age remains are confined to the south-west of the excavation area. A number of elongated pits, perhaps together with some undated examples of pits and gullies possibly define parts of two sides of a rectilinear alignment. However, this perceived linearity may in part be the product of excavation within evaluation trenching; this needs review. Some of the dated features contain small artefact and environmental assemblages. If indeed these features form tangible alignments, it is possible that they provide evidence for the origins of enclosed settlement and fields in this landscape. However, it appears that this land use activity was entirely unrelated to the subsequent Period 2 Iron Age enclosures, being spatially separate from them and showing no sign of having influenced later landscape development.

Period 2: Early/Middle Iron Age

8.1.3 Most of the site's archaeological findings relate to Period 2. They suggest that, during this period, a farmstead within a large-ditched enclosure (ENC1), occupied the central part of the site and was accompanied by roundhouses (S1-S3). The enclosure's entranceway(s) remains undiscovered. The enclosure may have been accessed via entranceways at its north and/or south ends, unless it was accessed by one or more bridges, which would most likely not be archaeologically visible.

8.1.4 The main enclosure ditch (ENC1) is fairly substantial. Some of the ditch interventions of ENC1 present signs of it having been surrounded by an external edge perimeter bank. The evidence, however, is limited and, if there had been a bank, then all trace of it has been destroyed by erosion and ploughing. There were no re-cutting episodes evident in the ditch and it appears that its development was simple and single-phase.

8.1.5 The presence of the three roundhouses (S1-S3), a large assemblage of largely Early to Middle Iron Age pottery, several specialised artefacts, including loom weights, and large quantities of animal bones all indicate the settlement occupation of ENC1 and the keeping of livestock, cattle in particular.

8.1.6 The roundhouses (S1-S3) contain no internal features and therefore do not provide useful insights into their subdivision and use. Measuring 10-11m in diameter, they are moderately sized compared to most Iron Age roundhouses found elsewhere in the county, which have recorded diameters of *c*.5 to 18m (e.g. Little Waltham, Drury 1978; Lodge Farm St Osyth, Germany 2007).

8.1.7 The Period 2 animal bone assemblage indicates use of cattle, sheep/goats, horses and pigs. Given the limited quantities of charred plant remains recovered from the site, it is possible that agricultural economy of the settlement was largely pastoral in nature. It is probable that some of the cattle were used to pull ploughs. If enclosure (ENC1) was completely enclosed, then it may have been a protective measure to protect the animals and occupants. Enclosures ENC2 and ENC3 are perhaps further indications of animal management, although ENC2 has only been partly exposed and ENC3 is poorly dated.

8.1.8 Some of the carbonised plant macrofossils from the Period 2 soil samples demonstrate production and consumption of wheat, bread-type wheat, barley, oats, peas and beans. It is probable that these were locally grown, although no remains of field systems surrounding the enclosures were found to support this. The settlement enclosures may have occupied a largely uncultivated, possibly pastoral, landscape. Alternatively, fields may not have been formally delineated by ditches. Some of the carbonised macrofossils provide evidence for the farmstead's surrounding environment, suggesting that most of it may have been scrubby grassland.

8.1.9 The settlement's investigation has produced no clear evidence for granaries, which is fairly unusual for a Middle Iron Age settlement. Most Middle Iron Age granaries were held above ground and supported by posts at each corner (e.g. four-, six- and nine-post structures at Lodge Farm St Osyth, Germany 2007, 56). It is possible that post-holes of such structures were shallow and have been lost to truncation. It seems likely that at least some occupation remains within the main enclosure have been destroyed by later agricultural activity.

8.1.10 A reasonably large number of investigated Middle Iron Age settlements are known within Essex. They include the hill forts at Asheldham and Uphall Camp (Bedwin 1991; Merriman 1990), the village-like settlements at Little Waltham, St Osyth and Slough House Farm (Drury 1978; Wallis and Waughman 1998; Germany 2007), and farmsteads at Ardleigh, Orsett Cock, Birchanger, Wendens Ambo and CIS Stansted (Brown 1999; Carter 1998; Medlycott 1994; Hodder 1982; Havis and Brooks 2004). Some are wholly or partly enclosed. Most are informal in plan and have no or little evidence for pre-organisation and planning. As such, the Burnham-on-Crouch example has a well-documented and understood context.

Period 3: Late Iron Age and Roman

8.1.11 Within the wider landscape, the Middle Iron Age enclosed settlement provides evidence of rural occupation and agriculture that perhaps constitutes a precursor to the Late Iron Age to Romano-British farmstead (EHER 11332) located *c.*600m south of the site (see 2.3). It is perhaps likely

that there was a continuum of rural settlement and farming in this vicinity of the landscape. If so, this clearly involved abandonment and relocation of settlement activity away from this Southminster Road site.

8.1.12 Roman remains within the site are minimal. They comprise a single gully (in Trench 43) and pottery and CBM found in Period 2 ENC1 features, which are most likely intrusive. It is likely that the Middle Iron Age settlement enclosure was abandoned prior to the Late Iron Age and the sparseness of the recovered remains suggests that any such later site lay at some distance.

Period 4: Medieval

8.1.13 Field system FS1 possibly constitutes the remains of medieval strip fields, which when in use would have consisted of numerous strips (furlongs) of parallel, alternating ridges and furrows. Its distinctive form is a result of each of its furlongs having always been ploughed clockwise by a plough equipped with a mold-board, which casted earth to the right. Furrows were sometimes deliberately made deeper in order to improve drainage and demarcation of furlongs.

8.1.14 If FS1 is medieval, as is probable, then that it would have been part of a manorial estate, although this remains to be identified. All of its furlongs would have been owned by the lord of the manor, although some of them would have been rented out in exchange for cash or labour.

8.1.15 Investigated examples of strip fields are relatively common in Essex but, like FS1, are often difficult to date, the main reason being that they tend to have very few datable artefacts (*e.g*. Cooke *et al*. 2008; Germany *et al*. 2015; Roberts 2007; Timby *et al.* 2007). They are often assumed to be medieval in date, as in this case, although some are perhaps Roman.

8.1.16 The other significant medieval remains is the large assemblage of 13th- to 14th-century pottery (G49), which was discovered lying between topsoil and natural in the north end of Trench 46. An associated cut, such as a pit, was not apparent and so it might have been the base of a midden heap, which had been subsequently truncated by ploughing. The copper-alloy brooch is its only non-ceramic item recovered. If organic objects had been part of the heap, then these have not survived.

Period 5: Post-medieval/Modern

8.1.17 The post-medieval/modern evidence mainly comprised two large post-medieval ditches crossing the site delineating field boundaries, as well as several small ditches, pits and areas of modern disturbance. The two ditches directly correlate with those shown on the 1849 tithe map and historic OS maps. These remains attest to the continued agricultural land use of the area.

8.2 Significance and potential of the individual datasets

Stratigraphic Sequence

8.2.1 The stratigraphic dataset has provided a body of evidence from five distinct periods: Period 1: Middle/Late Bronze Age, Period 2: Early/Middle Iron Age, Period 3: Late Iron Age and Roman, Period 4: Medieval and Period 5: Post-medieval/Modern. Across the site, no features were dated prior to the Middle Bronze Age, though residual finds of earlier prehistoric date were found in later contexts. Although this evidence suggests a general presence, albeit transient, in the vicinity during the earlier prehistoric period, it is likely to have little association with the succeeding occupation activity. Therefore, the earlier prehistoric remains have little significance and low potential for further research into the nature of early occupation and exploitation of the landscape.

Period 1: Middle/Late Bronze Age

8.2.2 The reliability of the interpretation of the Bronze Age pits and gullies located in the south-west of the excavation area, as delimiting a possible enclosure, is questionable and needs further consideration. In the absence of contemporary features within the perceived enclosure, or in its wider vicinity, there is little potential for further analysis of these remains to provide significant insights into the nature of the earliest tangible settlement of this landscape.

Period 2: Early/Middle Iron Age

8.2.3 The main period of land use and occupation occurred during Early/Middle Iron Age. The enclosed Middle Iron Age settlement and its associated pottery assemblage have particular significance. This single-phase site has modest-sized but typical artefactual data sets and preservation of environmental remains which merit further study in order to gain further insight into the nature of its occupation, its economy and chronology.

8.2.4 There is a wealth of comparanda from other excavated sites in Essex, including village-like settlements at Little Waltham, St Osyth and Slough House Farm (Drury 1978; Wallis and Waughman 1998; Germany 2007), and farmsteads at Ardleigh, Orsett Cock, Birchanger, Wendons Ambo and CIS Stansted (Brown 1999; Carter 1998; Medlycott 1994; Hodder 1982; Havis and Brooks 2004). Such comparative study should allow the site to be placed in its wider context.

Period 3: Late Iron Age and Roman

8.2.5 The Late Iron Age and Roman periods have little significance due to the lack of features and artefacts at this site. As such, there is negligible potential to gain further information as to the nature of land use in these periods.

Period 4: Medieval

8.2.6 The medieval strip field system FS1 has significance in that it is the only recorded example in this south-eastern part of the county, most being

located in its north-west. These agricultural remains therefore have some potential to further the understanding of strip fields within Essex in general and of how the topography of the north part of Burnham came to form during the medieval period and later. These remains can be compared to those from other known sites across Essex, such as Chignall (Clarke 1998), Takeley (Roberts 2007; Germany *et al.* 2015) and Stansted (Cooke *et al.* 2008), in order to consider the nature of such agricultural systems and their wider landscapes.

8.2.7 The medieval sherds from possible midden deposit G49, by contrast, are of low to modest potential for further study, as they do little more than imply that people were living in the near vicinity of the site during 14th century. All of the sherds relate to domestic activity and were most likely dumped from a nearby household, the location of which is unknown. However, it provides some indication of the likely location of the medieval village, the focal point of which is considered to have been St Mary's Church located east of the site.

Period 5: Post-medieval/Modern

8.2.8 The Period 5 evidence, mainly comprising ditches delineating field boundaries, is of no more than local significance. The two main post-medieval ditches are evident on the 1849 tithe map and possibly the 1873 OS map, attesting to the agricultural land use at the site during the post-medieval/modern period. Analysis of later 19th- and 20th-century OS maps further demonstrates the continued agricultural use of land. There is no potential for further study of these recorded remains.

Prehistoric and Roman Pottery

8.2.9 This is a well-stratified and diagnostic assemblage from a period (the Early/Middle Iron Age) that is not well represented in the published literature of the Dengie Peninsula. It points to deposition associated with domestic occupation activity around the postulated buildings within the enclosed settlement.

8.2.10 There is unfortunately no potential for direct radiocarbon dating of carbonised residues on prehistoric pottery; however, if other potentially datable material from enclosure ENC1 were to be identified, it would elevate the regional significance of the pottery assemblage. There is a dearth of strong associations between Iron Age ceramics and secure scientific dates in the region, and refining Iron Age ceramic chronology has therefore been identified as a priority (Medlycott 2011, 29).

8.2.11 Overall the pottery is of clear local and some regional significance as a comparative assemblage and would be worthy of publication. There is probably limited potential for further analysis, although it is proposed that some comparative research is undertaken in order to set the assemblage in its regional context.

Post-Roman Pottery

8.2.12 Although small, this assemblage adds to our knowledge of the extent and development of the medieval village/town of Burnham and can be used in any future synthetic work on trade along the River Thames. It therefore has some modest significance and potential for further recording and study.

Animal Bone

8.2.13 This assemblage has regional significance primarily as it comprises a relatively decent-sized faunal assemblage dating to later prehistory. Further significance relies on the faunal material deriving from the occupation of the Early/Middle Iron Age farmstead, in which case this assemblage contributes to the scanty and poorly preserved Iron Age zooarchaeological record in this region (Bryant 1997; 2000).

8.2.14 This assemblage gives an insight into Iron Age animal exploitation. It suggests that cattle were the primary taxa managed, eaten and/or deposited at this site in the Iron Age, as is typical for East Anglian Iron Age settlements (Hambleton 1998). Both sheep and goats were also managed but on a smaller scale. The presence of goat is significant as ovicaprid remains from Iron Age sites are largely assumed to be sheep, although small numbers of goat bones are sometimes found (Hambleton 1998). Pigs and horses were very minimally represented. Representation of wild fauna was very low, typical for the Iron Age (Jay and Richards 2007, 169).

8.2.15 Herd structure analysis was limited by sample size but gives a significant insight into Iron Age animal management. The data suggest exploitation of cattle and ovicaprids for prime meat. A slaughter event seems to have affected cattle around 18 months old, and largely between 1-3 years for sheep and goats. Isotope analysis of Iron Age human material suggests a high animal protein component (meat and dairy) in their diets (Jay and Richards 2007, 180). Some evidence for older cattle could represent those used for dairy but also traction, especially in light of the metacarpal exhibiting signs of osteoarthritis. The Iron Age arable economy may have demanded the use of traction animals (Hambleton 1998).

8.2.16 The assemblage has considerable potential for contributing to our understanding of deposition and site formation processes at an Iron Age enclosed farmstead, provided the material does indeed derive from this time period. The material from the post-medieval/modern assemblage holds no potential for future work.

8.2.17 Comparing the representation of taxa in certain contexts could indicate different animal exploitation practices between households or varying deposition practices of different taxa. To assess this, in-depth qualitative analysis of species and elements beyond the NISP, including the minimum number of individuals, the minimum number of elements and body part representation, should be undertaken.

8.2.18 This assemblage represents an excellent opportunity to assess deposition practices and site formation processes on a Middle Iron Age farmstead. The differential contextual burning/taphonomy prevalence in the assemblage

could indicate the use of the contexts in different ways. In-depth analysis of gnawing, burning, taphonomy, bone fracture and fragmentation may give an insight into these processes (*cf*. Johnson *et al*. 2016; Johnson 2017). This approach has never been applied to Iron Age evidence in Britain and this site would provide an excellent case study of its potential to assess moderately preserved Iron Age material.

Registered Finds

8.2.19 The assemblage is of variable significance. The presence of the Bronze Age awl demonstrates craft activity during this period, which is of local and regional significance, whereas the medieval objects are of a domestic nature most likely deposited as a result of casual loss or rubbish disposal and are of limited significance beyond dating evidence for the features from which they derived.

8.2.20 The assemblage of loom weights potentially adds evidence to the suggestion of an Early Iron Age adoption of this form locally and any dating refinement of the pottery will enable this to be established.

Other Finds assemblages

8.2.21 The following small and/or late finds assemblages are judged to lack significance and potential to merit further analysis beyond that done for this assessment:

- Worked flint
- Ceramic building material
- Bulk fired clay
- Clay tobacco pipe
- Glass
- Geological material
- Metallurgical remains
- Bulk metalwork
- Shell

Environmental Samples

Plant macrofossils

8.2.31 The majority of samples produced very few charred plant macrofossils. In many instances, they are associated with ceramics dated to the Early and Middle Iron Age or earlier Middle Iron Age (see 6.3), for which there is little published botanical data for the region. One exception to this is the Middle Iron Age settlement at Lodge Farm, St Osyth (Fryer 2007), which provides evidence for cereal storage in granaries. Beyond this, the period is poorly represented, particularly in the immediate area of the site. With the exception of the St Osyth material, botanical assemblages are generally small and the later Iron Age tends to be better represented. As such, these small assemblages should provide locally significant material, contributing to

several research topics (such as the agrarian economy, dating, chronology and social organisation) outlined in the regional research framework (Medlycott 2011). They have the potential to provide a glimpse of the range of crops cultivated and agricultural activities at the site. The weed assemblage from sample <10> [111] may also provide information regarding soil conditions in which the crops were cultivated. Stinking chamomile prefers heavy clay-rich soils, for example, and the cultivation of clay-rich ground is often associated with developments in farming techniques. This is in direct contrast to the observations at St Osyth, where there is stronger evidence for the cultivation of lighter soils (Fryer 2007). This may be a local variation and requires further investigation once the full range of weed taxa is established.

8.2.32 Unfortunately, the potential of these assemblages for analysis is somewhat lessened by the potential for mixing and reworking within the largest assemblages and dates would need to be obtained on some of the botanical remains to be sure of their association with the pottery. The following outlines assemblages that hold some potential for analysis, problems associated with them and solutions.

8.2.33 Sample <1> [51/005] upper fill of ditch [51/006] produced one of the largest assemblages but derives from a probable post-medieval feature that is physically isolated from the majority of other deposits in the east of the site.

8.2.34 Two further samples are of interest: sample <10> [111] from structure S3 (Period 2) and sample <14> [179] from ditch [182], which forms part of the Period 4 field system in close proximity to Structure 3. It should be noted, however, that in this instance the contents of sample <14> [179] are more likely associated with the assemblage of earlier Middle Iron Age pottery and loom weight fragments that are probably of comparable date (see 6.14) than with the actual use of this field system or contemporary activities. Much of the contents of this section of the ditch may have been reworked from the nearby structure S3. There is of course potential for an amalgam of material deriving from multiple phases of land use, which lessens the potential for reliable interpretations to be made.

8.2.35 Given the limited information available for this period, even small amounts of data contribute to our knowledge of agriculture if secure dates can be obtained to confirm their association with the earlier Middle Iron Age land use rather than the significantly later field systems.

Charcoal

8.2.36 The wood charcoal assemblages are of low significance. Charcoal fragments of all sizes are scarce in the majority of deposits, with only a few assemblages containing moderate quantities. All of the samples derive from features, such as ditches and pits, which are likely to contain amalgams of waste rather than providing primary evidence for fuel use. However, such assemblages can provide potential for examining the range of taxa used and contribute information about woody vegetation habitats from which fuel was selected. Taxa identified as part of the assessment provide evidence for large deciduous woodland taxa, ash and oak, with cherry/blackthorn that typically occurs at woodland margins or in hedgerows and field maple, which

prefers open ground. Although further identification work could be undertaken on these assemblages, they are unlikely to yield sufficient data for detailed analysis. In addition, these samples are from different types of features distributed across the site and comparisons between their assemblages would be tenuous.

Radiocarbon dating

8.2.37 Several environmental samples hold some potential to confirm whether macrobotanical remains are associated with the earlier Middle Iron Age pottery or whether they derive from different phases of occupation. It is recommended that charred plant remains are extracted from sample <14> [179] and perhaps sample <1> [51/005] for radiocarbon dating. This would amount to four dates (two from each sample).

8.2.8 As mentioned in 8.2.10, there is some potential for scientific dating of animal bone and carbonised environmental material to elucidate the dating of the occupation and disuse of the ENC1 enclosure. As well as defining the duration of the main settlement, this would provide firm dating for the associated Iron Age pottery. It is proposed that dating samples are extracted from the apparently earliest pottery-dated features (e.g. ditch G6 or pit group G41) and from the seemingly latest (e.g. S2 roundhouse gully G17 and/or interior gully G26). This would amount to a further four to six dated samples (two from each sample).

9.0 PUBLICATION PROJECT

9.1 Revised Research Agenda: Aims and Objectives

9.1.1 This section combines those original research aims that the site archive has the potential to address with any new research aims identified in the assessment process by stratigraphic, finds and environmental specialists to produce a set of revised research aims that will form the basis of any future research agenda. Original research aims (ORs) are referred to where there is any synthesis of subject matter to form a new set of revised research aims (RRAs) posed as questions below.

9.1.2 Enclosure (ENC1) and its associated features comprises the remains of a Middle Iron Age farmstead. The excavations did not reveal multiple, complex phases of settlement and occupation activity over several periods, and so it has not been possible to comment on the development of settlement patterns over time (OR2). Nevertheless, this site has the potential to address the following RRAs, which have been developed using regional frameworks (Medlycott 2011):

RRA1 What can the analysis of the enclosure remains, in conjunction with comparative examples, reveal about settlement types, including their distribution, density and dynamics (Medlycott 2011, 31)?

RRA2 What can the stratigraphic, material and environmental evidence tell us about the nature of the agrarian economy at the site, including evidence of continuity and change (Medlycott 2011, 31)?

RRA3 Can the pottery recovered from the site help to refine regional chronological sequences (Medlycott 2011, 30)

RRA4 What evidence at the site is there for social form and organisation during the Early to Middle Iron Age (Medlycott 2011, 31)?

9.1.3 The remains of a strip field system of probable medieval date adds to the corpus of data known within Essex and comparative analysis of similar sites may help to develop further the understanding of this form of field system. This field system, together with the remains of post-medieval field boundaries, has to potential to address the following RRA:

RRA5 What does FS1 tell us about the changing form/layout/organisation of the agricultural landscape at Burnham-on-Crouch during the medieval period and later?
'What forms do farms take, what range of building-types are present and how far can functions be attributed to them? Are there regional or landscape variations in settlement location, density or type? How far can the size and shape of fields be related to agricultural regimes?' (Medlycott 2011, 70)

9.2 Preliminary Publication Synopsis

9.2.1 It is proposed that the results of the evaluation and excavation be published as an article in the transactions of the Essex Society for Archaeology and History, *Essex Archaeology & History*.____

9.2.2 The publication, and any further analysis undertaken for it, will seek to address the individual site-specific research questions identified in this report (9.1).

9.2.3 The main focus of the article will be the Middle Iron Age settlement enclosure and its environs. Appropriate emphasis will also be placed on the medieval field system remains. Both will be described, and their wider landscape context discussed and county/regional significance explored. Preceding Late Bronze Age and succeeding Post-medieval remains will be given lesser attention, commensurate with their perceived lower significance.

9.2.4 Relevant background, descriptive and discussion texts will be accompanied by data tables, plan and section figures, photographs and finds illustration figures, as appropriate.

9.2.5 It is anticipated that the article will amount to *c.*9000 words and, with tables and figures, will amount to an estimated 15 print pages.

9.3 Publication project

9.3.1 Much of the basic analysis that will form the basis of the publication article has been done as part of the post-excavation assessment work. To date, feature dating, allocation of sub-grouping, grouping and preliminary land-use undertaken and entered onto AseBase, ASE's online database. A full site matrix has been prepared in order to produce this report. Finds and environmental assessments have similarly already carried out much of the basic description and study that will be enhanced where necessary and integrated into the publication article.

9.3.2 The following identifies and describes the further analysis and reporting tasks required in order to produce the publication article.

Stratigraphic Method Statement

9.3.3 This post-excavation assessment and updated project design has established a provisional group structure and landuse model for the site. It has provided a landuse led chronological framework for the analysis and reporting of the site. Review and further refinement of dating and phasing will be undertaken where possible, with scientific dating carried out as necessary.

After completion of specialist analysis as may be required, an integrated period-driven narrative of the site sequence will be prepared. This will draw on specialist information in order to fully address the revised research aims. The narrative will include relevant selection of period/phase plans, sections, photographs and finds illustrations.

The narrative results will then be compared with other sites in Essex and, if appropriate, in the east of England region and beyond, of similar characteristics and of a similar date, with the intention of enhancing understanding of the site and providing a wider landscape model for the identified periods of landuse activity. The stratigraphic tasks are:

- Review and finalisation of feature dating and phasing, especially after radiocarbon dating and review of pottery dating. 3 days
- Review and finalisation of landuse. 1 day
- Carry out research into MIA roundouses and settlements, esp. enclosed, with reference to local/regional/national comparanda. 2 days
- Digestion/consideration of finds reports in relation to features, phases of site development, etc. Integration of finds and enviro information into strat narrative text. 1 day
- Production of period-driven narrative text. 5 days
- Write discussion/conclusion text, acknowledgements, collate bibliography. 3 days
- Internal editing and amendment of collated draft article prior to submission. 4 days

Prehistoric and Roman Pottery

9.3.4 A standalone report will be prepared on the Early/Middle Iron Age pottery assemblage. The following tasks have been identified:

- Update phasing, grouping and land-using information. 0.5 days
- Further research on comparative assemblages. 1 day
- Produce publication report. 1 day
- Extract sherds for illustration, produce illustration catalogue. 1 day

Post-Roman Pottery

9.3.5 No further work is required on this pottery other than to copy the pottery data onto the ASE database. The publication will be based on the assessment analysis and reporting. No illustration is required.

- Pottery Data entry. 1 day
- Report writing. 0.5 day

Animal Bone

9.3.6 The following animal bone tasks have been identified:

- Comparison with other Iron Age farmsteads. 1 day
- In-depth taphonomic assessment of later prehistoric assemblage. 2.5 days
- Statistical analysis of later prehistoric taxa and element distribution. 1 day
- Contextual comparison of new taxa and taphonomic data. 1 day
- Summary report writing. 1.5 days

Registered Finds

9.3.7 The finds have been recorded for the site archive on pro forma sheets and in the database. A short note on the Bronze Age awl and loom weight

assemblage, with illustrations, is proposed for publication which will include some local parallels. The following tasks have been identified:

- Locate parallels 0.5 days
- Prepare report on the awl and loom weights. 1.5 days

Conservation Work

9.3.8 Cleaning and chemical stabilisation is recommended for the three copper alloy objects in order to prevent further decay and to assist with overall identification. No chemical stabilisation is deemed necessary for the iron finds, since the objects appear to be completely mineralised. This suggests that the material is chemically stable if kept in conditions of low humidity (Scott and Eggert 2009).

- Copper alloy object conservation. 2 days

Other Finds assemblages

9.3.9 There is no further analysis identified for the following minor finds assemblages beyond that already done for the assessment. Either singular or amalgamated specialist reports will be produced for the publication article or information from the assessment report will be integrated into the site narrative text, as appropriate.

- Worked flint
- Ceramic building material
- Bulk fired clay
- Clay tobacco pipe
- Glass
- Geological material
- Metallurgical remains
- Bulk metalwork
- Shell
- Miscellaneous finds reporting for publication. 1 day

Environmental Samples

Plant macrofossils:

9.3.10 If radiocarbon dates are obtained and return dates consistent with the pottery assemblages, it is recommended that charred plant remains are analysed from samples <14> [179], <10> [111] and perhaps sample <1> [51/005]. Charred plant remains already extracted from the residues will be added to the flots for sieving, sorting, analysis and quantification. The data will be combined with that already obtained during assessment for the small assemblages from samples <8>, <9>, <11>, <12> (ENC1). These samples require only a small amount of additional analytical work to quantify the remains identified and, although they are likely to contribute only limited data, they have been included to complement the larger assemblages. This work will be undertaken with the following research aims and questions in mind:

- Characterise the evidence for the agricultural economy during for the EIA to earlier MIA periods.
- Characterise the evidence for cereal harvesting, processing and areas under cultivation.

- Place the data within the local context through comparison with contemporary sites and compare with assemblages of later date, for which there is more abundant botanical evidence.

The following environmental tasks have been identified:

- Full analysis of three samples and quantification of charred plant remains in four samples. Identifications and data entry. 2 days
- Literature review and report production. 1 day

Charcoal:

No further work is recommended for the charcoal assemblages

Radiocarbon

9.3.11 Subject to the presence of suitable material, radiocarbon dating samples will be extracted from up to five selected contexts (10 samples total), in order to inform chronology issues relating to Middle Iron Age pottery and environmental remains. The samples will be submitted to an external laboratory for date determination.

- Selection, prep & submission of samples. 1 day
- Radiocarbon dating of max. 10 samples. External fee

Illustration

9.3.12 Plan and section figures will be produced to accompany the introductory and stratigraphic narrative texts, supplemented by photographic images where appropriate. Selected pottery and registered finds illustrations will be drawn, scanned and paged-up.

- Production of plan figures and selected sections. 3 days
- Illustration of approximately 25 sherds of pottery from ENC1. 3 days
- Illustration of three registered finds. 0.5 days

Tasks	**Time**
Stratigraphic analysis & reporting	
Review and finalise dating/grouping/phasing of *c.*460 contexts	3 days
Review and finalise landuses	1 day
MIA roundhouse and settlement research & consideration of the landscape context of the site in the IA & medieval period field systems	2 days
Digestion and integration of finds summary reports	1 day
Write intro & background text	1 day
Write & integrate period-driven narrative of the site sequence	5 days
Write discussion/conclusion text, acknowledgements, collate biblio	3 days
Sub-total	**16 days**
Specialist Stratigraphic analysis & reporting	
Prehistoric and Roman pottery	3.5 days
Medieval pottery	1.5 days
Registered finds	2 days
Animal bone	7 days
Misc finds assemblages (Flint, CBM, fired clay, etc)	1 day
Metalwork conservation	2 days
Environmental material	3 day
Radiocarbon dating – selection & prep	1 day

– specialist dating service	Fee
Sub-total	**21 days + fee**
Illustration	
Plan & section figure illustration	3 days
Pottery and finds figure illustration	4 days
Sub-total	**7 days**
Production	
Internal editing of the collated draft report	2 days
Amendment of the draft prior to submission to EAH	2 days
Amendments following EAH editor/reader comments	1 day
Checking of EAH print proofs	0.5 days
Project Management	2 days
EAH page print cost	Fee
Sub-total	**7.5 days + fee**
Archiving	
Checking & collation of project archive	1 day
Museum deposition	0.25 days
Sub-total	**1.25 days**

Table 12: Resource for completion of the period-driven narrative of the site sequence

9.4 Artefacts and Archive Deposition

9.4.1 The site archive is currently held at the offices of ASE. Following completion of all post-excavation work, including any publication work, the site archive will be deposited with the Colchester Museum; subject to the agreement of the legal landowner.

9.4.2 The site, its paperwork, artefacts, deposits and environmental remains share the same site code: BCGL17. The project archive is quantified in Tables 13 and 14.

Type	Description	Quantity
Trench sheets	Individual trench record sheets	55
Context sheets	Individual context sheets	418
Section sheets	A1 Multi-context permatrace sheets 1:10	0
Plans	Multi-context DWG plans A1 permatrace sheets 1:20 or 1: 50	0 26
Photos	Black and white transparency films Colour slide films Digital images	0 0 389
Environmental sample sheets	Individual sample sheets	19
Context register	Context register sheets	8
Environmental sample register	Environmental sample register sheets	9
Photographic register	Photograph register sheets	10
Drawing register	Section register sheets	26
Small finds register	Small finds register sheets	3

Table 13: Quantification of site paper archive (evaluation and excavation combined)

Bulk finds (quantity e.g. 1 bag, 1 box, 0.5 box 0.5 of a box)	6 boxes
Registered finds (number of)	13
Flots and environmental remains from bulk samples	19
Palaeoenvironmental specialists samples (e.g. columns, prepared slides)	6 soil micromorph samples
Waterlogged wood	0
Wet sieved environmental remains from bulk samples	0

Table 14: Quantification of artefact and environmental samples

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Appendix 1: Context Register

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
1	Layer	Topsoil	1	-	-	-	-
2	Layer	Subsoil	2	-	-	-	-
3	Layer	Natural	3	-	-	-	-
4	Fill	Fill, single	5	173	46	OA2	-
5	Cut	Pit	5	173	46	OA2	-
6	Fill	Fill, single	7	172	46	OA2	-
7	Cut	Posthole	7	172	46	OA2	-
8	Fill	Fill, upper	10	175	47	OA2	2
9	Fill	Fill, primary	10	174	47	OA2	2
10	Cut	Pit	10	174	47	OA2	2
11	Fill	Fill, single	12	48	14	ENC3	2
12	Cut	Ditch	12	47	14	ENC3	2
13	Fill	Fill, single	14	165	42	ENC1	2
14	Cut	Pit (=[40/004])	14	165	42	ENC1	2
15	Fill	Fill, single	16	44	14	ENC3	2
16	Cut	Ditch	16	43	14	ENC3	2
17	Fill	Fill, single	18	164	75	ENC1	-
18	Cut	Pit	18	164	75	ENC1	-
19	Fill	Fill, single	20	163	75	ENC1	-
20	Cut	Gully	20	163	75	ENC1	-
21	Fill	Fill, single	22	162	75	ENC1	-
22	Cut	Pit	22	162	75	ENC1	-
23	Fill	Fill, single	24	161	75	ENC1	-
24	Cut	Pit	24	161	75	ENC1	-
25	Fill	Fill, secondary	27	28	9	ENC1	2
26	Fill	Fill, primary	27	27	9	ENC1	2
27	Cut	Ditch	27	29	9	ENC1	2
28	Fill	Fill, single	29	64	17	ENC1	2
29	Cut	Gully	29	64	17	ENC1	2
30	Fill	Fill, upper	33	234	47	OA2	2
31	Fill	Fill, secondary	33	234	47	OA2	2
32	Fill	Fill, primary	33	233	47	OA2	2
33	Cut	Pit	33	233	47	OA2	2
34	Fill	Fill, single	35	50	14	ENC3	2
35	Cut	Gully	35	49	14	ENC3	2
36	Fill	Fill, single	37	65	17	ENC1	2
37	Cut	Gully	37	65	17	ENC1	2
38	Fill	Fill, single	39	89	26	ENC1	2
39	Cut	Ditch	39	89	26	ENC1	2
40	Fill	Fill, single	41	88	25	ENC1	2

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
41	Cut	Ditch	41	88	25	ENC1	2
42	Fill	Fill, upper	25	28	9	ENC1	2
43	Fill	Fill, single	44	90	26	ENC1	2
44	Cut	Ditch	44	90	26	ENC1	2
45	Fill	Fill, single	46	160	75	ENC1	-
46	Cut	Pit	46	160	75	ENC1	-
47	Fill	Fill, single	48	159	75	ENC1	-
48	Cut	Pit	48	159	75	ENC1	-
49	Fill	Fill, upper	52	72	20	FS2	5
50	Fill	Fill, secondary	52	73	20	FS2	5
51	Fill	Fill, primary	52	73	20	FS2	5
52	Cut	Ditch	52	72	20	FS2	5
53	Fill	Fill, single	54	86	24	ENC1	2
54	Cut	Ditch	54	86	24	ENC1	2
55	Fill	Fill, single	56	59	16	ENC1	2
56	Cut	Ditch	56	59	16	ENC1	2
57	Fill	Fill, single	58	60	16	ENC1	2
58	Cut	Ditch	58	60	16	ENC1	2
59	Fill	Fill, single	60	61	17	ENC1	2
60	Cut	Ditch	60	61	17	ENC1	2
61	Fill	Fill, single	62	85	23	ENC1	2
62	Cut	Ditch	62	85	23	ENC1	2
63	Fill	Fill, single	64	156	74	ENC1	-
64	Cut	Pit	64	156	74	ENC1	-
65	Fill	Fill, single	66	84	23	ENC1	2
66	Cut	Ditch	66	84	23	ENC1	2
67	Fill	Fill, single	68	87	24	ENC1	2
68	Cut	Ditch	68	87	24	ENC1	2
69	Fill	Fill, single	70	154	41	ENC1	5
70	Cut	Pit	70	154	41	ENC1	5
71	Fill	Fill, single	72	155	74	ENC1	-
72	Cut	Pit	72	155	74	ENC1	-
73	Fill	Fill, single	74	177	74	ENC1	-
74	Cut	Pit	74	177	74	ENC1	-
75	Fill	Fill, single	76	-	-	-	-
76	Cut	Pit	76	-	-	-	-
77	Fill	Fill, upper	86	35	11	ENC1	2
78	Fill	Fill, upper	86	35	11	ENC1	2
79	Fill	Fill, upper	86	35	11	ENC1	2
80	Fill	Fill, intermediate	86	35	11	ENC1	2
81	Fill	Fill, intermediate	86	34	11	ENC1	2

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
82	Fill	Fill, intermediate	86	34	11	ENC1	2
83	Fill	Fill, basal	86	33	11	ENC1	2
84	Fill	Fill, basal	86	33	11	ENC1	2
85	Fill	Fill, primary	86	33	11	ENC1	2
86	Cut	Ditch	86	36	11	ENC1	2
87	Fill	Fill, single	88	58	15	ENC1	2
88	Cut	Ditch	88	58	15	ENC1	2
89	Fill	Fill, single	90	104	33	FS1	4
90	Cut	Ditch	90	104	33	FS1	4
91	Fill	Fill, single	92	46	14	ENC3	2
92	Cut	Ditch	92	45	14	ENC3	2
93	Fill	Fill, single	94	78	21	ENC1	2
94	Cut	Gully	94	78	21	ENC1	2
95	Fill	Fill, single	96	80	21	ENC1	2
96	Cut	Gully	96	80	21	ENC1	2
97	Fill	Fill, single	98	81	21	ENC1	2
98	Cut	Gully	98	81	21	ENC1	2
99	Fill	Fill, single	100	57	15	ENC1	2
100	Cut	Gully	100	57	15	ENC1	2
101	Fill	Fill, single	102	147	40	ENC1	2
102	Cut	Gully	102	147	40	ENC1	2
103	Fill	Fill, single	104	70	19	ENC1	2
104	Cut	Ditch	104	70	19	ENC1	2
105	Fill	Fill, single	106	42	13	ENC2	2
106	Cut	Ditch	106	41	13	ENC2	2
107	Fill	Fill, single	108	40	13	ENC2	2
108	Cut	Ditch	108	39	13	ENC2	2
109	Fill	Fill, single	110	38	12	ENC2	2
110	Cut	Ditch	110	37	12	ENC2	2
111	Fill	Fill, primary	269	67	18	ENC1	2
112	Fill	Fill, intermediate	269	67	18	ENC1	2
113	Fill	Fill, single	114	114	34	FS1	4
114	Cut	Ditch	114	114	34	FS1	4
115	Fill	Fill, upper	117	5	2	ENC1	2
116	Fill	Fill, primary	117	6	2	ENC1	2
117	Cut	Ditch	117	7	2	ENC1	2
118	Fill	Fill, single	119	118	35	FS1	4
119	Cut	Ditch	119	118	35	FS1	4
120	Fill	Fill, single	121	152	41	ENC1	2
121	Cut	Pit	121	152	41	ENC1	2
122	Fill	Fill, single	123	82	22	ENC1	2

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
123	Cut	Ditch	123	82	22	ENC1	2
124	Fill	Fill, single	125	83	22	ENC1	2
125	Cut	Ditch	125	83	22	ENC1	2
126	Fill	Fill, single	127	105	33	FS1	4
127	Cut	Ditch	127	105	33	FS1	4
128	Fill	Fill, upper	130	26	8	ENC1	2
129	Fill	Fill, primary	130	25	8	ENC1	2
130	Cut	Ditch	130	24	8	ENC1	2
131	Fill	Fill, single	132	79	21	ENC1	2
132	Cut	Gully	132	79	21	ENC1	2
133	Fill	Fill, single	134	56	15	ENC1	2
134	Cut	Gully	134	56	15	ENC1	2
135	Fill	Fill, single	136	53	15	ENC1	2
136	Cut	Gully	136	53	15	ENC1	2
137	Fill	Fill, single	138	54	15	ENC1	2
138	Cut	Gully	138	54	15	ENC1	2
139	Fill	Fill, single	140	55	15	ENC1	2
140	Cut	Gully	140	55	15	ENC1	2
141	Fill	Fill, single	142	178	74	ENC1	-
142	Cut	Pit	142	178	74	ENC1	-
143	Fill	Fill, single	144	111	34	FS1	4
144	Cut	Ditch	144	111	34	FS1	4
145	Cut	Ditch	145	117	35	FS1	4
146	Fill	Fill, single	145	117	35	FS1	4
147	Cut	Ditch	147	116	35	FS1	4
148	Fill	Fill, single	147	116	35	FS1	4
149	Fill	Fill, single	150	148	41	ENC1	2
150	Cut	Pit	150	148	41	ENC1	2
151	Fill	Fill, single	152	149	74	ENC1	-
152	Cut	Pit	152	149	74	ENC1	-
153	Fill	Fill, single	154	150	41	ENC1	2
154	Cut	Pit	154	150	41	ENC1	2
155	Fill	Fill, single	156	151	74	ENC1	-
156	Cut	Pit	156	151	74	ENC1	-
157	Fill	Fill, single	158	145	40	ENC1	2
158	Cut	Ditch	158	145	40	ENC1	2
159	Fill	Fill, single	160	145	40	ENC1	2
160	Cut	Pit	160	144	40	ENC1	2
161	Fill	Fill, single	162	146	40	ENC1	2
162	Cut	Pit	162	146	40	ENC1	2
163	Fill	Fill, single	164	153	74	ENC1	-
164	Cut	Pit	164	153	74	ENC1	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
165	Fill	Fill, single	166	143	40	ENC1	2
166	Cut	Ditch	166	143	40	ENC1	2
167	Fill	Fill, single	168	110	34	FS1	4
168	Cut	Ditch	168	110	34	FS1	4
169	Fill	Fill, single	170	106	33	FS1	4
170	Cut	Gully	170	106	33	FS1	4
171	Fill	Fill, single	172	71	19	ENC1	2
172	Cut	Ditch	172	71	19	ENC1	2
173	Fill	Fill, single	174	141	39	OA1	-
174	Cut	Pit	174	141	39	OA1	-
175	Fill	Fill, single	176	140	39	OA1	-
176	Cut	Pit	176	140	39	OA1	-
177	Fill	Fill, single	178	69	18	ENC1	2
178	Cut	Ditch	178	68	18	ENC1	2
179	Fill	Fill, upper	182	113	34	FS1	4
180	Fill	Fill, secondary	182	113	34	FS1	4
181	Fill	Fill, primary	182	112	34	FS1	4
182	Cut	Ditch	182	112	34	FS1	4
183	Fill	Fill, upper	185	9	3	ENC1	2
184	Fill	Fill, primary	185	8	3	ENC1	2
185	Cut	Ditch	185	10	3	ENC1	2
186	Fill	Fill, single	187	103	33	FS1	4
187	Cut	Gully	187	103	33	FS1	4
188	Fill	Fill, upper	191	23	7	ENC1	2
189	Fill	Fill, secondary	191	23	7	ENC1	2
190	Fill	Fill, primary	191	22	7	ENC1	2
191	Cut	Ditch	191	21	7	ENC1	2
192	Fill	Fill, upper	194	95	62	ENC4	4
193	Fill	Fill, primary	194	94	62	ENC4	4
194	Cut	Ditch	194	94	62	ENC4	4
195	Fill	Fill, upper	197	181	48	ENC1	2
196	Fill	Fill, primary	197	180	48	ENC1	2
197	Cut	Ditch	197	180	48	ENC1	2
198	Fill	Fill, single	199	102	33	FS1	4
199	Cut	Ditch	199	102	33	FS1	4
200	Fill	Fill, single	201	184	29	FS1	4
201	Cut	Ditch	201	184	29	FS1	4
202	Fill	Fill, single	203	93	62	ENC4	4
203	Cut	Ditch	203	93	62	ENC4	4
204	Fill	Fill, single	205	92	27	OA1	2
205	Cut	Pit	205	92	27	OA1	2
206	Fill	Fill, single	207	157	41	ENC1	2

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
207	Cut	Pit	207	157	41	ENC1	2
208	Fill	Fill, secondary	185	9	3	ENC1	2
209	Fill	Fill, single	210	-	32	FS1	4
210	Cut	Ditch	210	-	32	FS1	4
211	Fill	Fill, single	212	99	31	FS1	4
212	Cut	Gully	212	99	31	FS1	4
213	Fill	Fill, single	214	131	37	OA1	-
214	Cut	Ditch	214	131	37	OA1	-
215	Fill	Fill, upper	216	120	36	FS1	4
216	Cut	Ditch	216	120	36	FS1	4
217	Fill	Fill, single	218	124	27	OA1	2
218	Cut	Ditch	218	124	27	OA1	2
219	Fill	Fill, primary	216	121	36	FS1	4
220	Cut	Ditch	220	75	20	FS2	5
221	Fill	Fill, upper	220	76	20	FS2	5
222	Cut	Ditch	222	115	35	FS1	4
223	Fill	Fill, single	222	115	35	FS1	4
224	Fill	Fill, upper	226	125	27	OA1	2
225	Fill	Fill, primary	226	132	27	OA1	2
226	Cut	Pit	226	125	27	OA1	2
227	Fill	Fill, single	228	127	37	OA1	-
228	Cut	Pit	228	127	37	OA1	-
229	Fill	Fill, single	230	126	28	OA1	5
230	Cut	Pit	230	126	28	OA1	5
231	Fill	Fill, single	232	77	20	FS2	5
232	Cut	Ditch	232	77	20	FS2	5
233	Fill	Fill, single	234	107	34	FS1	4
234	Cut	Ditch	234	107	34	FS1	4
235	Fill	Fill, primary	220	75	20	FS2	5
236		Fill, upper	238	20	6	ENC1	2
237	Fill	Fill, intermediate	238	20	6	ENC1	2
238	Cut	Ditch	238	18	6	ENC1	2
239	Fill	Fill, single	240	130	37	OA1	-
240	Cut	Pit	240	130	37	OA1	-
241	Fill	Fill, single	242	142	39	OA1	-
242	Cut	Pit	242	142	39	OA1	-
243	Fill	Fill, primary	238	19	6	ENC1	2
244	Fill	Fill, upper	248	307	37	OA1	2
245	Fill	Fill, intermediate	248	307	37	OA1	2
246	Fill	Fill, intermediate	248	308	37	OA1	2

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
247	Fill	Fill, primary	248	308	27	OA1	2
248	Cut	Pit	248	308	27	OA1	2
249	Fill	Fill, upper	251	16	5	ENC1	2
250	Fill	Fill, primary	251	15	5	ENC1	2
251	Cut	Ditch	251	17	5	ENC1	2
252	Fill	Fill, single	253	182	35	FS1	4
253	Cut	Ditch	253	182	35	FS1	4
254	Fill	Fill, single	255	179	48	-	2
255	Cut	Pit	255	179	48	-	2
256	Fill	Fill, single	257	-	-	-	-
257	Cut	Ditch	257	-	-	-	-
258	Fill	Fill, upper	260	401	27	OA1	2
259	Fill	Fill, primary	260	400	27	OA1	2
260	Cut	Ditch	260	400	27	OA1	2
261	Fill	Fill, single	262	98	30	FS1	4
262	Cut	Ditch	262	98	30	FS1	4
263	Fill	Fill, upper	266	14	4	ENC1	2
264	Fill	Fill, intermediate	266	13	4	ENC1	2
265	Fill	Fill, primary	266	12	4	ENC1	2
266	Cut	Ditch	266	11	4	ENC1	2
267	Fill	Fill, secondary	266	13	4	ENC1	2
268	Fill	Fill, secondary	238	19	6	ENC1	2
269	Cut	Gully	269	350	18	ENC1	2
270	Cut	Ditch	270	96	29	FS1	4
271	Fill	Fill, single	270	96	29	FS1	4
1/001	Layer	Topsoil	1/001	-	-	-	-
1/002	Layer	Natural	1/002	-	-	-	-
2/001	Layer	Topsoil	2/001	-	-	-	-
2/002	Layer	Natural	2/002	-	-	-	-
3/001	Layer	Topsoil	3/001	-	-	-	-
3/002	Layer	Natural	3/002	-	-	-	-
3/003	Fill	Fill, single	3/004	303	63	-	5
3/004	Cut	Ditch	3/004	303	63	-	5
4/001	Layer	Topsoil	4/001	-	-	-	-
4/002	Layer	Subsoil	4/002	-	-	-	-
4/003	Layer	Natural	4/003	-	-	-	-
5/001	Layer	Topsoil	5/001	-	-	-	-
5/002	Layer	Subsoil	5/002	-	-	-	-
5/003	Layer	Natural	5/003	-	-	-	-
6/001	Layer	Topsoil	6/001	-	-	-	-
6/002	Layer	Natural	6/002	-	-	-	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
6/003	Layer	Natural	6/003	-	-	-	-
7/001	Layer	Topsoil	7/001	-	-	-	-
7/002	Layer	Natural	7/002	-	-	-	-
7/003	Layer	Natural	7/003	-	-	-	-
8/001	Layer	Topsoil	8/001	-	-	-	-
8/002	Layer	Natural	8/002	-	-	-	-
9/001	Layer	Topsoil	9/001	-	-	-	-
9/002	Layer	Natural	9/002	-	-	-	-
9/003	Fill	Fill, single	9/004	304	64	-	5
9/004	Cut	Ditch	9/004	304	64	-	5
10/001	Layer	Topsoil	10/001	-	-	-	-
10/002	Layer	Natural	10/002	-	-	-	-
10/003	Fill	Fill	10/004	309	66	-	5
10/004	Cut	Pit	10/004	309	66	-	5
11/001	Layer	Topsoil	11/001	-	-	-	-
11/002	Layer	Natural	11/002	-	-	-	-
12/001	Layer	Topsoil	12/001	-	-	-	-
12/002	Layer	Natural	12/002	-	-	-	-
13/001	Layer	Topsoil	13/001	-	-	-	-
13/002	Layer	Natural	13/002	-	-	-	-
14/001	Layer	Topsoil	14/001	-	-	-	-
14/002	Layer	Natural	14/002	-	-	-	-
15/001	Layer	Topsoil	15/001	-	-	-	-
15/002	Layer	Natural	15/002	-	-	-	-
16/001	Layer	Topsoil	16/001	-	-	-	-
16/002	Layer	Natural	16/002	-	-	-	-
17/001	Layer	Topsoil	17/001	-	-	-	-
17/002	Layer	Natural	17/002	-	-	-	-
18/001	Layer	Topsoil	18/001	-	-	-	-
18/002	Layer	Natural	18/002	-	-	-	-
18/003	Fill	Fill, single	18/004	229	60	-	-
18/004	Cut	Pit	18/004	229	60	-	-
18/005	Fill	Fill, single	18/006	226	59	-	4
18/006	Cut	Gully	18/006	226	59	-	4
18/007	Fill	Fill, single	18/008	225	59	-	-
18/008	Cut	Ditch	18/008	225	59	-	-
19/001	Layer	Topsoil	19/001	-	-	-	-
19/002	Layer	Natural	19/002	-	-	-	-
20/001	Layer	Topsoil	20/001	-	-	-	-
20/002	Layer	Natural	20/002	-	-	-	-
20/003	Fill	Fill, single	20/004	223	58	-	-
20/004	Cut	Ditch	20/004	223	58	-	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
21/001	Layer	Topsoil	21/001	-	-	-	-
21/002	Layer	Subsoil	21/002	-	-	-	-
21/003	Layer	Natural	21/003	-	-	-	-
21/004	Fill	Fill, single	21/005	224	58	FS2	5
21/005	Cut	Ditch	21/005	224	58	FS2	5
21/006	Fill	Fill, single	21/007	228	58	FS2	5
21/007	Cut	Ditch	21/007	228	58	FS2	5
22/001	Layer	Topsoil	22/001	-	-	-	-
22/002	Layer	Subsoil	22/002	-	-	-	-
22/003	Layer	Natural	22/003	-	-	-	-
22/004	Fill	Fill, single	22/005	227	59	-	-
22/005	Cut	Gully	22/005	227	59	-	-
22/006	Fill	Fill, single	22/007	229	60	-	-
22/007	Cut	Pit	22/007	230	60	-	-
22/008	Fill	Fill, single	22/009	222	58	-	-
22/009	Cut	Ditch	22/009	222	58	-	-
23/001	Layer	Topsoil	23/001	-	-	-	-
23/002	Layer	Natural	23/002	-	-	-	-
24/001	Layer	Topsoil	24/001	-	-	-	-
24/002	Layer	Natural	24/002	-	-	-	-
25/001	Layer	Topsoil	25/001	-	-	-	-
25/002	Layer	Natural	25/002	-	-	-	-
26/001	Layer	Topsoil	26/001	-	-	-	-
26/002	Layer	Natural	26/002	-	-	-	-
27/001	Layer	Topsoil	27/001	-	-	-	-
27/002	Layer	Subsoil	27/002	-	-	-	-
27/003	Layer	Natural	27/003	-	-	-	-
28/001	Layer	Topsoil	28/001	-	-	-	-
28/002	Layer	Subsoil	28/002	-	-	-	-
28/003	Layer	Natural	28/003	-	-	-	-
28/004	Fill	Fill, single	28/005	404	57	-	-
28/005	Cut	Pit	28/005	404	57	-	-
28/006	Fill	Fill, single	28/007	403	57	-	-
28/007	Cut	Pit	28/007	403	57	-	-
28/008	Fill	Fill	28/009	405	57	-	-
28/009	Cut	Pit	28/009	405	57	-	-
29/001	Layer	Topsoil	29/001	-	-	-	-
29/002	Layer	Natural	29/002	-	-	-	-
29/003	Fill	Fill, single	29/004	203	50	-	-
29/004	Cut	Gully	29/004	203	50	-	-
29/005	Fill	Fill, single	29/006	204	50	-	-
29/006	Cut	Gully	29/006	204	50	-	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
30/001	Layer	Topsoil	30/001	-	-	-	-
30/002	Layer	Subsoil	30/002	-	-	-	-
30/003	Layer	Natural	30/003	-	-	-	-
30/004	Fill	Fill, single	30/005	305	65	-	-
30/005	Cut	Ditch	30/005	305	65	-	-
31/001	Layer	Topsoil	31/001	-	-	-	-
31/002	Layer	Natural	31/002	-	-	-	-
32/001	Layer	Topsoil	32/001	-	-	-	-
32/002	Layer	Subsoil	32/002	-	-	-	-
32/003	Layer	Natural	32/003	-	-	-	-
32/004	Cut	Pit	32/004	217	56	-	-
32/005	Fill	Fill, single	32/004	217	56	-	-
32/006	Cut	Gully	32/006	214	55	-	-
32/007	Fill	Fill, single	32/006	214	55	-	-
33/001	Layer	Topsoil	33/001	-	-	-	-
33/002	Layer	Natural	33/002	-	-	-	-
34/001	Layer	Topsoil	34/001	-	-	-	-
34/002	Layer	Subsoil	34/002	-	-	-	-
34/003	Layer	Natural	34/003	-	-	-	-
34/004	Fill	Fill, single	34/005	205	51	-	-
34/005	Cut	Ditch	34/005	205	51	-	-
34/006	Fill	Fill, single	34/007	206	51	-	-
34/007	Cut	Ditch	34/007	206	51	-	-
34/008	Fill	Fill, single	34/009	216	56	-	-
34/009	Cut	Posthole	34/009	216	56	-	-
35/001	Layer	Topsoil	35/001	-	-	-	-
35/002	Layer	Subsoil	35/002	-	-	-	-
35/003	Layer	Natural	35/003	-	-	-	-
35/004	Fill	Fill, single	35/005	212	54	OA1	4
35/005	Cut	Ditch	35/005	212	54	OA1	4
35/006	Fill	Fill, single	35/007	213	54	OA1	4
35/007	Cut	Ditch	35/007	213	54	OA1	4
35/008	Fill	Fill, single	35/009	210	53	-	-
35/009	Cut	Gully	35/009	210	53	-	-
35/010	Fill	Fill, single	35/011	218	56	-	-
35/011	Cut	Pit	35/011	218	56	-	-
35/012	Cut	Gully	35/012	211	53	-	-
35/013	Fill	Fill, single	35/012	211	53	-	-
35/014	Cut	Gully	35/014	209	52	-	-
35/015	Fill	Fill, single	35/014	209	52	-	-
36/001	Layer	Topsoil	36/001	0	-	-	-
36/002	Layer	Natural	36/002	-	-	-	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
36/003	Fill	Fill, single	36/004	215	56	-	-
36/004	Cut	Pit	36/004	215	56	-	-
36/005	Fill	Fill, single	36/006	208	52	-	-
36/006	Cut	Ditch	36/006	208	52	-	-
36/007	Fill	Fill, single	36/008	207	52	-	-
36/008	Cut	Ditch	36/008	207	52	-	-
36/009	Layer	Subsoil	36/009	-	-	-	-
37/001	Layer	Topsoil	Layer	-	-	-	-
37/002	Layer	Subsoil	Layer	-	-	-	-
37/003	Layer	Natural	Layer	-	-	-	-
37/004	Cut	Posthole	37/004	231	61	-	-
37/005	Fill	Fill, single	37/004	231	61	-	-
37/006	Cut	Posthole	37/006	232	61	-	-
37/007	Fill	Fill, single	37/006	232	61	-	-
37/008	Cut	Ditch	37/008	4	1	ENC1	2
37/009	Fill	Fill, primary	37/008	1	1	ENC1	2
37/010	Fill	Fill, primary	37/008	1	1	ENC1	2
37/011	Fill	Fill, secondary	37/008	2	1	ENC1	2
37/012	Fill	Fill, tertiary	37/008	2	1	ENC1	2
37/013	Fill	Fill, upper	37/008	3	1	ENC1	2
37/014	Fill	Fill, single	37/019	4	1	ENC1	2
37/015	Fill	Fill, single	37/016	-	-	-	-
37/016	Cut	Posthole	37/016	-	-	-	-
37/017	Fill	Fill, primary	37/008	1	1	ENC1	2
37/018	Layer	Finds scatter	37/018	-	-	-	-
37/019	Cut	Ditch	37/019	100	32	FS1	4
38/001	Layer	Topsoil	38/001	-	-	-	-
38/002	Layer	Natural	38/002	-	-	-	-
38/003	Fill	Fill, single	38/004	97	30	FS1	4
38/004	Cut	Gully	38/004	97	30	FS1	4
38/005	Fill	Fill, single	38/006	402	32	FS1	4
38/006	Cut	Gully	38/006	402	32	FS1	4
38/007	Fill	Fill, single	38/008	100	32	FS1	4
38/008	Cut	Gully	38/008	100	32	FS1	4
38/009	Fill	Fill, single	38/010	101	33	FS1	4
38/010	Cut	Gully	38/010	101	33	FS1	4
38/011	Fill	Fill, single	38/012	108	34	FS1	4
38/012	Cut	Gully	38/012	108	34	FS1	4
38/013	Fill	Fill, single	38/014	325	20	FS2	5
38/014	Cut	Ditch	38/014	325	20	FS2	5
38/015	Fill	Fill, single	38/016	326	34	FS1	4
38/016	Cut	Gully	38/016	326	34	FS1	4

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
38/017	Fill	Fill, single	38/018	327	34	FS1	4
38/018	Fill	Fill, single	38/019	327	34	FS1	4
39/001	Layer	Topsoil	39/001	-	-	-	-
39/002	Layer	Subsoil	39/002	-	-	-	-
39/003	Layer	Natural	39/003	-	-	-	-
39/004	Fill	Fill, single	39/005	109	34	FS1	4
39/005	Cut	Ditch	39/005	109	34	FS1	4
39/006	Fill	Fill, single	39/007	-	-	-	-
39/007	Cut	Pit	39/007	-	-	-	-
39/008	Fill	Fill, single	39/009	-	36	FS1	4
39/009	Cut	Recut	39/009	-	36	FS1	4
39/010	Fill	Fill, upper	39/016	123	36	FS1	4
39/011	Fill	Fill, single	39/012	-	33	FS1	4
39/012	Cut	Ditch	39/012	-	33	FS1	4
39/013	Fill	Fill, single	39/014	-	20	FS2	5
39/014	Cut	Ditch	39/014	-	20	FS2	5
39/015	Fill	Fill, primary	39/016	122	36	FS1	4
39/016	Cut	Ditch	39/016	122	36	FS1	4
39/017	Fill	Fill, upper	39/019	134	38	OA1	-
39/018	Fill	Fill, secondary	39/019	133	38	OA1	-
39/019	Cut	Pit	39/019	133	38	OA1	-
39/020	Fill	Fill, single	39/021	137	38	OA1	-
39/021	Cut	Posthole	39/021	137	38	OA1	-
39/022	Fill	Fill, upper	39/024	136	38	OA1	-
39/023	Fill	Fill, secondary	39/024	135	38	OA1	-
39/024	Cut	Pit	39/024	135	38	OA1	-
39/025	Fill	Fill, single	39/026	138	38	OA1	-
39/026	Cut	Posthole	39/026	138	38	OA1	-
39/027	Fill	Fill, single	39/028	139	38	OA1	-
39/028	Cut	Posthole	39/028	139	38	OA1	-
40/001	Layer	Topsoil	40/001	-	-	-	-
40/002	Layer	Natural	40/002	-	-	-	-
40/003	Fill	Fill, upper	40/004	166	42	ENC1	2
40/004	Cut	Pit (=14)	40/004	167	42	ENC1	2
40/005	Fill	Fill, primary	40/004	167	42	ENC1	2
40/006	Fill	Fill, upper	40/007	63	17	ENC1	2
40/007	Cut	Pit	40/007	62	17	ENC1	2
40/008	Fill	Fill, single	40/007	62	17	ENC1	2
40/009	Cut	Ditch	40/009	74	20	FS2	5
40/010	Fill	Fill, single	40/009	74	20	FS2	5
40/011	Fill	Fill, single	40/012	158	74	ENC1	-
40/012	Cut	Gully	40/012	158	74	ENC1	-

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
40/013	Fill	Fill, single	40/014	119	35	FS1	4
40/014	Fill	Ditch	40/014	119	35	FS1	4
40/015	Fill	Fill, single	40/016	52	14	ENC3	2
40/016	Cut	Ditch	40/016	51	14	ENC3	2
41/001	Layer	Topsoil	41/001	-	-	-	-
41/002	Layer	Natural	41/002	-	-	-	-
41/003	Fill	Fill, single	41/004	-	37	OA1	-
41/004	Cut	Pit	41/004	-	37	OA1	-
41/005	Fill	Fill, single	41/006	126	37	OA1	5
41/006	Cut	Pit	41/006	126	37	OA1	5
41/007	Fill	Fill, single	41/008	37	27	OA1	2
41/008	Cut	Pit	41/008	302	27	OA1	2
41/009	Fill	Fill, single	41/010	128	37	OA1	-
41/010	Cut	Pit	41/010	128	37	OA1	-
41/011	Fill	Fill, single	41/012	300	37	OA1	-
41/012	Cut	Gully	41/012	300	37	OA1	-
41/013	Fill	Fill, single	41/014	37	37	OA1	2
41/014	Cut	Gully	41/014	37	37	OA1	2
41/015	Fill	Fill, single	41/016	301	37	OA1	-
41/016	Cut	Gully	41/016	301	37	OA1	-
41/017	Fill	Fill, single	41/018	302	37	OA1	2
41/018	Cut	Gully	41/018	302	37	OA1	2
42/001	Layer	Topsoil	42/001	-	-	-	-
42/002	Layer	Natural	42/002	-	-	-	-
42/003	Fill	Fill, single	42/004	310	67	-	3
42/004	Cut	Gully	42/004	310	67	-	3
42/005	Fill	Fill, single	42/006	311	67	-	-
42/006	Cut	Gully	42/006	311	67	-	-
43/001	Layer	Topsoil	43/001	-	-	-	-
43/002	Layer	Subsoil	43/002	-	-	-	-
43/003	Layer	Natural	43/003	-	-	-	-
43/004	Fill	Fill, single	43/005	312	68	-	3
43/005	Cut	Ditch	43/005	312	68	-	3
43/006	Fill	Fill, single	43/007	314	69	-	2
43/007	Cut	Pit	43/007	314	69	-	2
43/008	Fill	Fill, single	43/009	313	68	-	-
43/009	Cut	Ditch	43/009	313	68	-	-
46/001	Layer	Topsoil	46/001	-	-	-	-
46/002	Layer	Subsoil	46/002	-	-	-	-
46/003	Layer	Natural	46/003	-	-	-	-
46/004	Layer	Layer	46/004	202	49	-	4
46/005	Layer	Layer	46/005	202	49	-	4

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
47/001	Layer	Topsoil	47/001	-	-	-	-
47/002	Layer	Subsoil	47/002	-	-	-	-
47/003	Layer	Natural	47/003	-	-	-	-
47/004	Fill	Fill, upper	47/007	31	10	ENC1	2
47/005	Fill	Fill, intermediate	47/007	30	10	ENC1	2
47/006	Fill	Fill, primary	47/007	30	10	ENC1	2
47/007	Cut	Ditch	47/007	32	10	ENC1	2
47/008	Fill	Fill, single	47/009	168	20	FS2	5
47/009	Cut	Ditch	47/009	168	20	FS2	5
47/010	Fill	Fill, single	47/011	171	45	OA2	2
47/011	Cut	Pit	47/011	171	45	OA2	2
47/012	Fill	Fill, primary	47/013	170	44	-	-
47/013	Cut	Ditch	47/013	170	44	-	-
47/014	Fill	Fill, single	47/015	169	43	-	-
47/015	Cut	Pit	47/015	169	43	-	-
48/001	Layer	Topsoil	48/001	-	-	-	-
48/002	Layer	Subsoil	48/002	-	-	-	-
48/003	Layer	Natural	48/003	-	-	-	-
49/001	Layer	Topsoil	49/001	-	-	-	-
49/002	Layer	Subsoil	49/002	-	-	-	-
49/003	Layer	Natural	49/003	-	-	-	-
50/001	Layer	Topsoil	50/001	-	-	-	-
50/002	Layer	Subsoil	50/002	-	-	-	-
50/003	Layer	Natural	50/003	-	-	-	-
51/001	Layer	Topsoil	51/001	-	-	-	-
51/002	Layer	Subsoil	51/002	-	-	-	-
51/003	Layer	Natural	51/003	-	-	-	-
51/004	Fill	Fill, primary	51/006	315	70	-	5
51/005	Fill	Fill, upper	51/006	315	70	-	5
51/006	Cut	Ditch	51/006	316	70	-	5
51/007	Fill	Fill, single	51/008	317	71	-	5
51/008	Cut	Pit	51/008	317	71	-	5
51/009	Layer	Subsoil	51/009	318	72	-	5
52/001	Layer	Topsoil	52/001	-	-	-	-
52/002	Layer	Subsoil	52/002	-	-	-	-
52/003	Layer	Natural	52/003	-	-	-	-
53/001	Layer	Topsoil	53/001	-	-	-	-
53/002	Layer	Subsoil	53/002	-	-	-	-
53/003	Layer	Natural	53/003	-	-	-	-
53/004	Fill	Fill, single	53/005	319	73	-	5
53/005	Cut	Ditch	53/005	319	73	-	5

Context	Type	Interpretation	Parent	Subgroup	Group	Land Use	Period
54/001	Layer	Topsoil	54/001	-	-	-	-
54/002	Layer	Subsoil	54/002	-	-	-	-
54/003	Layer	Natural	54/003	-	-	-	-
54/004	Layer	Natural	54/004	-	-	-	-

Appendix 2: Group list

Group	Group description	Contents	Period	Land Use
1	Main enclosure ditch	37/008	2	ENC1
2	Main enclosure ditch	117	2	ENC1
3	Main enclosure ditch	185	2	ENC1
4	Main enclosure ditch	266	2	ENC1
5	Main enclosure ditch	251	2	ENC1
6	Main enclosure ditch	238	2	ENC1
7	Main enclosure ditch	191	2	ENC1
8	Main enclosure ditch	130	2	ENC1
9	Main enclosure ditch	27	2	ENC1
10	Main enclosure ditch	47/007	2	ENC1
11	Main enclosure ditch	86	2	ENC1
12	Eastern enclosure ditch	110	2	ENC2
13	Eastern enclosure ditch	106, 108	2	ENC2
14	Sub-enclosure ditch	12, 16, 35, 92, 40/016	2	ENC3
15	Structure 1 gully	88, 100, 134, 136, 138, 140	2	ENC1
16	Structure 2 gully	56, 58	2	ENC1
17	Structure 2 gully	29, 37, 60, 40/007	2	ENC1
18	Structure 3 gully	178, 269	2	ENC1
19	Structure 3 gully	104, 172	2	ENC1
20	Field boundary ditch	52, 220, 232, 38/014, 39/014, 40/009, 47/009	5	FS2
21	Gully	94, 96, 98, 132	2	ENC1
22	Ditch/Gully	123, 125	2	ENC1
23	Ditch/Gully	62, 66	2	ENC1
24	Ditch/Gully	54, 68	2	ENC1
25	Ditch	41	2	ENC1
26	Ditch/Gully	39, 44	2	ENC1
27	M/LBA pits	205, 41/008, 218, 226, 248, 260	1	-
28	Pit	230	5	-
29	Strip field gully	201, 270	4	FS1
30	Strip field gully	262, 38/004	4	FS1
31	Strip field gully	212	4	FS1

Group	Group description	Contents	Period	Land Use
32	Strip field gully	37/019, 38/006, 38/008	4	FS1
33	Strip field gully	90, 127, 170, 187, 199, 38/010, 39/012	4	FS1
34	Strip field gully	114, 144, 168, 182, 234, 38/012, 38/016, 39/005	4	FS1
35	Strip field gully	119, 145, 147, 222, 253	4	FS1
36	Strip field gully	216, 39/009, 39/016	4	FS1
37	Undated pits and gullies	214, 228, 240, 41/010, 41/012, 41/014, 41/016	-	OA1
38	Undated line of pits/post-holes	39/019, 39/021, 39/024, 39/026, 39/028	-	OA1
39	Undated post-holes	174, 176, 242	-	OA1
40	Pits in ENC1	102, 158, 160, 162, 166	2	ENC1
41	Pit	70, 121, 150, 154, 207	2	ENC1
42	Pit	14, 40/004	2	ENC1
43	Pit	47/015	-	-
44	Ditch	47/013	-	-
45	Pit	47/011	2	OA2
46	Pit, Post-hole	5, 7	-	OA2
47	Pit	10, 33	2	OA2
48	Ditch & pit	197, 255	2	ENC1
49	Medieval pottery layers	46/004, 46/005	4	-
50	Undated, parallel gullies	29/004, 29/006	-	-
51	Gully	34/005, 34/007	-	-
52	Gully	35/014, 36/006, 36/008	-	-
53	Undated parallel gullies	35/009, 35/012	-	-
54	Strip field gully	35/005, 35/007	4	OA1
55	Gully	32/006	-	-
56	Pit, Post-hole	32/004, 34/009, 35/011, 36/004	-	-
57	Pits	28/005, 28/007, 28/009	-	-
58	Field boundary ditch	20/004, 21/005, 21/007, 22/009	5	FS2
59	Gully	18/006	4	-
	Ditch, Gully	18/008, 22/005	-	-
60	Pit	18/004, 22/007	-	-
61	Undated post-holes	37/004, 37/006	-	-
62	Ditch of possible enclosure associated with FS1 strip field	194, 203	4	ENC4

Group	Group description	Contents	Period	Land Use
63	Ditch	3/004	5	-
64	Ditch	9/004	5	-
65	Ditch	30/005	-	-
66	Pit	10/004	5	-
67	Undated parallel gullies	42/004, 42/006	-	-
68	Ditch	43/005	3	-
	Undated ditch	43/009	-	-
69	Pit	43/007	2	-
70	Ditch	51/006	5	-
71	Pit, possibly natural in origin	51/008	-	-
72	Subsoil	51/009	5	-
73	Ditch	53/005	5	-
74	Undated pits	64, 72, 74, 142, 152, 156, 164, 40/012	-	ENC1
75	Undated pits & gully	18, 20, 22, 24, 46, 48	-	ENC1

Appendix 3: Quantification of bulk finds

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
8			8	78									2	6										
9			2	12																				
11			12	80									17	56					12	92				
15			3	14	1	32							8	10					12	66			1	<2
23																			23	34				
25			4	36																				
26			9	154									28	372					1	111				
29													2	46										
30			99	824									20	78			4	84	8	88				
31			27	198																				
32	1	4	6	24													1	56						
34	1	20	23	148					1	4			130	454					26	526				
36			1	<2																				
41			2	14															3	32				
43			90	1036									5	44			4	100	6	58	1	2		
51			1	16	1	1103																		
53			4	14																				
55			22	314															6	12				
57			5	102									3	16										
59			55	480					1	68			11	102					2	6				

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
61			7	32									8	16										
65			5	46													2	68						
67			8	54																				
69			14	66	1	21							53	520			14	340	23	213				
77			11	28									4	70					1	6				
79			38	380									8	322			1	58	7	310				
83													1	16			1	56						
87	1	4	62	586									1	2							2	10		
89			2	12															1	28				
93																	11	512	2	144				
95													3	2										
99			24	164																				
us	2	4	1	2									8	48			7	148	13	160				
101			1	4															1	<2				
103	1	4	5	30	1	81													8	86				
111			2	38									8	36					1	6				
115			14	92			1	8					13	46			12	388	4	20				
116	3	8	28	220									25	220			3	86	6	164				
120			26	290					1	4			14	242			20	892	2	10				
122			20	112									1	2			1	6						
124			5	68																				
128			10	32									5	60										

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
129			2	10									3	30			9	176						
133			8	28																				
143																	2	14						
149			6	18																				
151																			9	8				
153			8	34																				
157			4	10															2	6				
161			37	310									22	534					4	58				
165			1	14									4	24										
167			4	24													6	110						
169			3	18															2	16				
179			14	108			1	8					4	162					8	144				
183			4	14									6	54			1	34	2	16				
184			22	118															4	38				
186			2	4															1	6				
189	1	4	9	36									4	36			1	8	1	2				
190			30	240													7	304	6	110				
193	1	8											4	20					1	2				
195													15	338					1	38				
196			4	20															4	326				
198	1	8	1	6											1	<2	1	6						
204			27	130																				

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
206			4	32									1	<2										
215			1	18																				
217			1	8													1	16	1	6				
221	2	66	4	44	3	81															1	10		
223																			3	46				
224	1	4	29	528															2	22				
230			3	12																				
236			80	914									12	68			3	24	9	12				
237			7	80									1	4					1	24				
243			26	220									1	24										
244			1	12															2	24				
246			1	6																				
249	1	6	66	368	2	59	1	952					3	10			2	50	14	82				
250													12	250										
252			18	104															6	66				
254	2	4	25	112	1	20											5	204	12	144				
258			5	16																				
263			4	32																				
264			3	14									11	80			1	36	3	30				
265			6	116									6	28			1	38	11	116				
268	2	30	331	4820			2	188			1	56	16	578			14	642	11	332				
1031	2	30	27	198																				

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
1981	1	8																						
18/006			2	10																				
18/007			2	38																				
21/004													3	6										
21/006					1	35																		
22/004			6	144			1	32											1	26				
22/008					2	190																		
32/005			4	14																				
35/004			1	4																				
37/009			2	26									1	<2										
37/010			7	86									20	102										
37/011	1	14	23	112									42	130			9	140	5	26				
37/012			5	18													8	152	9	24				
37/013			31	144					1	2			7	8			21	298	3	10				
37/014	2	54	18	100													9	58						
37/017			2	16									4	54					1	32				
37/018			10	84																				
38/003			3	<2																				
38/005			3	16																				
38/007			1	22																				
39/004			3	10																				
39/008	1	14	26	88																				

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
39/015			1	10																				
39/022																			2	4				
40/003			20	222									1	<2					19	416				
40/005			2	4									1	2					1	8				
40/008													15	40										
40/010					3	126	5	4															6	84
40/015			13	54																				
41/003	3	38	29	114															1	4				
41/007			6	38													1	521						
41/015			1	16																				
43/004			13	100															3	64				
43/006	1	10	4	16																				
46/004	4	84	310	3820	3	266					1	9	1	8										
46/005	2	10	40	278	2	74							4	16									29	88
47/004			36	252									5	154			2	72	12	68				
47/005			67	650									17	162					1	20				
47/006			15	194									5	20									1	<2
47/008													5	224			2	16					20	70
47/010	1	<2	45	322									33	234					6	38				
51/005			9	46																				
51/009	5	22	12	56	1	22													3	14				
53/001			1	66																				

Context	Lithics	Weight (g)	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Fire Cracked Flint	Weight (g)	Fired Clay	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
54/002			2	26							2	226	1	4							1	246		
mixed/fills			7	126													24	1068	37	1128				
Total	43	458	2266	21938	22	2110	11	1192	4	78	4	291	668	6190	1	0	211	6781	392	5728	5	268	57	242

Appendix 4: Environmental data

Table 15: Residue quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250)

Period	Sample Number	Context	Parent	Parent Interpretation	Group	Sample Volume litres	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal Identifications	Charred botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	Other (eg ind, pot, cbm)
2	2	47/005	47/007	ditch	10	40			*	<1						*	1							**	3	FCF * 48g/ Pot * 12g/ Mag Mat >2mm ** <1g/ Mag Mat <2mm *** <1g
2	4	40/003	40/004	pit	42	30	*	<1	*	<1		* Indet cerealia (1)	<1	*	13	*	2	*	<1	*	<1					Pot ** 105g/ Fired Clay ** 92g/ FCF ** 75g/ Nail * <1g/ Mag Mat >2mm *** 3g/ Mag Mat <2mm *** <1g
2	8	61	62	ditch	23	40	***	12	***	4	*Quercus* sp. (8), *Acer campestre* (1), *Fraxinus excelsior* (1)	** *Corylus avellana* nut shell frags (18)		**	42	*	2	*	2	**	2					FCF * 21g/ Pot * 17g/ Mag Mat >2mm ** 4g/ Mag Mat <2mm *** 3g
2	9	57	58	ditch	16	40	**	3	***	2	*Prunus* sp. (5, 1 rw), *Quercus* sp. (4), *Fraxinus excelsior* (1)			**	4			*	1	*	<1			*	<1	FCF *** 168g/ Pot ** 52g/ Stone * 12g/ Flint * 4g/ Mag Mat >2mm ** 2g/ Mag Mat <2mm *** 1g

Period	Sample Number	Context	Parent	Parent Interpretation	Group	Sample Volume litres	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal Identifications	Charred botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	Other (eg ind, pot, cbm)
2	10	111	269	gully	18	40	**	1	***	1				**	63	*	2	*	2	*	<1					FCF * 7g/ Fired Clay ** 120g/ Burnt Stone? * 266g/ Pot * 17g/ Mag Mat >2mm ** 2g/ Mag Mat <2mm *** 2g
2	11	115	117	ditch	2	40	*	<1	**	<1				*	16											Pot * 3g/ FCF ** 17g/ Fired Clay * 11g/ Mag Mat >2mm ** 1g/ Mag Mat <2mm *** <1g
2	12	116	117	ditch	2	40	*	<1	**	<1				**	42											FCF ** 19g/ Pot ** 32g/ Burnt Stone * 45g/ Fired Clay ** 8g/ Mag Mat >2mm ** 1g/ Mag Mat <2mm *** <1g
2	15	204	205	pit	27	40	*	1	**	<1																Pot * 12g/ FCF * 7g/ Fired Clay * 1g/ Flint * 12g/ Mag Mat >2mm ** <1g/ Mag Mat <2mm *** <1g
2	17	224	226	ditch	37	40			*	<1																FCF * 1g/ Flint * 4g/ Pot ** 53g/ Mag Mat >2mm ** 1g/ Mag Mat <2mm ** <1g
2	18	244	248	pit		40	*	<1	**	<1																FCF * 57g/ Flint * <1g/ Fired Clay ** 9g/ Mag mat >2mm ** <1g/ Mag Mat <2mm * <1g

Period	Sample Number	Context	Parent	Parent Interpretation	Group	Sample Volume litres	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal Identifications	Charred botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	Other (eg ind, pot, cbm)
2	19	268	238	ditch	6	40	*	<1	*	<1				*	4										**	<1	Pot * 12g/ FCF ** 41g/ Mag Mat >2mm * <1g/ Mag Mat <2mm *** <1g
4	14	179	182	ditch	34	40	*	2	**	1				*	<1			*	<1	*	<1						Coal * 1g/ Flint * <1g/ Fired Clay * 25g/ FCF ** 229g/ Pot * 12g/ Glass * 2g/ Mag Mat >2mm *** 6g/ Mag Mat <2mm *** 2g
4	16	219	216	ditch	36	10																					Pot * 3g/ Fired Clay ** 17g/ FCF ** 16g/ Mag Mat >2mm ** <1g/ Mag Mat <2mm *** 1g
5	1	51/005	51/006	ditch		40	***	8	**	<1	*Quercus* sp. (10)																FCF * 20g/ Fired Clay * 9g/ Mag Mat >2mm * <1g/ Mag Mat <2mm *** <1g
	3	34/008	34/009	Post hole	56	40	*	<1	*	<1								*	<1	*	<1						Fired Clay * 7g/ flint * 336g/ FCF * 17g/ Coal * <1g/ Glass * <1g/ Mag Mat <2mm *** 2g/ Mag Mat <2mm **** 1g
	5	41/009	41/010	pit	37	20	**	1	**	<1																	Mag Mat >2mm ** 1g/ Mag Mat <2mm *** <1g
	6	21	22	pit	42	30	*	<1	*	<1																	FCF ** 33g/ Fired Clay ** 13g/ Mag Mat >2mm ** <1g/ Mag Mat <2mm *** 1g

Period	Sample Number	Context	Parent	Parent Interpretation	Group	Sample Volume litres	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal Identifications	Charred botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt bone >8mm	Weight (g)	Burnt bone 4-8mm	Weight (g)	Burnt Bone 2-4mm	Weight (g)	Marine Molluscs	Weight (g)	Land Snail shells	Weight (g)	Other (eg ind, pot, cbm)
	7	47	48	pit	42	40	*	<1	***	1												*	<1			FCF * 34g/ Fired Clay * 4g/ Coal * <1g/ Mag Mat >2mm ** <1g/ Mag Mat <2mm *** <1g

Table 16: Flot quantification (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and preservation (+ = poor, ++ = moderate, +++ = good)

Period	Sample Number	Context	Parent	Weight g	Flot volume ml	Volume scanned	Uncharred %	Sediment %	Seeds uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Fish, amphibian, small mammal bone	Land Snail Shells
2	2	47/005	47/007	3.5	20	20	80	10				**				*	*Chenopodium* sp. (2), Poaceae (1)	+	*	Indet cpr (1)	+		**
2	4	40/003	40/004	4	15	15	60	30	Chenopodium sp.				*	Cerealia indet.	+	*	*Chenopodium* sp.	++					
2	8	61	62	16	70	70	85	5	Chenopodium sp.	*	*	****	*	Cerealia indet.	+	*	*Chenopodium* sp. (some poss charred)	++					*
2	9	57	58	13	40	40	85	<5		*	*	****	*	Cerealia indet., *Triticum* sp., cf. *Hordeum* sp. (v small)	+/ ++	*	Poaceae, *Chenopodium* sp., *Galium* sp.,	++	*	*Triticum spelta/ dicoccum* g.b.	+		**
2	10	111	269	15	50	50	65	<5		*	**	****	* (*)	*Triticum* sp., Cerealia indet.	+/ ++	**	*Rahpanus raphanistrum* (1), *Chenopodium* sp. (1), *Avena/Bromus* sp. (2), *Fallopia convolvulus, Carex* sp., cf. *Persicaria* sp.	+/++	*	*Avena* sp. Awn	++	frag *	*
2	11	115	117	5	10	10	95	<5	Chenopodium sp.		*	****	*	cf. *Hordeum* sp. (1), *Vicia/Pisum* sp. (1)	+								*
2	12	116	117	8.5	10	10	60	30	Chenopodium sp.	*	*	***	*	*Triticum* sp., *Triticum* cf. *aestivum,*	+/ ++	*	*Avena/Bromus* sp., Poaceae (Lg to id)	++					*

Period	Sample Number	Context	Parent	Weight g	Flot volume ml	Volume scanned	Uncharred %	Sediment %	Seeds uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Fish, amphibian, small mammal bone	Land Snail Shells
2	15	204	205	4	20	20	95	<5	Chenopodium sp.		*	***	*	cf. *Triticum* sp. (2)	++								*
2	17	224	226	5.5	30	30	95	<5	Chenopodium sp.			**				*	*Polygonum* sp. (1), *Chenopodium* sp. (2)	+/++					
2	18	244	248	14	40	40	70	20	Chenopodium sp.	*	*	****	*	*Avena* sp. (1), Cerealia indet. (1)	+	*	*Vicia/Lathyrus* sp. (2)	+++	*	cf. Cerealia stem frags (2)	++		*
2	19	268	238	14	15	15	25	35				***											*** (35%)
4	14	179	182	15	40	40	60	20	Chenopodium sp.	*	*	****	**	*Triticum* cf. *aestivum, Triticum* sp., Cerealia indet.	+/++	*	*Chenopodium* sp. (some poss charred)	++	*	Indet charred lumps	+		*
4	16	219	216	0.5	5	5	95	<5				**											*
5	1	51/005	51/006	2	10	10	50	<5			*	****	**	*Triticum* sp., *Triticum* cf *aestivum,* cf. *Hordeum* sp., Cerealia indet.	++/+++	*	*Anthemis cotula*	+					
	3	34/008	34/009	4	30	30	95	<5	*** Chenopodium sp.			**				*	*Anthemis cotula* (1/2), *Chenopodium* sp.	+					
	5	41/009	41/010	1.5	10	10	80	<5				****				*	*Fallopia convolvulus* (1)	++					*

Period	Sample Number	Context	Parent	Weight g	Flot volume ml	Volume scanned	Uncharred %	Sediment %	Seeds uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation	Fish, amphibian, small mammal bone	Land Snail Shells
	6	21	22	6	20	20	85	10	Chenopodium sp.			**											**
	7	47	48	43	155	100	40	5		*	**	****	*	cerealia indet. (1), cf. *Avena* sp. (1)									

Appendix 5: Geoarchaeological Test Pit Logs

GTP1 – Grid ref: TQ 94732 97140; Top = 11.74m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown	Occ Tertiary and Fluvial flint gravel 10-40mm		N	
2	0.4	Brickearth	Clay Silt, Light Yellow Brown	Stone free		N	
3	1.8	Brickearth	Silty Clay, Very Soft, Light Brownish Yellow	Stone free		N	
4	2.8	Gravel	Gravel Coarse Sand and Clay, Brownish Yellow	90% Rounded to Sub-rounded flint gravel 5-50mm incl Tertiary		N	Water strike
5	2.95	London Clay				N	

GTP2 – Grid ref: TQ 94673 97103, Top = 13.24m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.4	Subsoil/Weathered Brickearth	Silt with Clay, Dark Yellow Brown, Mn Staining			N	Earthworm borrows
3	0.8	Brickearth	Silt with Sand and Clay, Structureless, Light Yellow Brown, Light Grey Mottling			N	
4	1.2	Sandy Brickearth	Sand with Silt and Clay, Structureless, Mottle with light grey sand			N	Medium Sand by 2.7m. Abrupt contact with next unit.
5	2.7	Fluvial Sand	Coarse Sand			N	Water strike

GTP3 – Grid ref: TQ 94558 97107; Top = 13.86m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.4	Subsoil/Weathered Brickearth				N	As GTP2
3	1.2	Brickearth	Silt with Fine Sand, Light Yellow Brown	Flecks of chalk or CaCO3	<3.1> at 1.35m	N	
3	1.6	Brickearth	Silt with Fine Sand, Light Yellow Brown	As above with loess puppen		N	
4	2.5	Brickearth	Clay with Sand, Firm, Mn Staining	Loess puppen		N	
4	3.5	Brickearth	Clay with Sand, Mn Staining	Single patinated flint cobble at 3.7m		N	
5	3.7	London Clay		Septarian Nodule		N	Base of hole 4.1m. No basal sands or gravel noted.

GTP4 – Grid ref: TQ 94472 97109, Top = 14.83m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.5	Subsoil/Weathered Brickearth				N	
3	1.8	Brickearth	Silt with Fine Sand	Flecks of chalk or CaCO3		N	
4	2.6	Gravel	Gravel with Sand and Clay, Yellowish Brown	Sub-rounded flint and rounded Tertiary pebbles 80%		N	
5	2.9	London Clay				N	

GTP5 – Grid ref: TQ 94372 97114; Top = 16.77m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.4	Subsoil				N	
3	0.6	Brickearth	Clay Silt with Sand, Firm	Tiny flecks of CaCO3		N	
3	1.4	Brickearth	Clay Silt with Sand, Firm	As above with 20% rounded to sub-rounded flint gravel 10-20mm, Tertiary noted		N	
3	1.5	Brickearth	Clay Silt with Sand, Firm	As above with larger flecks and pellets of CaCO3, occ Tertiary flint		N	
4	1.7	Fluvial Gravel	Silt with Sand, Dark Yellow Brown	20% rounded to sub-rounded flint gravel 10-30mm		N	
5	1.8	Fluvial Sand	Fine Sand, Light Yellow			N	
6	2.25	Fluvial Sand	Coarse Sand, Very Light Yellow Grey			N	
7	2.3	Fluvial Sand	Clay Sand, Firm	60% sub-rounded to rounded flint gravel 20-80mm		N	
8	2.5	London Clay				N	Base of hole 2.75m

GTP6 – Grid ref: TQ 94237 97110; Top = 19.02m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.4	Head	Clay with Sand, Stiff, Light Grey with Red-Orange mottling	60% Rounded to sub-angular flint gravel 4-30mm		N	Periglacial stripes, sorting
2	1	Fluvial Gravel	Clay with Sand, Stiff, Light Grey with Red-Orange mottling	70% gravel and coarse sand		N	
3	1.35	London Clay	Stiff Clay, Blue-Grey with red mottling			N	Base of hole 2m

GTP7 – Grid ref: TQ 9418 9713; Top = 19.44m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.4	Head	Stiff Clay with Sand	Occasional sub-angular flint 10-20mm, CaCO3 calcretions noted in localised pockets. Occ frost shattered flint.		N	Grades into next unit
3	1.2	London Clay	Stiff Clay, Blue-Grey with red mottling			N	

GTP8 – Grid ref: TQ 942 972; Top = 19.62m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.5	Weathered London Clay grading into London Clay	Clay with Silt, Grey Brown, Pockets of Fine Yellow Sand			N	Base of hole 1.8m

GTP9 – Grid ref: TQ 94197 97321; Top = 18.34m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Silty Topsoil	Occasional sub-rounded pebbles		N	
2	0.3	Brickearth	Silty Clay with Sand, Soft, Light Yellow Brown with Blue Grey mottles	Very occasional sub-round flint pebbles		N	Frost weathered

GTP10 –Grid ref: TQ 94339 97211; Top = 16.59m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Brickearth	Sandy Silt with Clay, Brownish Yellow			N	
2	1.2	Brickearth	Sandy Silt with Clay, Brownish Yellow	As above with occasional gravel -Tertiary pebbles and flint		N	Ice wedge cast noted
3	1.35	Brickearth	Sand with Clay, Light Brownish Yellow with Blue Grey Mottles			N	
4	1.8	Fluvial Sand	Clay with Coarse Sand, Light Grey Blue	Occ Tertiary pebbles		N	
5	2.3	Fluvial Gravel	Gravel in Clay with Sand	70% Sub-rounded River Grave and Tertiary Pebbles 10-200mm		N	
6	2.4	London Clay				N	

GTP11 – Grid ref: TQ94470 97221; Top = 13.51m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Brickearth	Silt with Clay, Dark Yellow Brown	Stone free		N	
3	1.6	Brickearth	Medium Sand with Clay, Light Yellow Brown	Stone free		N	
4	1.8	Brickearth	Medium to Coarse Sand with Clay, Light Yellow Brown	Stone free.		N	Rootlets noted.
5	2.6	Fluvial Gravel	Gravel in Clay with Sand	70% Sub-rounded River Grave and Tertiary Pebbles 10-200mm		N	
6	3	London Clay				N	

GTP12 – Grid ref: TQ 94138 97088; Top = 20.28m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Silty Sand, Dark Yellow Brown			N	
2	0.3	Head	Stiff Clay with Sand, Yellow Brown	Patches of 80% rounded to sub-angular flint gravel 10-40mm		N	
3	0.9	London Clay (Weathered)	Stiff Clay, Reddish Brown			N	
4	1.5	London Clay				N	Solid by 2m base of hole

GTP13 – Grid ref: TQ 94056 97295; Top = 21.02m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Fluvial Gravel	Gravel in Clay with Sand, Dark Yellow Brown, Firm	80% rounded to sub-rounded gravel 10-40mm		N	Polygon structures defined by fine-grained grey clay at 0.5m
3	1.1	Fluvial Sand and Gravel	Medium to Coarse Sand with Clay	Patches of 80% rounded to sub-rounded gravel 10-40mm		N	
4	1.4	London Clay				N	Base of hole 1.7m

GTP14 – Grid ref: TQ 93999 97247; Top = 22.27m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.25	Fluvial Gravel	Fluvial gravel with Light Grey Clay	80% rounded to sub-rounded flint gravel 10-40mm, incl Tertiary and River gravel		N	Sharp erosive contact.
3	0.8	Fluvial Sand and Gravel/London Clay in NE of trench	As above with beds of Orange and Blue Grey mottled sand	80% rounded to sub-rounded flint gravel 10-40mm, incl Tertiary and River gravel		N	Channel dipping to SE
4	2.2	London Clay				N	Base of hole 2.5m

GTP15 – Grid ref: TQ 93990 97151; Top = 22.58m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Brickearth	Clay with Sand, Firm, Yellow Brown	Stone Free		N	Grades into next unit
3	0.8	Brickearth	Clay with Sand, Soft, Yellow Brown	Stone Free		N	Grades into next unit
4	1.6	Brickearth	Clay with Sand, Soft, Reddish Yellow Brown	Stone Free, CaCO3 nodules		N	Abrupt contact with next unit
5	2.4	Fluvial Gravel	Clay with Sand, Stiff, Reddish Yellow Brown	70% rounded to sub-rounded flint gravel 10-20mm		N	
6	2.7	London Clay		Septarian Nodules		N	

GTP16 – Grid ref: TQ 93986 97372; Top = 21.47m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Brickearth Subsoil				N	
3	0.5	Fluvial Gravel	Sandy Clay, Stiff, Blue Grey	60% sub-rounded to rounded flint gravel 10-40mm		N	
4	0.75	Fluvial Sand and Gravel	Sand with Clay, Reddish Brown with Yellow Sand	Pockets of 80% sub-rounded to rounded flint gravel 10-40mm		N	
5	2.1	London Clay				N	

GTP17 – Grid ref: TQ 94279 97178; Top = 18.06m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Fine Silt, V.Light Yellow Brown			N	
2	0.3	Weathered London Clay	Stiff Clay with Silt, Mid Brown	Occ CaCO3 nodules. Occ sub-rounded flint gravel 5-30mm		N	
3	0.9	London Clay	Clay, Greyish Brown	Septarian Nodules		N	Base of hole 2.0m

GTP18 – Grid ref: TQ 94443 97135, Top = 14.41m aOD							
Unit	**Depth**	**Strat**	**Description**	**Coarse Component**	**Sample**	**Artefacts**	**Notes**
1	0	Topsoil	Sandy Silt, Light Grey Brown			N	
2	0.4	Brickearth Subsoil	Clay with Sand, Stiff, Yellow Brown			N	Disturbed/contaminated due to earthworm burrows and rooting.
3	0.8	Brickearth	Clay with Fine Sand, Light Yellow Brown, Firm		1.2-1.4m <18.1>	N	Step at 1.2m
4	1.4	Brickearth	Fine Sand with Clay, Light Yellow Brown, Soft	Loess puppen at 1.8m	1.4-1.6m <18.2>, 1.6-1.8m <18.3>, 1.8-2.0m <18.4>	N	
5	2	Brickearth	Fine Sand with Clay, Light Yellow Brown, Very Soft		2.0-2.2m <18.5>	N	
6	2.3	Fluvial Gravel	Medium Sand with Clay, Yellow Brown	60% rounded to sub-rounded flint gravel 10-110mm, Tertiary flint noted		N	

Appendix 6: Micropalaeontological assessment report

170696 Burnham-on-Crouch (BCGL17)
Micropalaeontological assessment report

by Alice Dowsett

INTRODUCTION

Six samples were selected for micropalaeontological analysis during a geoarchaeological investigation at the site of Burnham-on-Crouch. One sample was selected from WS3, from unit 3 (a fine light yellow-brown sand with flecks of chalk), and 5 samples were selected from GTP18, from unit 4 (light yellow brown fine sand with clay, 1.4-2.0m) and unit 5 (soft light yellow brown fine sand with clay, 2.0-2.3m).

MATERIALS & METHODS

Sample	Depth (mbgl)	Weight Processed (g)
3.1	1.35	175
18.1	1.2-1.4	175
18.2	1.4-1.6	175
18.3	1.6-1.8	175
18.4	1.8-2.0	175
18.5	2.0-2.2	175

Table 1. The details of the samples assessed

The samples were placed in aluminium tins and dried in an oven at 80℃. After drying, a small quantity of sodium carbonate was added to aid the breakdown of the clay fraction. The sediment was then immersed in hot water and left to soak for 2 hours. This was then washed through a 75 micron sieve with hand-hot water, the resulting residue being returned to the bowl for drying. Once dry the residues were sieved through a nest of >500µm, >250µm and >125µm sieves. Sediment from each fraction was then picked by placing a small amount of residue onto a tray and examining it under a binocular microscope. Contained material of potential environmental or biostratigraphic value was noted and listed in tabular form on a presence/absence basis (Tables 2 and 3).

RESULTS

All samples exhibited common carbonate tubules, characteristic of rhizoliths. Rhizoliths are terrestrial formations which form around the surface of roots (Klappa 1980). It is interpreted that rhizoliths form in freshwater sediments, and that these tubules reflect a drying out of the environment into a fully terrestrial setting. This change in environment could either be due to the onset of a drier climate, or due to lateral migration or infilling of a channel system (Ashton et al 2005). Rhizoliths usually indicate past dry climates, though it is possible that they would form in a carbonate rich

sediment, regardless of the humidity (Strong et al 1992). Rhizoliths form during the lifetime of a root, i.e over a short period of time and could reflect a relatively short-lived land surface (Candy 2002).

Sample No.	**3.1**
Depth in window sample (m)	1.35
iron-stained sediment	x
rhizoliths	x
terrestrial mollusc fragments	
Palaeogene microfauna	x

(Contained material is recorded on a presence (x)/absence basis only)

Table 2. Micropalaeontological results from WS3

Sample	18.1	18.2	18.3	18.4	18.5
Depth in test pit (m)	1.2-1.4	1.4-1.6	1.6-1.8	1.8-2.0	2.0-2.2
more frequent larger stones					x
iron-stained sediment	x	x	x	x	x
rhizoliths	x	x	x	x	x
terrestrial mollusc fragments			x		
Palaeogene microfauna	x	x	x	x	x

(Contained material is recorded on a presence (x)/absence basis only)

Table 3. Micropalaeontological results from GTP18.

Iron-stained sediment/precipitates, although infrequent, have been noted in the samples. This mineral deposit is known to be associated with weathering or near-surface groundwaters, formed prior to the onset of fully terrestrial conditions (Ashton *et al* 2005).

All samples exhibited occasional pre-Quaternary foraminifera, which likely arise from the local bedrock geology. Sample 18.3 contained one small land snail shell fragment, though this was undiagnostic.

SUMMARY

All six samples exhibit similar micropalaeontological inclusions. The frequency of rhizolith inclusions indicate the transition from a wet environment to a dry terrestrial setting. This past wet environment is likely to have been freshwater. The presence of iron precipitates could indicate weathering, which may also explain the absence of ostracods (which are usually the first to break down during weathering processes). There were no clear cold or warm climate indicators, or indicators of the age of the sediment.

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Appendix 7: Pollen report

QUEST
QUATERNARY SCIENTIFIC

University of Reading

BURNHAM ON CROUCH, ESSEX

Pollen Assessment Report

Date: 26th January 2018

Written by: C.R. Batchelor

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CONTENTS

1. INTRODUCTION

This report summarises the findings arising out of the pollen assessment undertaken by Quaternary Scientific (QUEST), University of Reading, in connection with archaeological excavations at Burnham-on-Crouch, Essex. Samples were taken for pollen assessment from a sequence of fine-grained head deposits (believed to date to the last glacial period), overlying fluvial terrace deposits. The aim of the analysis was to provide an indication of the vegetation history of the site.

2. METHODS

Six were extracted for an assessment of pollen content. The pollen was extracted as follows: (1) sampling a standard volume of sediment (1ml); (2) adding two tablets of the exotic clubmoss *Lycopodium clavatum* to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µm); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm^3); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore *et al* (1991); Reille (1992). The assessment procedure consisted of scanning the prepared slides, and recording the concentration and preservation of pollen grains and spores, and the principal taxa on four transects (10% of the slide) (Table 1).

3. RESULTS AND INTERPRETATION OF THE POLLEN ANALYSIS

The results of the assessment indicate the absence of pollen in five of the six samples assessed (Table 1). In the final sample (<18.5>), only one grain of Lactuceae (dandelion family) was recorded. The near absence of pollen thus provides no reliable indication of the former vegetation of the site. A number of physical, chemical and biological post-depositional processes can impact upon pollen concentration/preservation; this is the most likely reason for the near absence of remains recorded in the samples reported on here. No further work is recommended.

Table 1: Results of pollen assessment. Burnham-on-Crouch, Essex

Sample number		3.1	18.1	18.2	18.3	18.4	18.5
Latin name	Common name						
Trees							
Shrubs							
Herbs							
Lactuceae	dandelion family						1
Aquatics							
Fern Spores							
Total land pollen		0	0	0	0	0	1
Concentration*		0	0	0	0	0	1
Preservation**		0	0	0	0	0	2
Microcharcoal***		2	2	2	2	2	2
Suitable for analysis		NO	NO	NO	NO	NO	NO

*Key: *Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide; **Preservation: 0 = absent; 1 = very poor; 2 = poor; 3 = moderate; 4 = good; 5 = excellent; ***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant*

4. REFERENCES

Moore, P.D., Webb, J.A. and Collinson, M.E. (1991) *Pollen Analysis* (2nd Ed.). Oxford: Blackwell.

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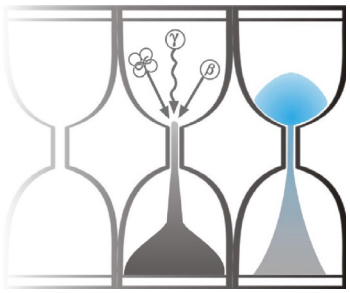
Appendix 8: OSL dating report

University of Gloucestershire

Luminescence dating laboratory



Optical dating of sediments: Burnham on Crouch excavations, UK

to

A. Dowsett

Archaeology SouthEast

Prepared by Dr P.S. Toms, 20 February 2018

Contents

Scope of Report

This is a standard report of the Luminescence dating laboratory, University of Gloucestershire. In large part, the document summarises the processes, diagnostics and data drawn upon to deliver Table 1. A conclusion on the analytical validity of each sample's optical age estimate is expressed in Table 2; where there are caveats, the reader is directed to the relevant section of the report that explains the issue further in general terms.

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Field Code	Lab Code	Overburden (m)	Grain size (μm)	Moisture content (%)	NaI γ-spectrometry (*in situ*)			γ D_r ($Gy.ka^{-1}$)	Ge γ-spectrometry (*ex situ*)			α D_r ($Gy.ka^{-1}$)	β D_r ($Gy.ka^{-1}$)	Cosmic D_r ($Gy.ka^{-1}$)	Preheat (°C for 10s)	Low Dose Repeat Ratio	Interpolated:Applied Low Regenerative-dose D_e	High Dose Repeat Ratio	Interpolated:Applied High Regenerative-dose D_e	Post-IR OSL Ratio
					K (%)	Th (ppm)	U (ppm)		K (%)	Th (ppm)	U (ppm)									
OSL 2 (2.2 m ↓)	GL17064	2.2	5-15	17 ± 4	-	-	-	0.90 ± 0.07	1.77 ± 0.11	8.83 ± 0.56	2.31 ± 0.16	0.40 ± 0.04	1.57 ± 0.14	0.14 ± 0.01	280	0.93 ± 0.07	0.91 ± 0.06	1.00 ± 0.07	0.99 ± 0.07	0.93 ± 0.07

Field Code	Lab Code	Total D_r ($Gy.ka^{-1}$)	D_e (Gy)	Age (ka)
OSL 2 (2.2 m ↓)	GL17064	3.02 ± 0.17	62.5 ± 3.1	20.7 ± 1.5 (1.3)

Table 1 D_r, D_e and Age data of submitted samples located at c. 52°N, 1°E, 15m. Age estimates expressed relative to year of sampling. Uncertainties in age are quoted at 1σ confidence, are based on analytical errors and reflect combined systematic and experimental variability and (in parenthesis) experimental variability alone (see 6.0). **Blue** indicates samples with accepted age estimates, **red**, age estimates with caveats (see Table 2).

Generic considerations	Field Code	Lab Code	Sample specific considerations
None	OSL 2 (2.2 m ↓)	GL17064	None

Table 2 Analytical validity of sample suite age estimates and caveats for consideration

1.0 Mechanisms and principles

Upon exposure to ionising radiation, electrons within the crystal lattice of insulating minerals are displaced from their atomic orbits. Whilst this dislocation is momentary for most electrons, a portion of charge is redistributed to meta-stable sites (traps) within the crystal lattice. In the absence of significant optical and thermal stimuli, this charge can be stored for extensive periods. The quantity of charge relocation and storage relates to the magnitude and period of irradiation. When the lattice is optically or thermally stimulated, charge is evicted from traps and may return to a vacant orbit position (hole). Upon recombination with a hole, an electron's energy can be dissipated in the form of light generating crystal luminescence providing a measure of dose absorption.

Herein, quartz is segregated for dating. The utility of this minerogenic dosimeter lies in the stability of its datable signal over the mid to late Quaternary period, predicted through isothermal decay studies (e.g. Smith *et al*., 1990; retention lifetime 630 Ma at 20°C) and evidenced by optical age estimates concordant with independent chronological controls (e.g. Murray and Olley, 2002). This stability is in contrast to the anomalous fading of comparable signals commonly observed for other ubiquitous sedimentary minerals such as feldspar and zircon (Wintle, 1973; Templer, 1985; Spooner, 1993)

Optical age estimates of sedimentation (Huntley *et al*., 1985) are premised upon reduction of the minerogenic time dependent signal (Optically Stimulated Luminescence, OSL) to zero through exposure to sunlight and, once buried, signal reformulation by absorption of litho- and cosmogenic radiation. The signal accumulated post burial acts as a dosimeter recording total dose absorption, converting to a chronometer by estimating the rate of dose absorption quantified through the assay of radioactivity in the surrounding lithology and streaming from the cosmos.

$$\text{Age} = \frac{\text{Mean Equivalent Dose } (D_e, \text{ Gy})}{\text{Mean Dose Rate } (D_r, \text{ Gy.ka}^{-1})}$$

Aitken (1998) and Bøtter-Jensen *et al*. (2003) offer a detailed review of optical dating.

2.0 Sample Preparation

One sediment sample was collected within opaque tubing and submitted for Optical dating. To preclude optical erosion of the datable signal prior to measurement, all samples were opened and prepared under controlled laboratory illumination provided by Encapsulite RB-10 (red) filters. To isolate that material potentially exposed to daylight during sampling, sediment located within 20 mm of each tube- was removed.

The remaining sample was dried and then sieved. The fine silt fraction was segregated and subjected to acid and alkaline digestion (10% HCl, 15% H_2O_2) to attain removal of carbonate and organic components respectively. Fine silt sized quartz, along with other mineral grains of varying density and size, was extracted by sample sedimentation in acetone (<15 μm in 2 min 20 s, >5 μm in 21 mins at 20ºC). Feldspars and amorphous silica were then removed from this fraction through acid digestion (35% H_2SiF_6 for 2 weeks, Jackson *et al*., 1976; Berger *et al*., 1980). Following addition of 10% HCl to remove acid soluble fluorides, grains degraded to <5 μm as a result of acid treatment were removed by acetone sedimentation. Twelve multi-grain aliquots (ca. 1.5 mg) were then mounted on aluminium discs for D_e evaluation.

All drying was conducted at 40°C to prevent thermal erosion of the signal. All acids and alkalis were Analar grade. All dilutions (removing toxic-corrosive and non-minerogenic luminescence-bearing substances) were conducted with distilled water to prevent signal contamination by extraneous particles.

3.0 Acquisition and accuracy of D_e value

All minerals naturally exhibit marked inter-sample variability in luminescence per unit dose (sensitivity). Therefore, the estimation of D_e acquired since burial requires calibration of the natural signal using known amounts of laboratory dose. D_e values were quantified using a single-aliquot regenerative-dose (SAR) protocol (Murray and Wintle 2000; 2003) facilitated by a Risø TL-DA-15 irradiation-stimulation-detection system (Markey *et al*., 1997; Bøtter-Jensen *et al*., 1999). Within this apparatus, optical signal stimulation is provided by an assembly of blue diodes (5 packs of 6 Nichia NSPB500S), filtered to 470±80 nm conveying 15 $mW.cm^{-2}$ using a 3 mm Schott GG420 positioned in front of each diode pack. Infrared (IR) stimulation, provided by 6 IR diodes (Telefunken TSHA 6203) stimulating at 875±80nm delivering ~5 $mW.cm^{-2}$, was used to indicate the presence of contaminant feldspars (Hütt *et al*., 1988). Stimulated photon emissions from quartz aliquots are in the ultraviolet (UV) range and were filtered from stimulating photons by 7.5 mm HOYA U-340 glass and detected by an EMI 9235QA photomultiplier fitted with a blue-green sensitive bialkali photocathode. Aliquot irradiation was conducted using a 1.48 GBq $^{90}Sr/^{90}Y$ β source calibrated for multi-grain aliquots of 5-15 μm quartz against the 'Hotspot 800' ^{60}Co γ source located at the National Physical Laboratory (NPL), UK.

SAR by definition evaluates D_e through measuring the natural signal (Fig. 1) of a single aliquot and then regenerating that aliquot's signal by using known laboratory doses to enable calibration. For each aliquot, five different regenerative-doses were administered so as to image dose response. D_e values for each aliquot were then interpolated, and associated counting and fitting errors calculated, by way of exponential plus linear regression (Fig. 1). Weighted (geometric) mean D_e values were calculated from 12 aliquots using the central age model outlined by Galbraith *et al*. (1999) and are quoted at 1σ confidence (Table 1). The accuracy with which D_e equates to total absorbed dose and that dose absorbed since burial was assessed. The former can be considered a function of laboratory factors, the latter, one of environmental issues. Diagnostics were deployed to estimate the influence of these factors and criteria instituted to optimise the accuracy of D_e values.

3.1 Laboratory Factors

3.1.1 Feldspar contamination

The propensity of feldspar signals to fade and underestimate age, coupled with their higher sensitivity relative to quartz makes it imperative to quantify feldspar contamination. At room temperature, feldspars generate a signal (IRSL; Fig. 1) upon exposure to IR whereas quartz does not. The signal from feldspars contributing to OSL can be depleted by prior exposure to IR. For all aliquots the contribution of any remaining feldspars was estimated from the OSL IR depletion ratio (Duller, 2003). The influence of IR depletion on the OSL signal can be illustrated by comparing the regenerated post-IR OSL D_e with the applied regenerative-dose. If the addition to OSL by feldspars is insignificant, then the repeat dose ratio of OSL to post-IR OSL should be statistically consistent with unity (Table 1). If any aliquots do not fulfil this criterion, then the sample age estimate should be accepted tentatively. The source of feldspar contamination is rarely rooted in sample preparation; it predominantly results from the occurrence of feldspars as inclusions within quartz.

3.1.2 Preheating

Preheating aliquots between irradiation and optical stimulation is necessary to ensure comparability between natural and laboratory-induced signals. However, the multiple irradiation and preheating steps that are required to define single-aliquot regenerative-dose response leads to signal sensitisation, rendering calibration of the natural signal inaccurate. The SAR protocol (Murray and Wintle, 2000; 2003) enables this sensitisation to be monitored and corrected using a test dose, here set at 5 Gy preheated to 220°C for 10s, to track signal sensitivity between irradiation-preheat steps. However, the accuracy of sensitisation correction for both natural and laboratory signals can be preheat dependent.

The Dose Recovery test was used to assess the optimal preheat temperature for accurate correction and calibration of the time dependent signal. Dose Recovery (Fig. 2) attempts to quantify the combined effects of thermal transfer and

sensitisation on the natural signal, using a precise lab dose to simulate natural dose. The ratio between the applied dose and recovered D_e value should be statistically concordant with unity. For this diagnostic, 6 aliquots were each assigned a 10 s preheat between 180°C and 280°C.

That preheat treatment fulfilling the criterion of accuracy within the Dose Recovery test was selected to generate the final D_e value from a further 12 aliquots. Further thermal treatments, prescribed by Murray and Wintle (2000; 2003), were applied to optimise accuracy and precision. Optical stimulation occurred at 125ºC in order to minimise effects associated with photo-transferred thermoluminescence and maximise signal to noise ratios. Inter-cycle optical stimulation was conducted at 280ºC to minimise recuperation.

3.1.3 Irradiation

For all samples having D_e values in excess of 100 Gy, matters of signal saturation and laboratory irradiation effects are of concern. With regards the former, the rate of signal accumulation generally adheres to a saturating exponential form and it is this that limits the precision and accuracy of D_e values for samples having absorbed large doses. For such samples, the functional range of D_e interpolation by SAR has been verified up to 600 Gy by Pawley *et al*. (2010). Age estimates based on D_e values exceeding this value should be accepted tentatively.

3.1.4 Internal consistency

Abanico plots (Dietze *et al*., 2016) are used to illustrate inter-aliquot D_e variability (Fig. 3). D_e values are standardised relative to the central D_e value for natural signals and are described as overdispersed when >5% lie beyond $\pm 2\sigma$ of the standardising value; resulting from a heterogeneous absorption of burial dose and/or response to the SAR protocol. For multi-grain aliquots, overdispersion of natural signals does not necessarily imply inaccuracy. However where overdispersion is observed for regenerated signals, the efficacy of sensitivity correction may be problematic. Murray and Wintle (2000; 2003) suggest repeat dose ratios (Table 1) offer a measure of SAR protocol success, whereby ratios ranging across 0.9-1.1 are acceptable. However, this variation of repeat dose ratios in the high-dose region can have a significant impact on D_e interpolation. The influence of this effect can be outlined by quantifying the ratio of interpolated to applied regenerative-dose ratio (Table 1). In this study, where both the repeat dose ratios and interpolated to applied regenerative-dose ratios range across 0.9-1.1, sensitivity-correction is considered effective.

3.2 Environmental factors

3.2.1 Incomplete zeroing

Post-burial OSL signals residual of pre-burial dose absorption can result where pre-burial sunlight exposure is limited in spectrum, intensity and/or period, leading to age overestimation. This effect is particularly acute for material eroded and redeposited sub-aqueously (Olley *et al*., 1998, 1999; Wallinga, 2002) and exposed to a burial dose of <20 Gy (e.g. Olley *et al*., 2004), has some influence in sub-aerial contexts but is rarely of consequence where aerial transport has occurred. Within single-aliquot regenerative-dose optical dating there are two diagnostics of partial resetting (or bleaching); signal analysis (Agersnap-Larsen *et al*., 2000; Bailey *et al*., 2003) and inter-aliquot D_e distribution studies (Murray *et al*., 1995).

Within this study, signal analysis was used to quantify the change in D_e value with respect to optical stimulation time for multi-grain aliquots. This exploits the existence of traps within minerogenic dosimeters that bleach with different efficiency for a given wavelength of light to verify partial bleaching. $D_e(t)$ plots (Fig. 4; Bailey *et al*., 2003) are constructed from separate integrals of signal decay as laboratory optical stimulation progresses. A statistically significant increase in natural $D_e(t)$ is indicative of partial bleaching assuming three conditions are fulfilled. Firstly, that a statistically significant increase in $D_e(t)$ is observed when partial bleaching is simulated within the laboratory. Secondly, that there is no significant rise in $D_e(t)$ when full bleaching is simulated. Finally, there should be no significant augmentation in $D_e(t)$ when zero dose is simulated. Where partial bleaching is detected, the age derived from the sample should be considered a maximum estimate only. However, the utility of signal analysis is strongly dependent upon a samples pre-burial

experience of sunlight's spectrum and its residual to post-burial signal ratio. Given in the majority of cases, the spectral exposure history of a deposit is uncertain, the absence of an increase in natural D_e (t) does not necessarily testify to the absence of partial bleaching.

Where requested and feasible, the insensitivities of multi-grain single-aliquot signal analysis may be circumvented by inter-aliquot D_e distribution studies. This analysis uses aliquots of single sand grains to quantify inter-grain D_e distribution. At present, it is contended that asymmetric inter-grain D_e distributions are symptomatic of partial bleaching and/or pedoturbation (Murray *et al*., 1995; Olley *et al*., 1999; Olley *et al*., 2004; Bateman *et al*., 2003). For partial bleaching at least, it is further contended that the D_e acquired during burial is located in the minimum region of such ranges. The mean and breadth of this minimum region is the subject of current debate, as it is additionally influenced by heterogeneity in microdosimetry, variable inter-grain response to SAR and residual to post-burial signal ratios.

3.2.2 Turbation

As noted in section 3.1.1, the accuracy of sedimentation ages can further be controlled by post-burial trans-strata grain movements forced by pedo- or cryoturbation. Berger (2003) contends pedogenesis prompts a reduction in the apparent sedimentation age of parent material through bioturbation and illuviation of younger material from above and/or by biological recycling and resetting of the datable signal of surface material. Berger (2003) proposes that the chronological products of this remobilisation are A-horizon age estimates reflecting the cessation of pedogenic activity, Bc/C-horizon ages delimiting the maximum age for the initiation of pedogenesis with estimates obtained from Bt-horizons providing an intermediate age 'close to the age of cessation of soil development'. Singhvi et al. (2001), in contrast, suggest that B and C-horizons closely approximate the age of the parent material, the A-horizon, that of the 'soil forming episode'. Recent analyses of inter-aliquot D_e distributions have reinforced this complexity of interpreting burial age from pedoturbated deposits (Lombard *et al*., 2011; Gliganic *et al*., 2015; Jacobs *et al*., 2008; Bateman *et al*., 2007; Gliganic *et al*., 2016). At present there is no definitive post-sampling mechanism for the direct detection of and correction for post-burial sediment remobilisation. However, intervals of palaeosol evolution can be delimited by a maximum age derived from parent material and a minimum age obtained from a unit overlying the palaeosol. Inaccuracy forced by cryoturbation may be bidirectional, heaving older material upwards or drawing younger material downwards into the level to be dated. Cryogenic deformation of matrix-supported material is, typically, visible; sampling of such cryogenically-disturbed sediments can be avoided.

4.0 Acquisition and accuracy of D_r value

Lithogenic D_r values were defined through measurement of U, Th and K radionuclide concentration and conversion of these quantities into α, β and γ D_r values (Table 1). α and β contributions were estimated from sub-samples by laboratory-based γ spectrometry using an Ortec GEM-S high purity Ge coaxial detector system, calibrated using certified reference materials supplied by CANMET. γ dose rates can be estimated from *in situ* NaI gamma spectrometry or, where direct measurements are unavailable as in the present case, from laboratory-based Ge γ spectrometry. *In situ* measurements reduce uncertainty relating to potential heterogeneity in the γ dose field surrounding each sample. The level of U disequilibrium was estimated by laboratory-based Ge γ spectrometry. Estimates of radionuclide concentration were converted into D_r values (Adamiec and Aitken, 1998), accounting for D_r modulation forced by grain size (Mejdahl, 1979), present moisture content (Zimmerman, 1971) and, where D_e values were generated from 5-15 μm quartz, reduced signal sensitivity to α radiation (a-value 0.050 ± 0.002). Cosmogenic D_r values were calculated on the basis of sample depth, geographical position and matrix density (Prescott and Hutton, 1994).

The spatiotemporal validity of D_r values can be considered a function of five variables. Firstly, age estimates devoid of *in situ* γ spectrometry data should be accepted tentatively if the sampled unit is heterogeneous in texture or if the sample is

located within 300 mm of strata consisting of differing texture and/or mineralogy. However, where samples are obtained throughout a vertical profile, consistent values of γ D_r based solely on laboratory measurements may evidence the homogeneity of the γ field and hence accuracy of γ D_r values. Secondly, disequilibrium can force temporal instability in U and Th emissions. The impact of this infrequent phenomenon (Olley *et al*., 1996) upon age estimates is usually insignificant given their associated margins of error. However, for samples where this effect is pronounced (>50% disequilibrium between ^{238}U and ^{226}Ra; Fig. 5), the resulting age estimates should be accepted tentatively. Thirdly, pedogenically-induced variations in matrix composition of B and C-horizons, such as radionuclide and/or mineral remobilisation, may alter the rate of energy emission and/or absorption. If D_r is invariant through a dated profile and samples encompass primary parent material, then element mobility is likely limited in effect. Fourthly, spatiotemporal detractions from present moisture content are difficult to assess directly, requiring knowledge of the magnitude and timing of differing contents. However, the maximum influence of moisture content variations can be delimited by recalculating D_r for minimum (zero) and maximum (saturation) content. Finally, temporal alteration in the thickness of overburden alters cosmic D_r values. Cosmic D_r often forms a negligible portion of total D_r. It is possible to quantify the maximum influence of overburden flux by recalculating D_r for minimum (zero) and maximum (surface sample) cosmic D_r.

5.0 Estimation of Age

Ages reported in Table 1 provide an estimate of sediment burial period based on mean D_e and D_r values and their associated analytical uncertainties. Uncertainty in age estimates is reported as a product of systematic and experimental errors, with the magnitude of experimental errors alone shown in parenthesis (Table 1). Cumulative frequency plots indicate the inter-aliquot variability in age (Fig. 6). The maximum influence of temporal variations in D_r forced by minima-maxima in moisture content and overburden thickness is also illustrated in Fig. 6. Where uncertainty in these parameters exists this age range may prove instructive, however the combined extremes represented should not be construed as preferred age estimates. The analytical validity of each sample is presented in Table 2.

6.0 Analytical uncertainty

All errors are based upon analytical uncertainty and quoted at 1σ confidence. Error calculations account for the propagation of systematic and/or experimental (random) errors associated with D_e and D_r values.

For D_e values, systematic errors are confined to laboratory β source calibration. Uncertainty in this respect is that combined from the delivery of the calibrating γ dose (1.2%; NPL, pers. comm.), the conversion of this dose for SiO_2 using the respective mass energy-absorption coefficient (2%; Hubbell, 1982) and experimental error, totalling 3.5%. Mass attenuation and bremsstrahlung losses during γ dose delivery are considered negligible. Experimental errors relate to D_e interpolation using sensitisation corrected dose responses. Natural and regenerated sensitisation corrected dose points (S_i) were quantified by,

$$S_i = (D_i - x.L_i) / (d_i - x.L_i) \qquad \textbf{Eq.1}$$

where D_i = Natural or regenerated OSL, initial 0.2 s
L_i = Background natural or regenerated OSL, final 5 s
d_i = Test dose OSL, initial 0.2 s
x = Scaling factor, 0.08

The error on each signal parameter is based on counting statistics, reflected by the square-root of measured values. The propagation of these errors within Eq. 1 generating σS_i follows the general formula given in Eq. 2. σS_i were then used to define fitting and interpolation errors within exponential plus linear regressions.

For D_r values, systematic errors accommodate uncertainty in radionuclide conversion factors (5%), β attenuation coefficients (5%), a-value (4%; derived from a systematic α source uncertainty of 3.5% and experimental error), matrix density (0.20 $g.cm^{-3}$), vertical thickness of sampled section (specific to sample collection device), saturation moisture content (3%), moisture content attenuation (2%), burial moisture content (25% relative, unless direct evidence exists of the magnitude and period of differing content) and NaI gamma spectrometer calibration (3%). Experimental errors are associated with radionuclide quantification for each sample by NaI and Ge gamma spectrometry.

The propagation of these errors through to age calculation was quantified using the expression,

$$\sigma y\ (\delta y/\delta x) = (\Sigma\ ((\delta y/\delta x_n).\sigma x_n)^2)^{1/2} \qquad \textbf{Eq. 2}$$

where y is a value equivalent to that function comprising terms x_n and where σy and σx_n are associated uncertainties.

Errors on age estimates are presented as combined systematic and experimental errors and experimental errors alone. The former (combined) error should be considered when comparing luminescence ages herein with independent chronometric controls. The latter assumes systematic errors are common to luminescence age estimates generated by means identical to those detailed herein and enable direct comparison with those estimates.

Fig. 1 Signal Calibration

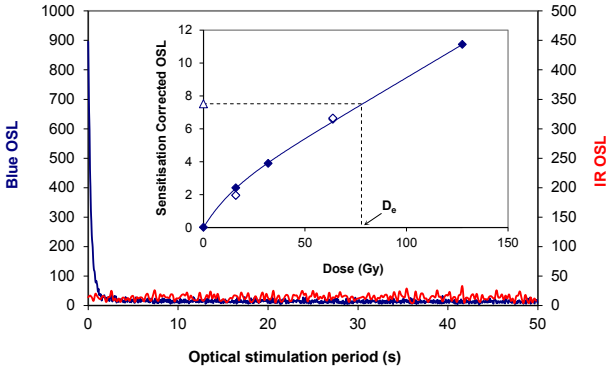


Fig. 1 Signal Calibration Natural blue and laboratory-induced infrared (IR) OSL signals. Detectable IR signal decays are diagnostic of feldspar contamination. Inset, the natural blue OSL signal (open triangle) of each aliquot is calibrated against known laboratory doses to yield equivalent dose (D_e) values. Repeats of low and high doses (open diamonds) illustrate the success of sensitivity correction.

Fig. 2 Dose Recovery The acquisition of D_e values is necessarily predicated upon thermal treatment of aliquots succeeding environmental and laboratory irradiation. The Dose Recovery test quantifies the combined effects of thermal transfer and sensitisation on the natural signal using a precise lab dose to simulate natural dose. Based on this an appropriate thermal treatment is selected to generate the final D_e value.

Fig. 3 Inter-aliquot D_e distribution Abanico plot of inter-aliquot statistical concordance in D_e values derived from **natural** irradiation. Discordant data (those points lying beyond **±2 standardised ln D_e**) reflect heterogeneous dose absorption and/or inaccuracies in calibration.

Fig. 4 Signal Analysis Statistically significant increase in **natural** D_e value with signal stimulation period is indicative of a partially-bleached signal, provided a significant increase in D_e results from **simulated partial bleaching** followed by insignificant adjustment in D_e for simulated **zero** and **full bleach** conditions. Ages from such samples are considered maximum estimates. In the absence of a significant rise in D_e with stimulation time, simulated partial bleaching and zero/full bleach tests are not assessed.

Fig. 5 U Activity Statistical concordance (equilibrium) in the activities of the daughter radioisotope ^{226}Ra with its parent ^{238}U may signify the temporal stability of D_r emissions from these chains. Significant differences (disequilibrium; >50%) in activity indicate addition or removal of isotopes creating a time-dependent shift in D_r values and increased uncertainty in the accuracy of age estimates. A 20% disequilibrium marker is also shown.

Fig. 6 Age Range The Cumulative frequency plot indicates the inter-aliquot variability in age. It also shows the **mean age range**; an estimate of sediment burial period based on mean D_e and D_r values with associated analytical uncertainties. The **maximum influence** of temporal variations in D_r forced by minima-maxima variation in moisture content and overburden thickness is outlined and may prove instructive where there is uncertainty in these parameters. However the combined extremes represented should not be construed as preferred age estimates.

Fig. 2 Dose Recovery

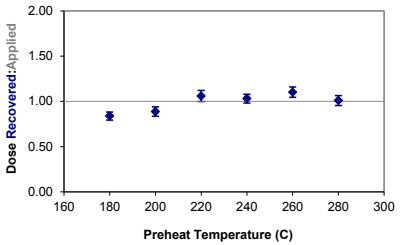


Fig. 3 Inter-aliquot D_e distribution

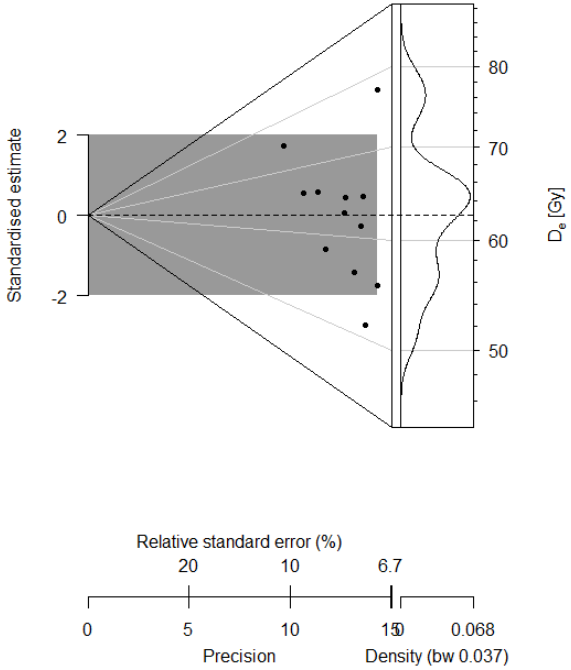


Fig. 4 Signal Analysis

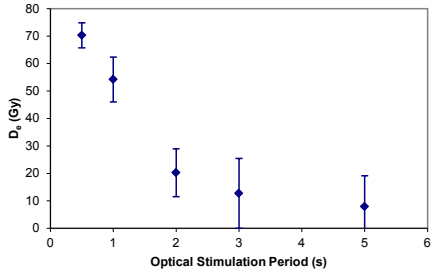


Fig. 5 U Decay Activity

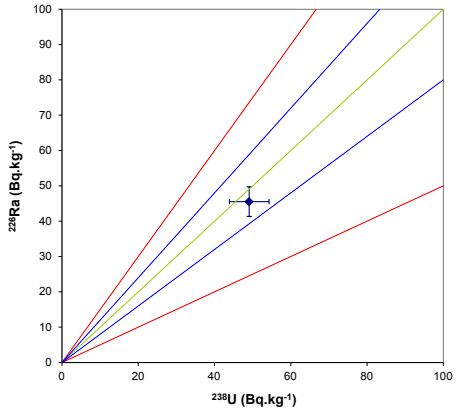
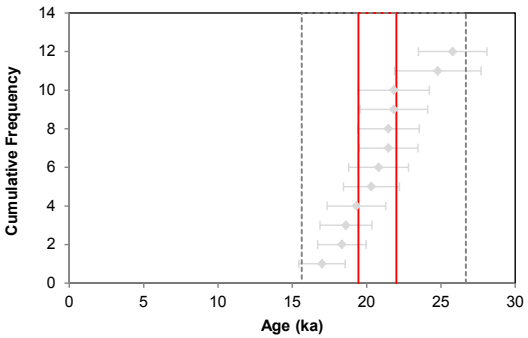


Fig. 6 Age Range



Sample: GL17064

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Appendix 9: HER Summary

Site name/Address: Land west of Southminster Road, Burnham-on-Crouch, Essex	
Parish: Burnham-on-Crouch	***District:*** Maldon
NGR: TQ 94388 97170	***Site Code:*** BCGL17
Type of Work: Evaluation and Excavation	***Site Director/Group:*** Mark Germany, Archaeology South-East
Date of Work: June-August 2017	***Size of Area Investigated:*** Evaluation: 14.68ha, Excavation: 0.926ha
Location of Finds/Curating Museum:	***Funding source:*** Client
Further Seasons Anticipated?: Unknown	***Related HER No's:*** None
Final Report: EAH article?	***OASIS No:*** 307033
Periods Represented: Late Bronze Age, Middle Iron Age, Medieval, Post-medieval, Modern	
SUMMARY OF FIELDWORK RESULTS: Archaeological evaluation, comprising the excavation of fifty-five trenches across the 14.68ha site, established the presence of archaeological remains of later prehistoric and medieval date and limited remains of possible Roman and also post-medieval/modern date. Subsequent excavation, totalling 0.926ha, revealed residual Mesolithic to Neolithic finds, the remains of a possible structure of Late Bronze Age date, a Middle Iron Age settlement enclosure with three probable roundhouses and associated sub-enclosures, pits and gullies, a probable medieval strip field system and post-medieval field boundary ditches. The excavation uncovered the remains of a large sub-rectangular enclosure (*c*.4,650sq m), within which were three ring-gullies indicative of probable roundhouses, a sub-enclosure and a number of later prehistoric and undated pits and gullies. Together with large amounts of pottery, moderate quantities of animal bone and limited charred plant remains, these features are indicative of a Middle Iron Age farmstead and associated agricultural land use. A further small enclosure and with two large pits were identified to the east. These features were most likely associated with the occupation of the main Middle Iron Age settlement enclosure. Minimal evidence for Roman period activity was encountered, comprising residual pottery and a single gully. Given the lack of Roman activity at the site and the stratigraphy of the excavated features, the strip field system is most likely medieval in date. It indicates the agricultural nature of land use of the area during this period. In addition, two large deposits containing large domestic assemblages of medieval pottery were encountered in the north-east of the site – possibly representing middens of mid to late 14th century date. Post-medieval and modern features were encountered across the site, including two east/west aligned post-medieval ditches comprising the remains of field boundaries depicted on the 1849 tithe map and later OS maps.	
Previous Summaries/Reports: None	
Author of Summary: C. Howsam	***Date of Summary:*** April 2018

Appendix 10: OASIS Form

OASIS ID: archaeol6-307033

Project details	
Project name	Land West Of Southminster Road, Burnham-on-Crouch
Short description of the project	Evaluation across the 14.68ha site established the presence of archaeological remains of later prehistoric and medieval remains, largely in one area. The subsequent excavation, totalling 0.926ha, revealed residual Mesolithic to Neolithic finds, the remains of a possible structure of Late Bronze Age date, a Middle Iron Age settlement enclosure with three probable roundhouses and associated sub-enclosures, pits and gullies, a probable medieval strip field system and post-medieval field boundary ditches.
Project dates	Start: 12-06-2017 End: 25-08-2017
Previous/future work	No / No
Any associated project reference codes	170696 - Contracting Unit No.
Any associated project reference codes	BCGL17 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	ENCLOSURE DITCH Middle Iron Age PITS Late Bronze Age PITS Iron Age STRIP FIELD Medieval DITCHES Post Medieval RING-GULLIES Middle Iron Age
Significant Finds	POTTERY Iron Age POTTERY Late Bronze Age POTTERY Medieval ANIMAL BONE Middle Iron Age
Investigation type	"Open-area excavation"
Prompt	Planning condition
Project location	
Country	England
Site location	ESSEX MALDON BURNHAM ON CROUCH Land West Of Southminster Road
Postcode	CM0 8NX
Study area	0.93 Hectares
Site coordinates	TQ 94388 97170 51.639146046787 0.809562079058 51 38 20 N 000 48 34 E Point
Project creators	
Name of Organisation	Archaeology South-East

Project brief originator	Essex County Council Place Services
Project design originator	ASE
Project director/manager	Andy Leonard
Project supervisor	Mark Germany
Type of sponsor/funding body	Client

Project archives

Physical Archive recipient	Colchester Museum
Physical Contents	''Animal Bones'',''Ceramics'',''Environmental'',''Glass'',''Metal'',''Worked stone/lithics''
Digital Archive recipient	Colchester Museum
Digital Contents	''Animal Bones'',''Ceramics'',''Environmental'',''Glass'',''Metal'',''Stratigraphic'',''Worked stone/lithics''
Digital Media available	''Database'',''Images raster / digital photography'',''Spreadsheets'',''Text''
Paper Archive recipient	Colchester Museum
Paper Contents	''Animal Bones'',''Ceramics'',''Environmental'',''Glass'',''Metal'',''Stratigraphic'',''Worked stone/lithics''
Paper Media available	''Context sheet'',''Drawing'',''Plan'',''Report'',''Section''

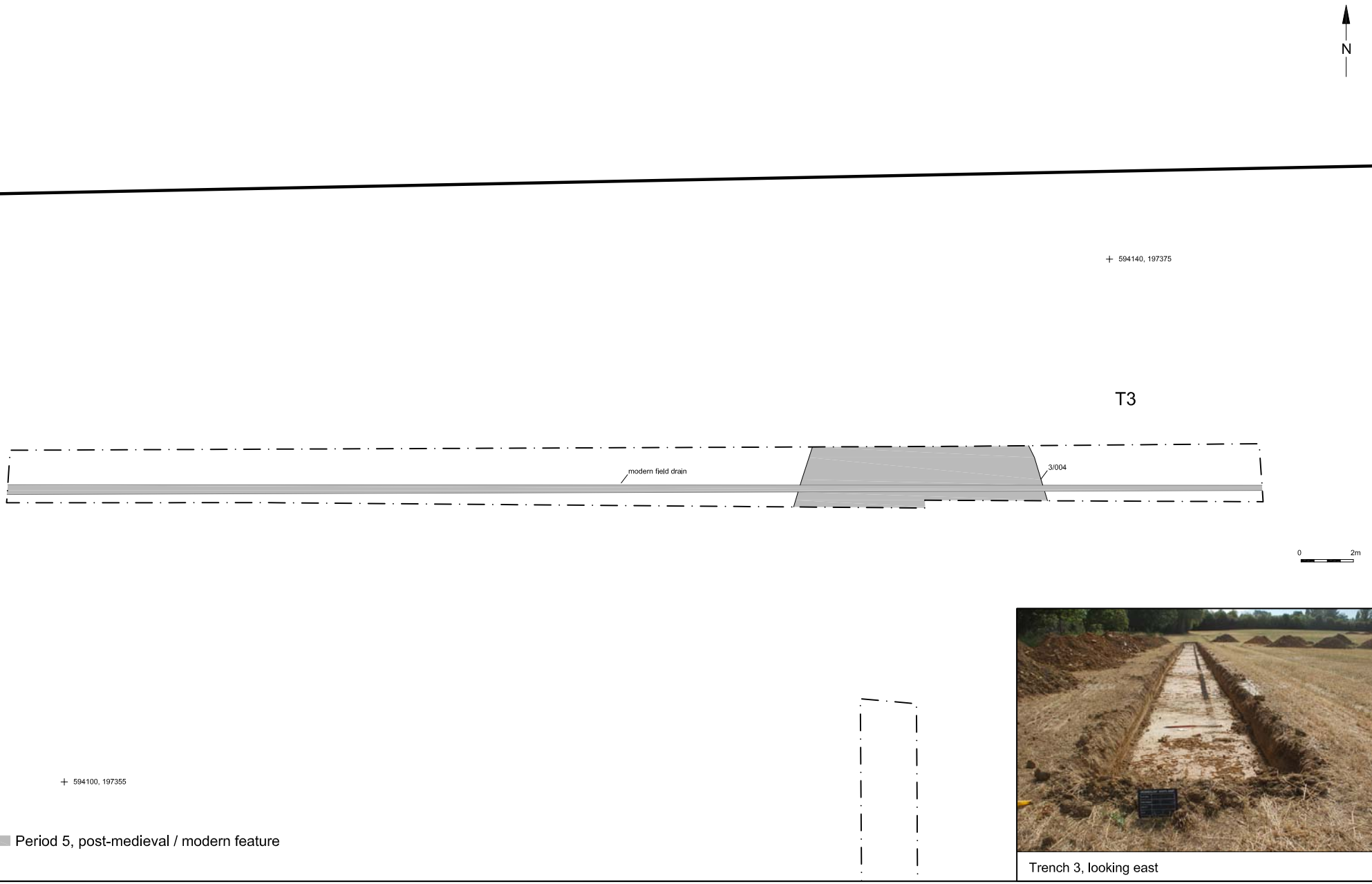
Project bibliography

Publication type	Grey literature (unpublished document/manuscript)
Title	ARCHAEOLOGICAL TRIAL-TRENCHING AND EXCAVATION: LAND WEST OF SOUTHMINSTER ROAD, BURNHAM-ON-CROUCH, ESSEX, CM0 8NX
Author(s)/Editor(s)	Germany, M.
Other bibliographic details	ASE Report No. 2018101
Date	2018
Issuer or publisher	Archaeology South-East
Place of issue or publication	Witham, Essex
Description	A4 report of approximately 200 pages, including figures and appendices
URL	archaeologydataservice.ac.uk

Entered by	Mark Atkinson (mark.atkinson@ucl.ac.uk)
Entered on	20 April 2018

© Archaeology South-East		Land west of Church Road, Burnham on Crouch	Fig. 1
Project Ref: 170696	Apr 2018	Site location	
Report No: 2018101	Drawn by: APL		

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 2
Project Ref: 170696	Apr 2018	Location of evaluation trenches and excavation areas	
Report Ref: 2018101	Drawn by: APL		

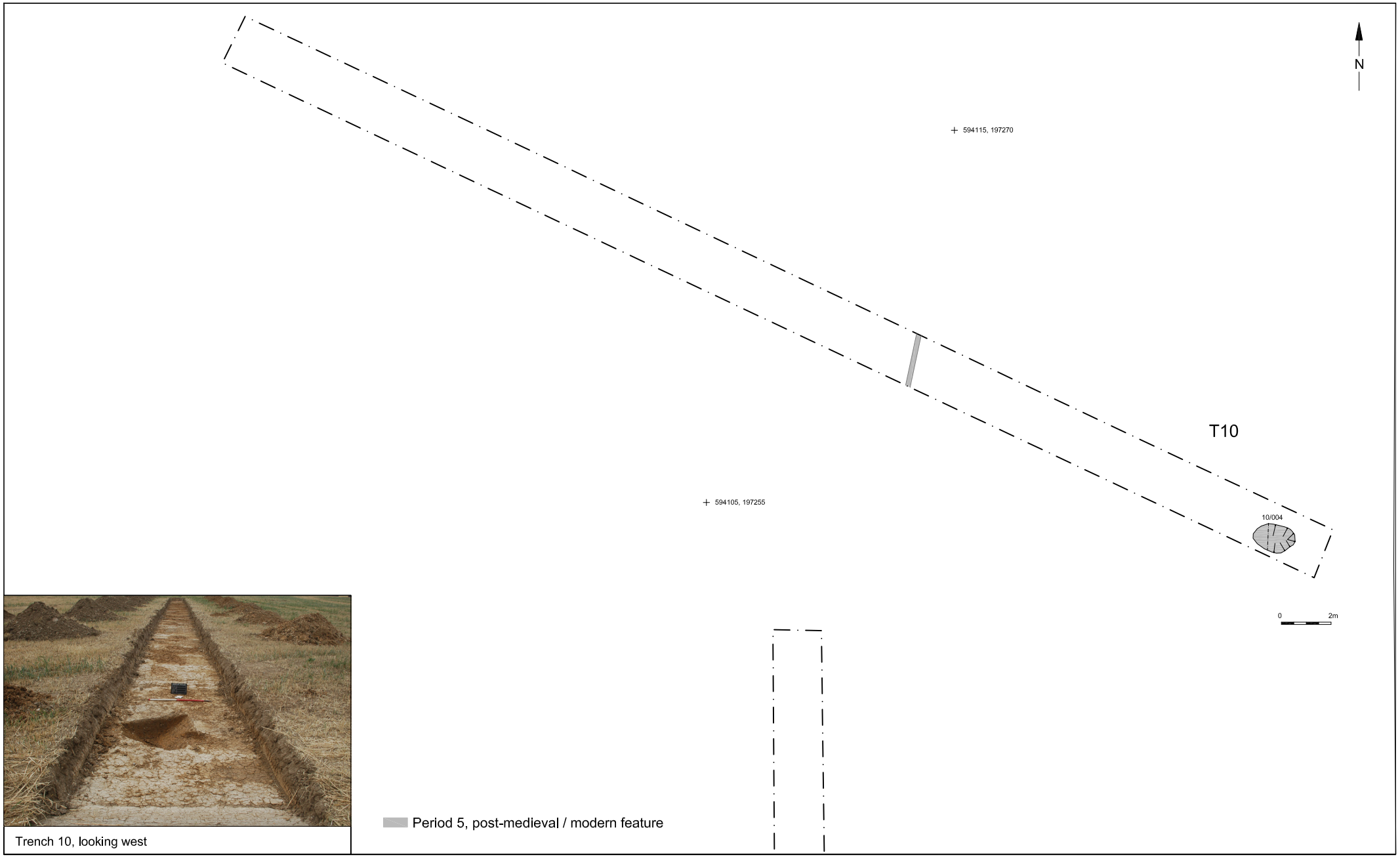


Trench 3, looking east

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 3
Project Ref: 170696	Apr 2018	Trench 3 **:** plan and photograph	
Report Ref: 2018101	Drawn by: NG		

Trench 9, looking east

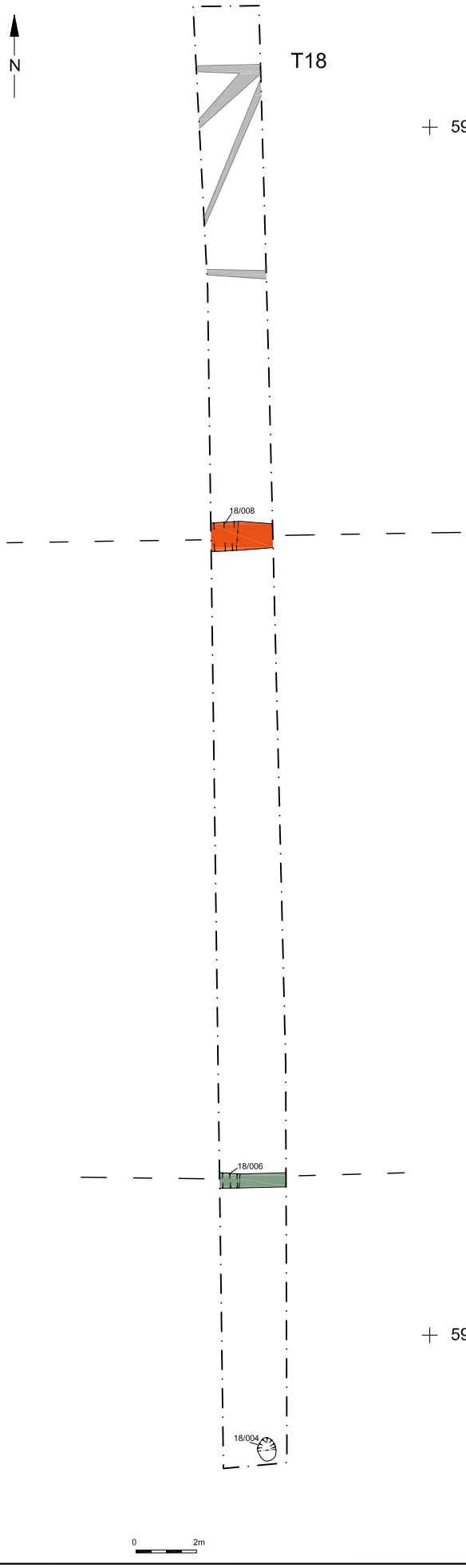
© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 4
Project Ref: 170696	Apr 2018	Trench 9 **:** plan and photograph	
Report Ref: 2018101	Drawn by: NG		



Trench 10, looking west

Period 5, post-medieval / modern feature

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 5
Project Ref: 170696	Apr 2018	Trench 10 : plan and photograph	
Report Ref: 2018101	Drawn by: NG		



Trench 18, looking north

Pit 18/004, looking south

Ditch 18/006, looking east

Ditch 18/008, looking east

Period 2, later prehistoric feature
Period 4, medieval feature
Undated feature

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 6
Project Ref: 170696	Apr 2018	Trench 18 : plan and photographs	
Report Ref: 2018101	Drawn by: NG		

Trench 20, looking north

N

594105, 197155

T20

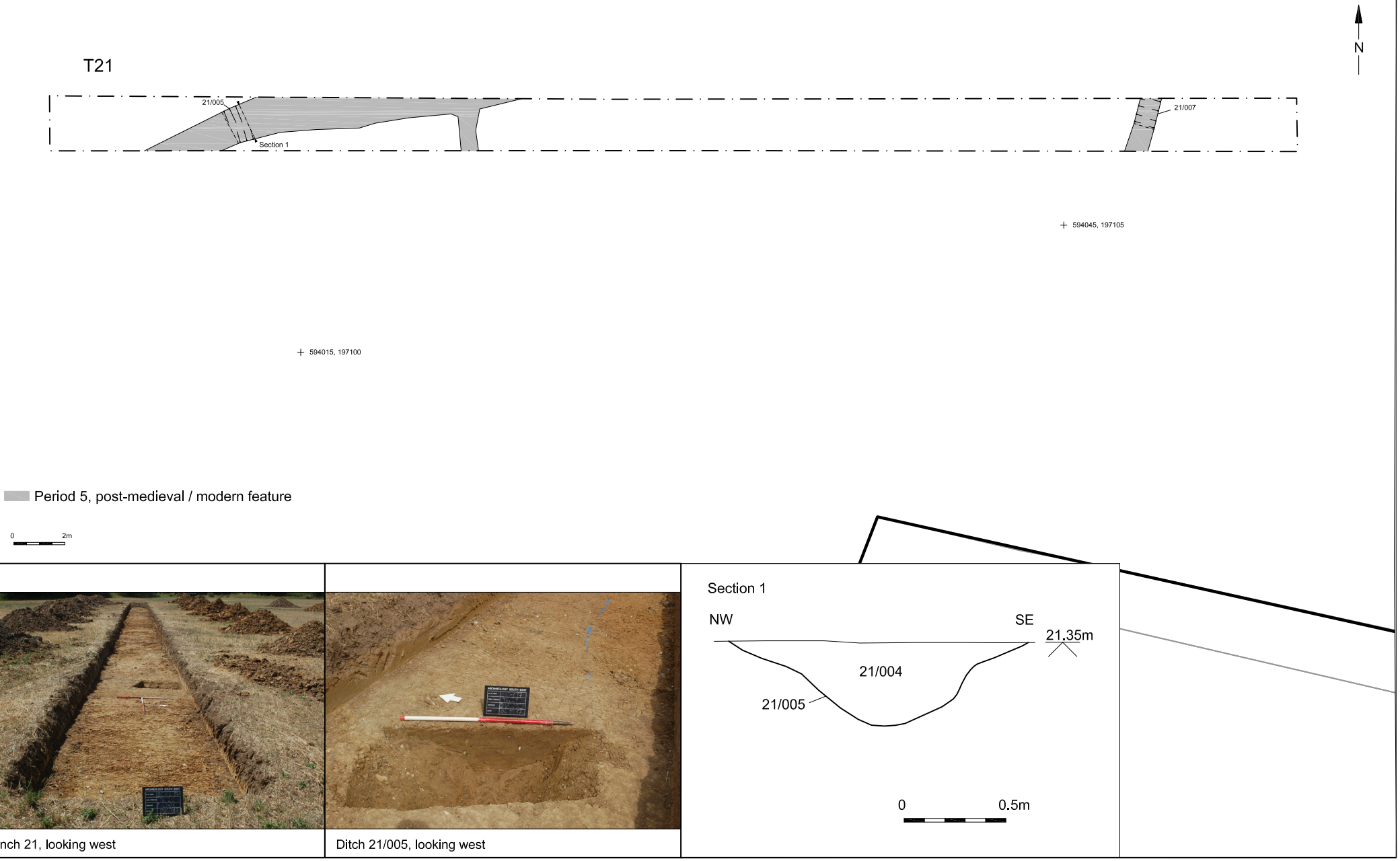
20/004

Period 5, post-medieval / modern feature

0 2m

594125, 197120

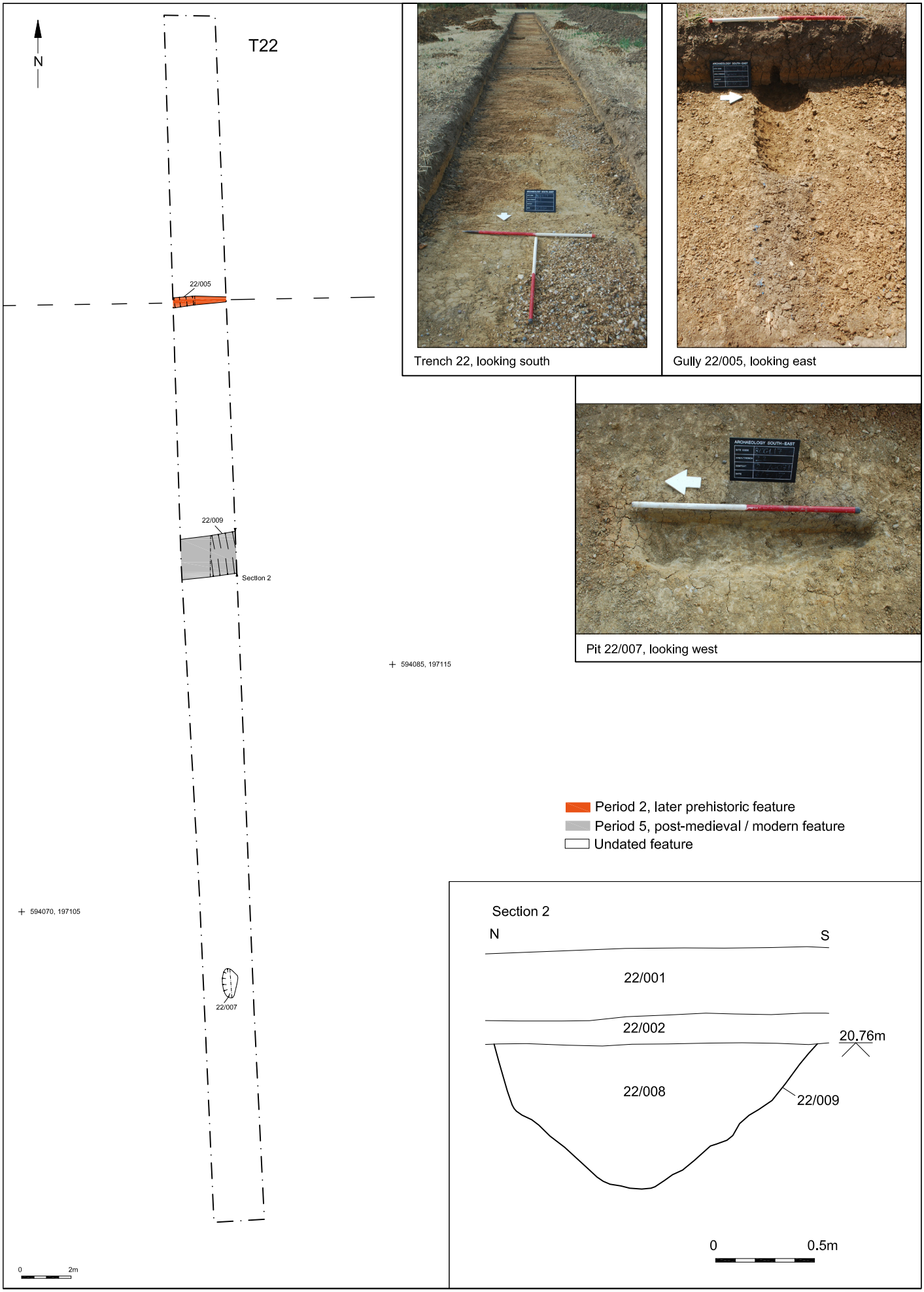
© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 7
Project Ref: 170696	Apr 2018	Trench 20 : plan and photographs	
Report Ref: 2018101	Drawn by: NG		



Trench 21, looking west

Ditch 21/005, looking west

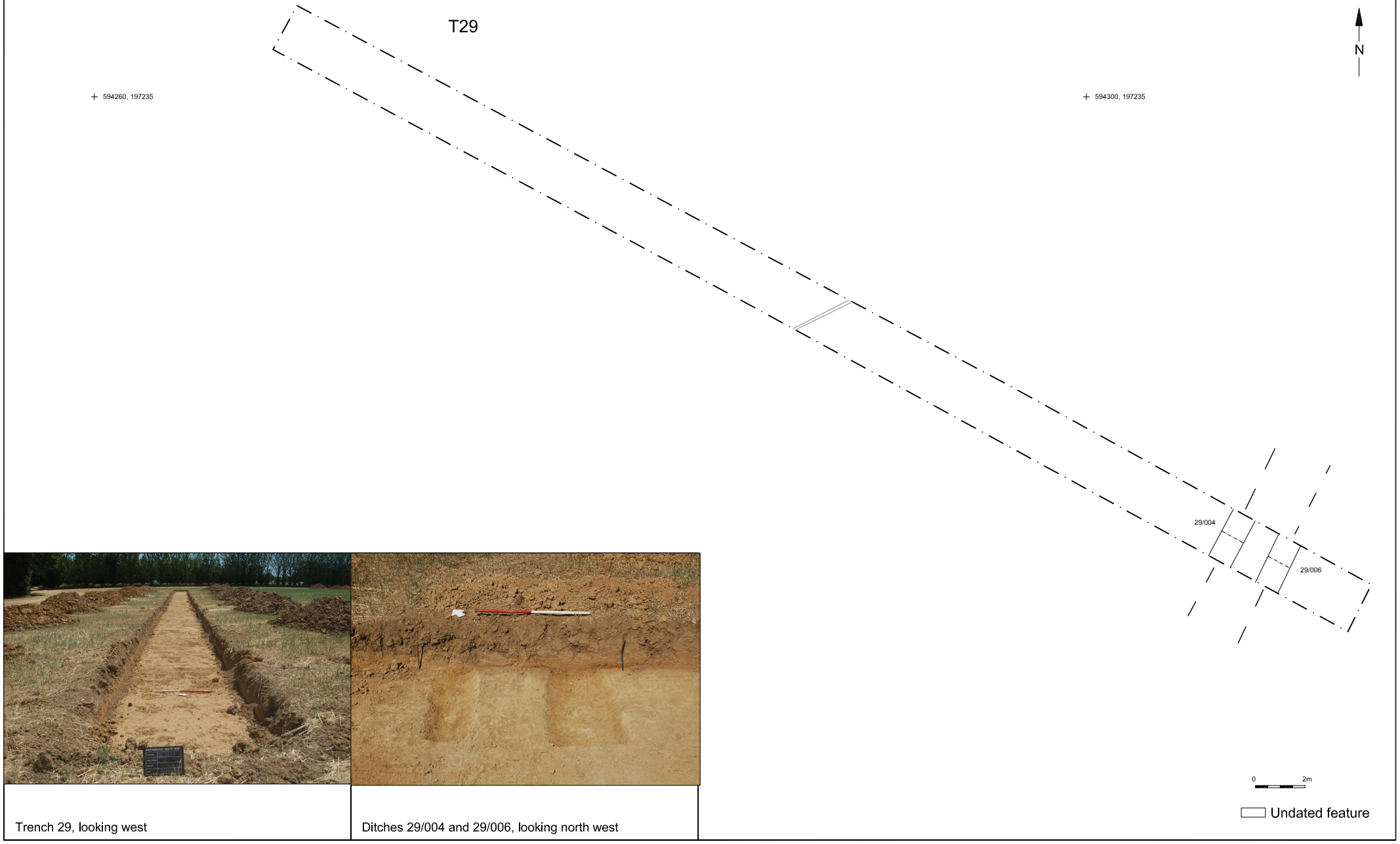
© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 8
Project Ref: 170696	Apr 2018	Trench 21 : plan, section and photographs	
Report Ref: 2018101	Drawn by: NG		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 9
Project Ref: 170696	Apr 2018	Trench 22 : plan, section and photographs	
Report Ref: 2018101	Drawn by: NG		

Trench 28, looking south

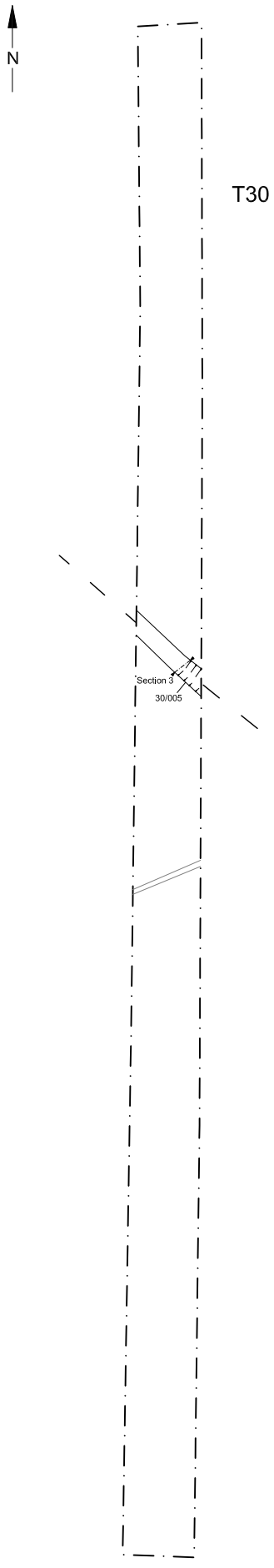
© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 10
Project Ref: 170696	Apr 2018	Trench 28 : plan and photograph	
Report Ref: 2018101	Drawn by: NG		



Trench 29, looking west

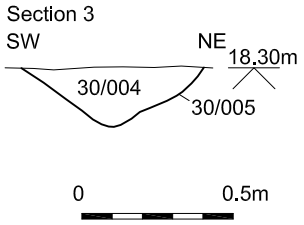
Ditches 29/004 and 29/006, looking north west

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 11
Project Ref: 170696	Apr 2018	Trench 29 : plan, sections and photographs	
Report Ref: 2018101	Drawn by: NG		



Trench 30, looking north

Ditch 30/005, looking north east

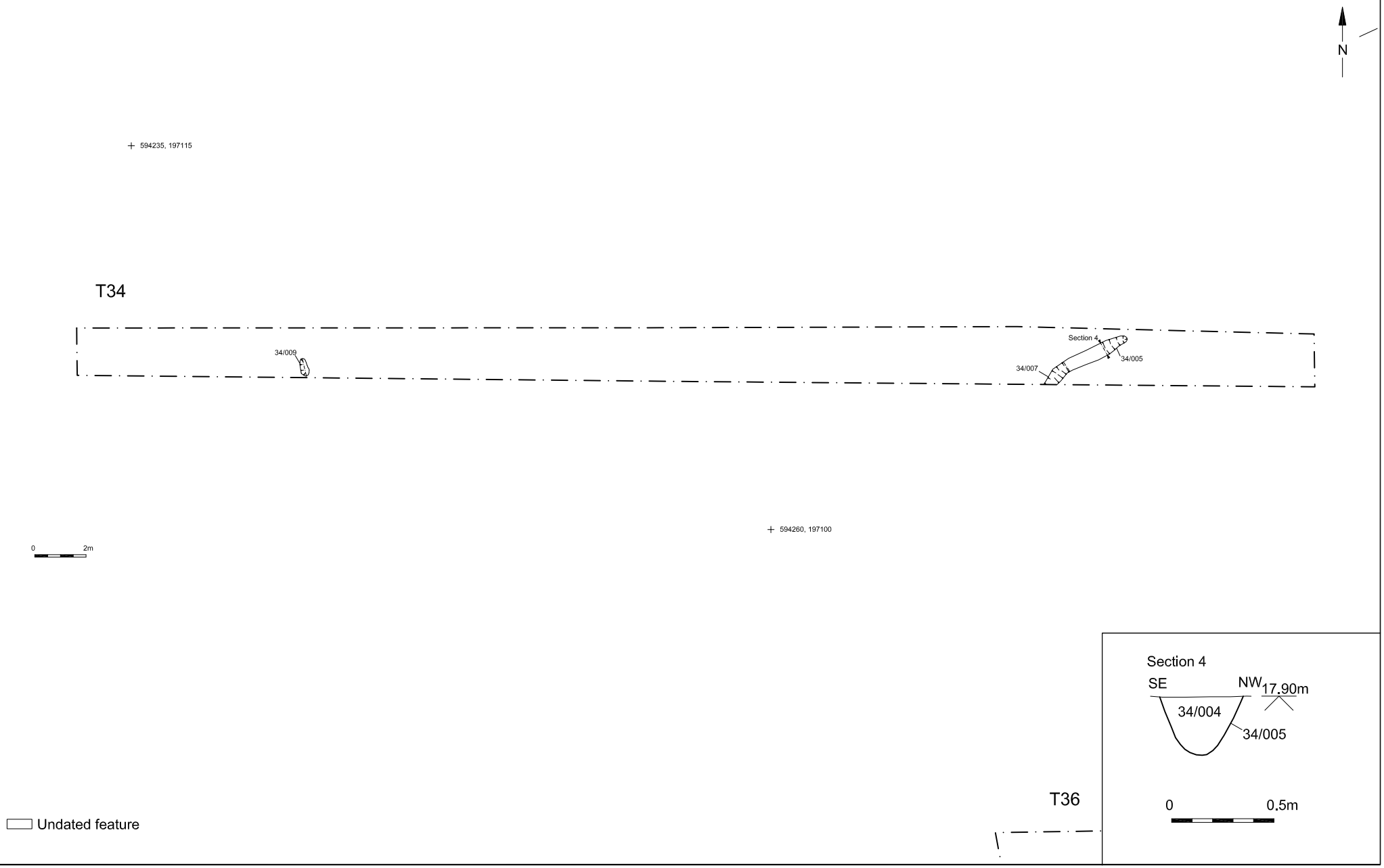


Undated feature

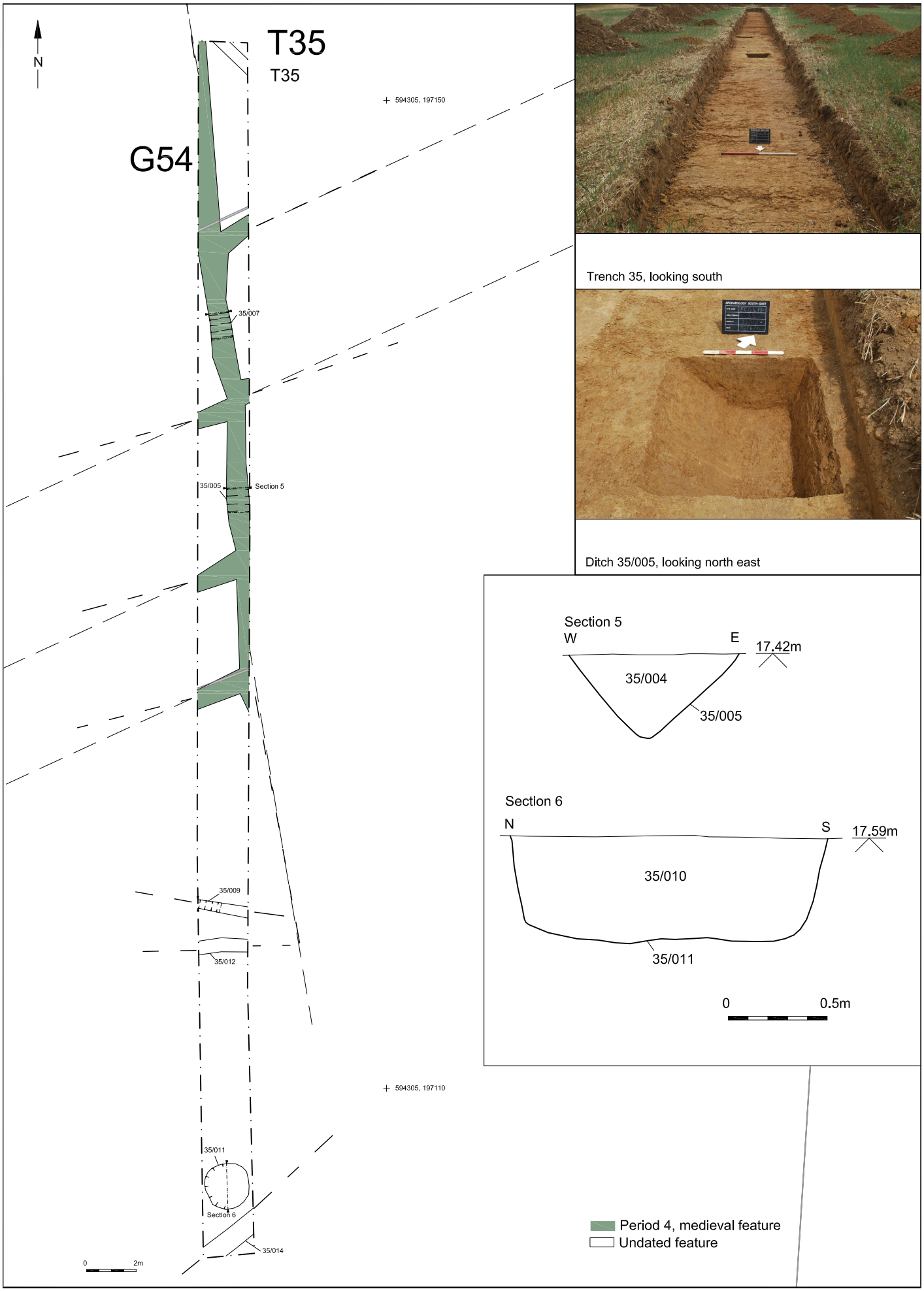
© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 12
Project Ref: 170696	Apr 2018	Trench 30 : plan, section and photographs	
Report Ref: 2018101	Drawn by: NG		

Pit 32/004, looking north east

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 13
Project Ref: 170696	Apr 2018	Trench 32 : plan, section and photograph	
Report Ref: 2018101	Drawn by: NG		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 14
Project Ref: 170696	Apr 2018	Trench 34 : plan and section	
Report Ref: 2018101	Drawn by: NG		



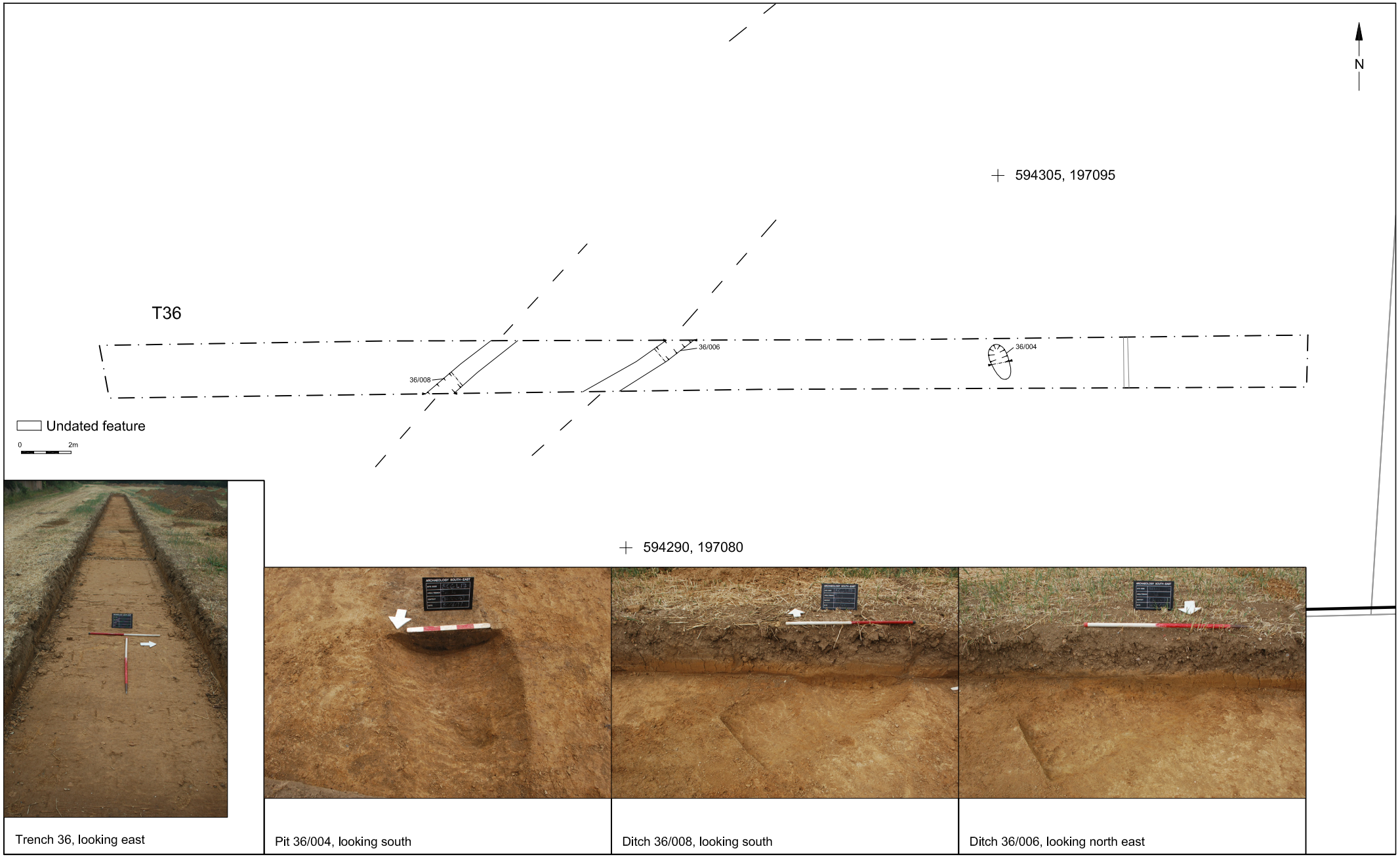
Trench 35, looking south

Ditch 35/005, looking north east

Period 4, medieval feature

Undated feature

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 15
Project Ref: 170696	Apr 2018	Trench 35 : plan, sections and photographs	
Report Ref: 2018101	Drawn by: NG		



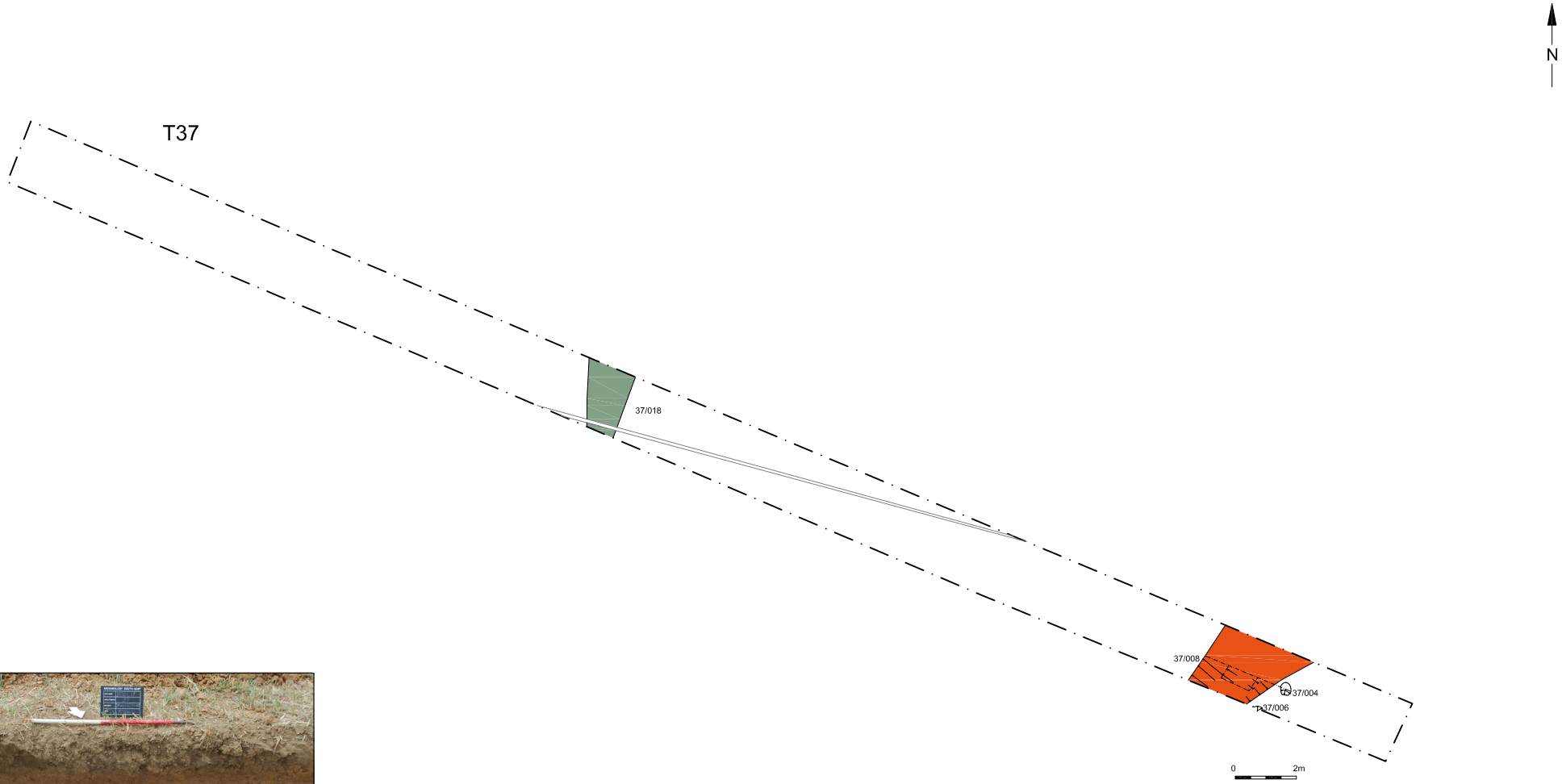
Trench 36, looking east

Pit 36/004, looking south

Ditch 36/008, looking south

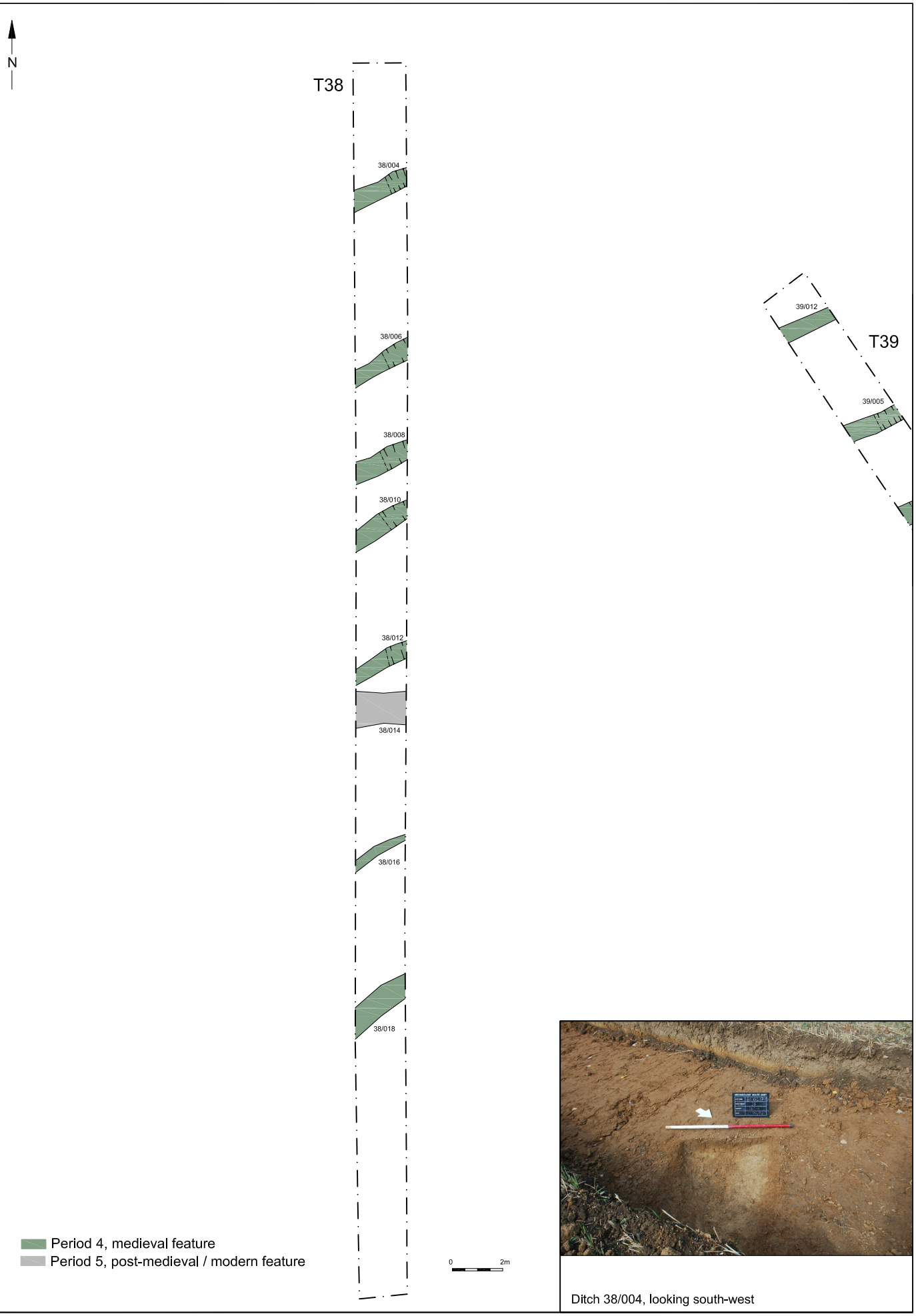
Ditch 36/006, looking north east

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 16
Project Ref: 170696	Apr 2018	Trench 36 : plan and photographs	
Report Ref: 2018101	Drawn by: NG		



Ditch 37/008, looking south-west

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig.17
Project Ref: 170696	Apr 2018	Trench 37 : plan and photograph	
Report Ref: 2018101	Drawn by: APL		



Ditch 38/004, looking south-west

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 18
Project Ref: 170696	Apr 2018	Trench 38 : plan and photograph	
Report Ref: 2018101	Drawn by: APL		

Ditch 39/016, looking north-east

Posthole 39/028

N

T39

39/012

39/005

39/007

39/016

39/019

39/014

39/024

39/021

39/026

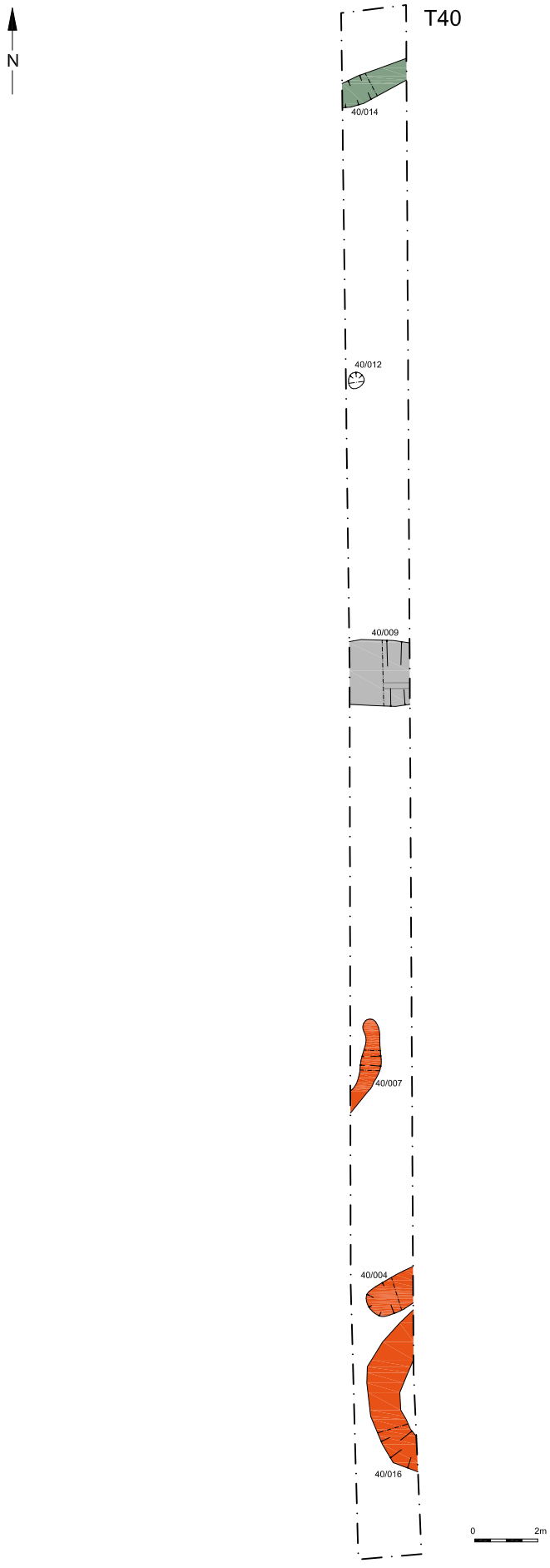
39/028

T41

0 2m

Period 4, medieval feature
Period 5, post-medieval / modern feature
Undated feature

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 19
Project Ref: 170696	Apr 2018	Trench 39 : plan and photographs	
Report Ref: 2018101	Drawn by: APL		



Pit 40/004, looking north-east

Ditch 40/009, looking west

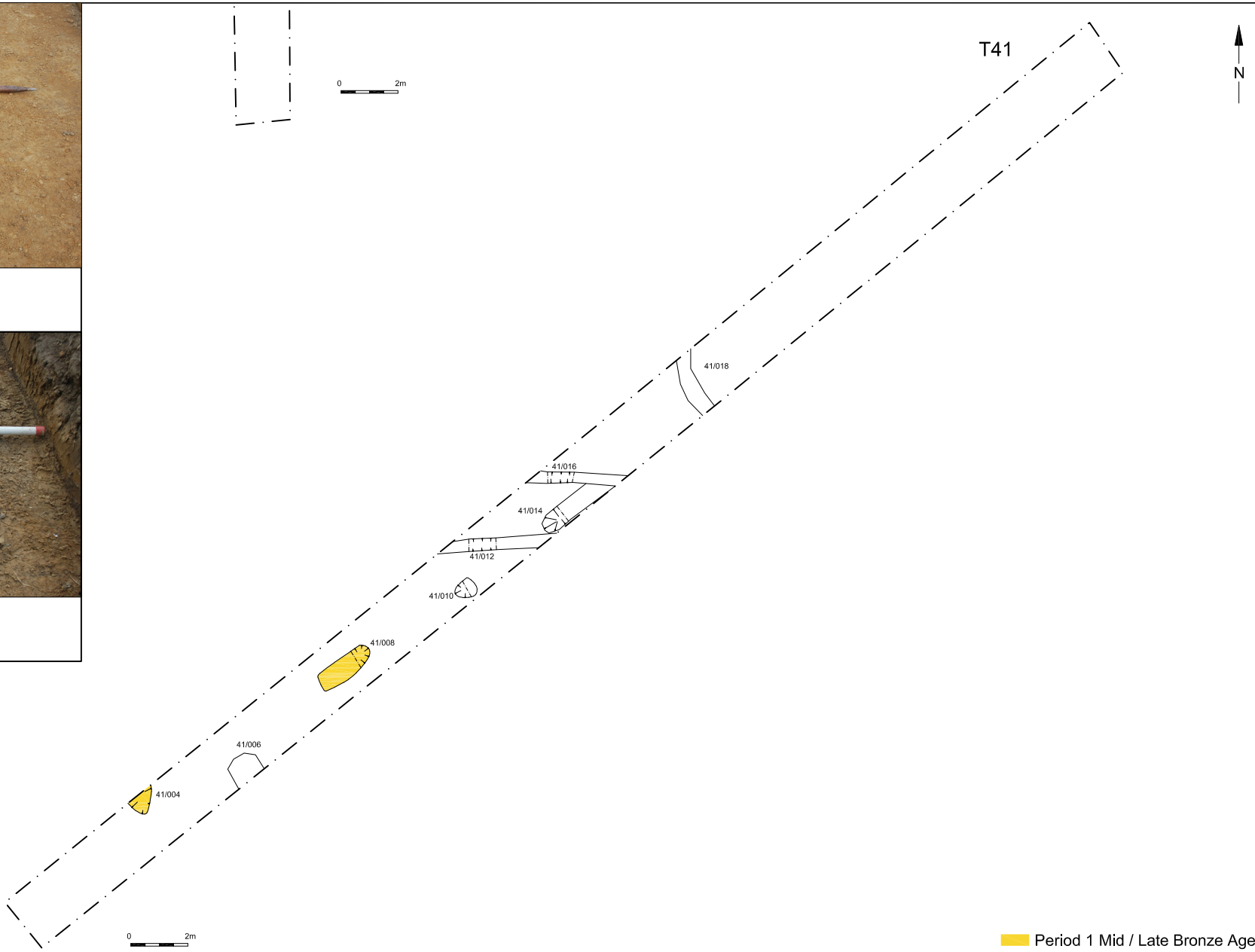
Ditch 40/016, looking north

Period 2 (later prehistoric)
Period 4, medieval feature
Period 5, post-medieval / modern feature
Undated feature

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 20
Project Ref: 170696	Apr 2018	Trench 40 : plan and photographs	
Report Ref: 2018101	Drawn by: APL		

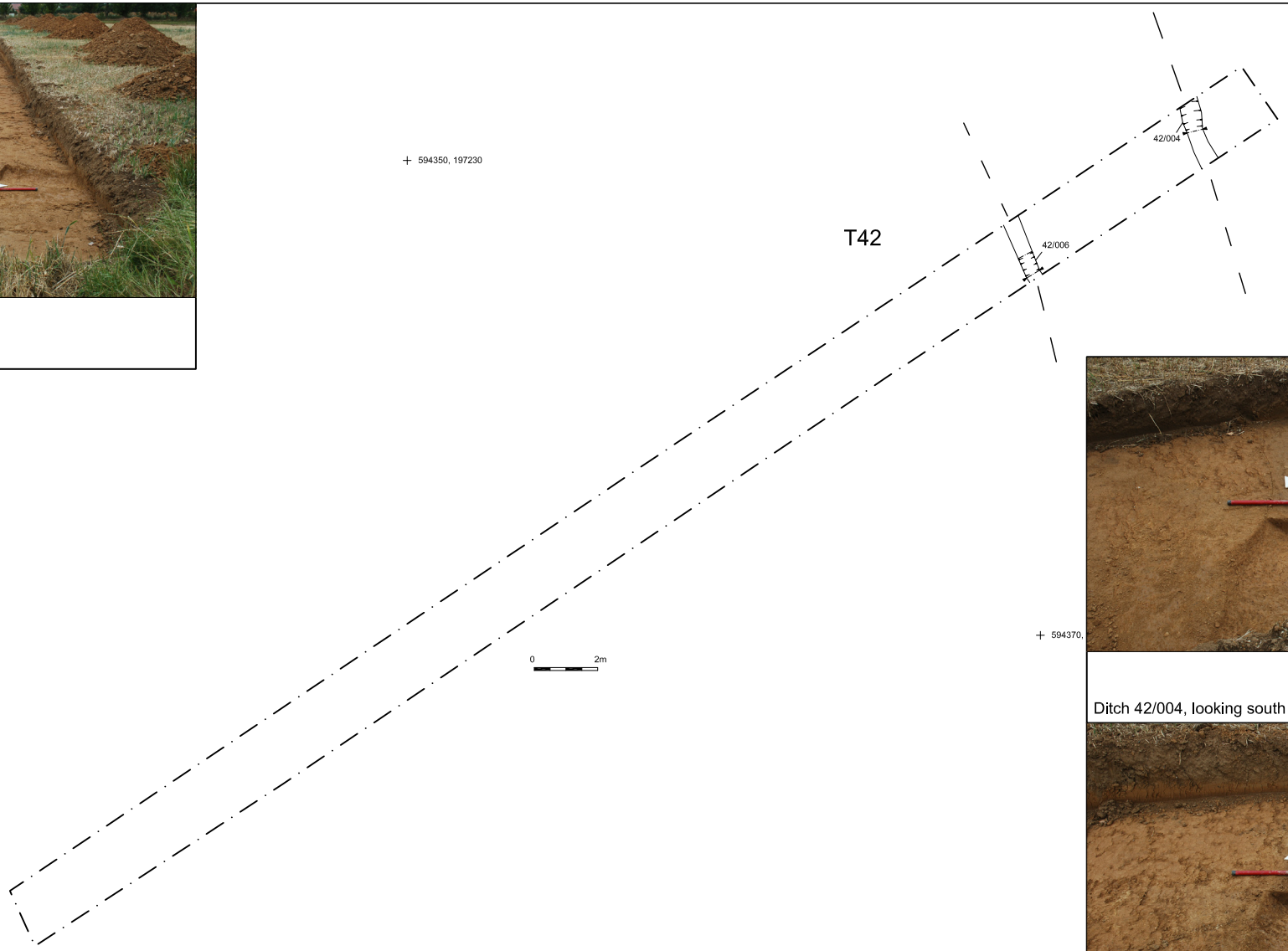
Pit 41/008, looking south

Pit 41/010, looking north-east



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.21
Project Ref: 170696	Apr 2018	Trench 41 : plan and photographs	
Report Ref: 2018101	Drawn by: APL		

Trench 42, looking east

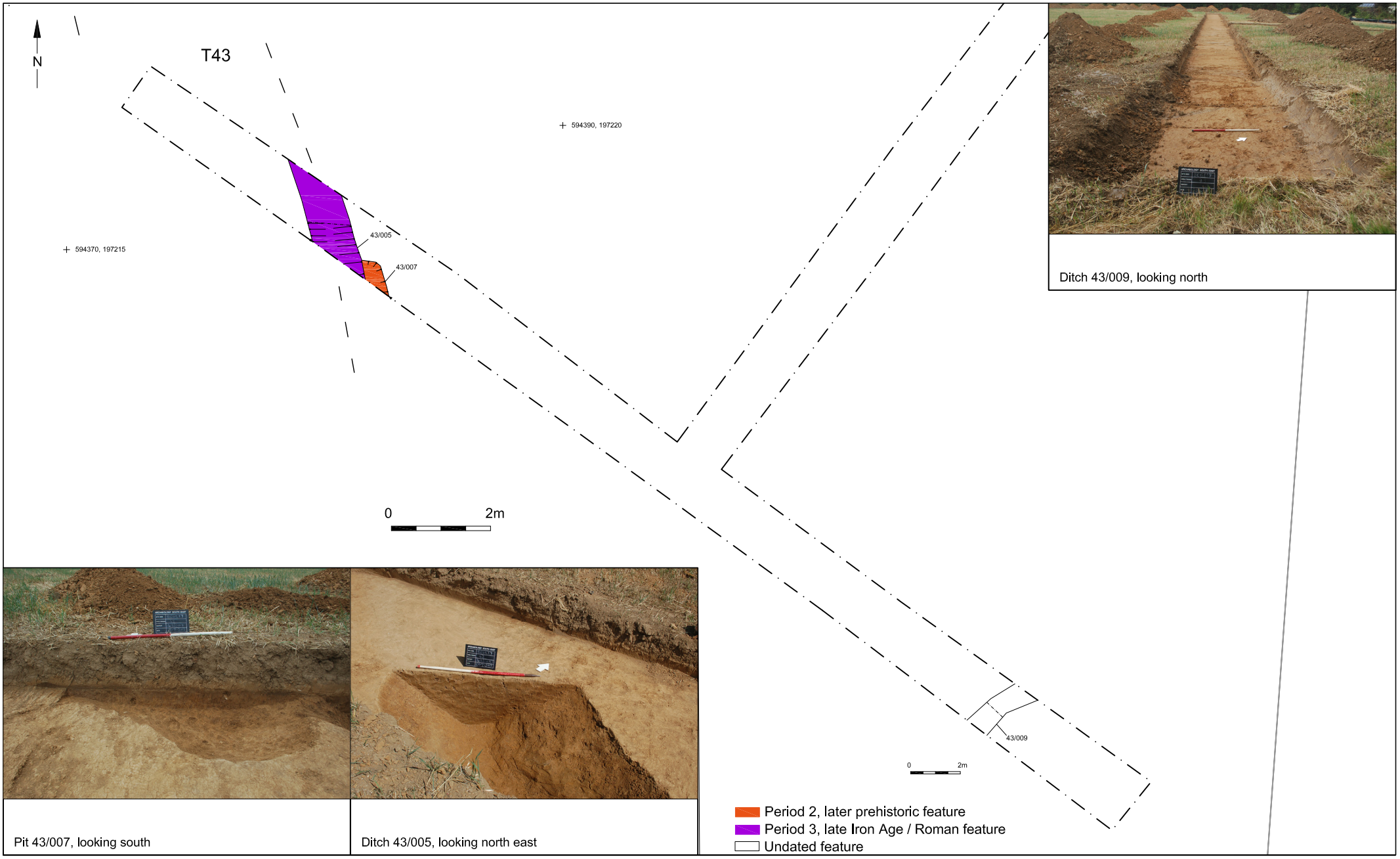


Ditch 42/004, looking south west

Ditch 42/006, looking north

Undated feature

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 22
Project Ref: 170696	Apr 2018	Trench 42 : plan and photographs	
Report Ref: 2018101	Drawn by: NG		



Ditch 43/009, looking north

Pit 43/007, looking south

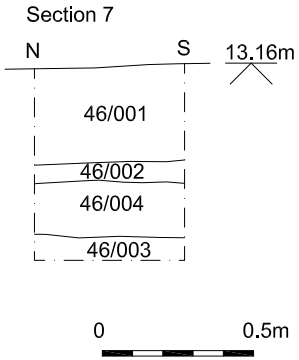
Ditch 43/005, looking north east

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 23
Project Ref: 170696	Apr 2018	Trench 43 : plan, section and photographs	
Report Ref: 2018101	Drawn by: NG		

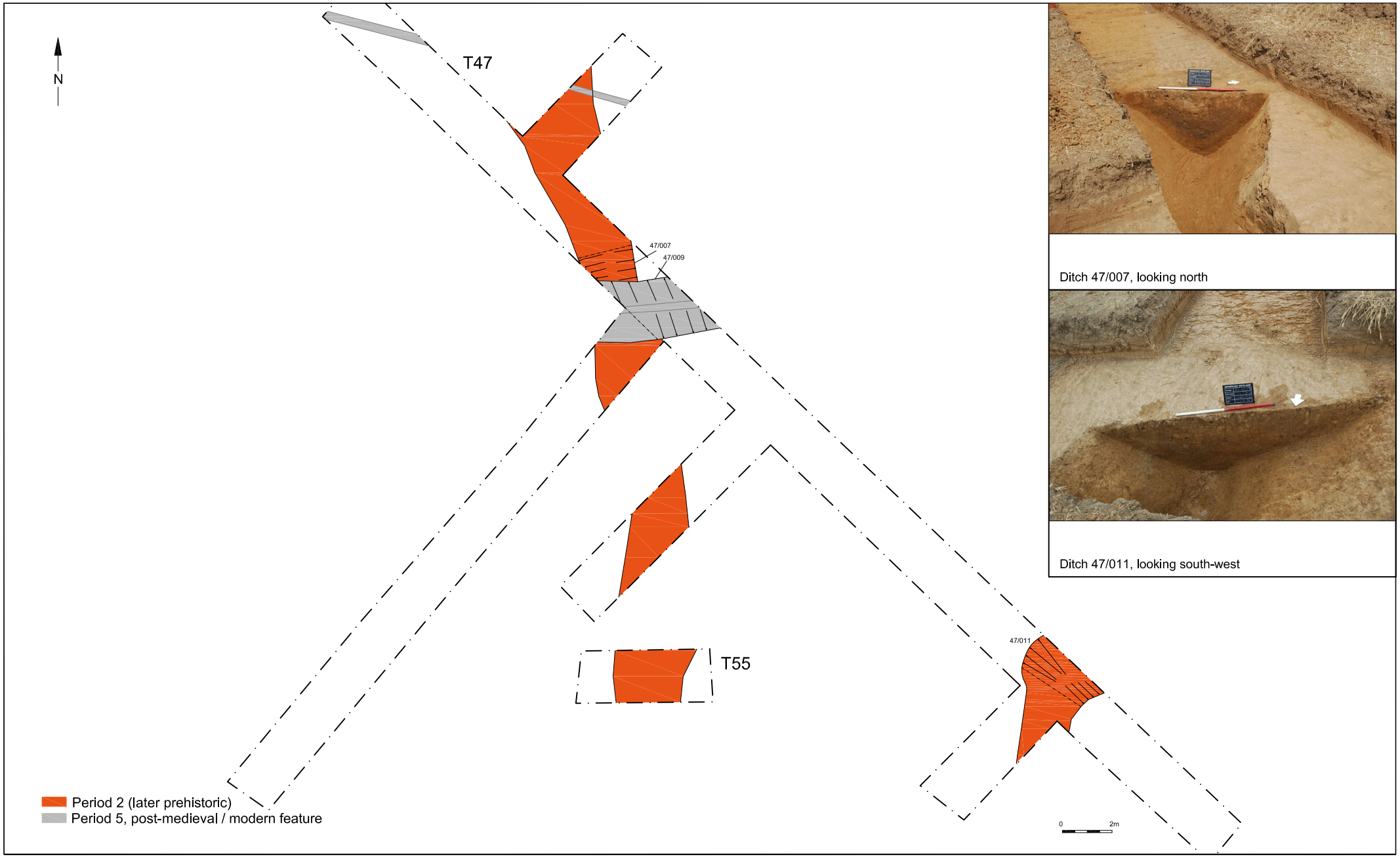
Trench 46, looking north

Deposit 46/004, looking east

Deposit 46/005, looking south



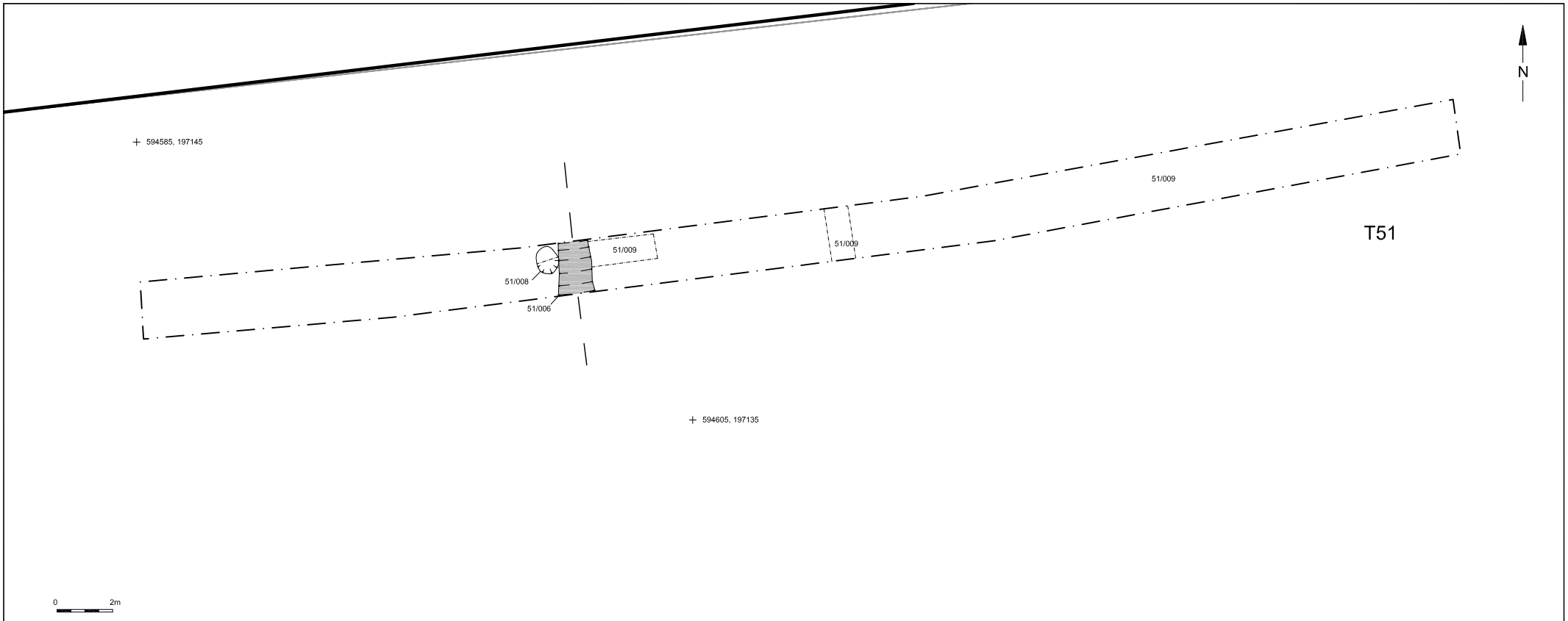
© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 24
Project Ref: 170696	Apr 2018	Trench 46 : plan, section and photographs	
Report Ref: 2018101	Drawn by: NG		



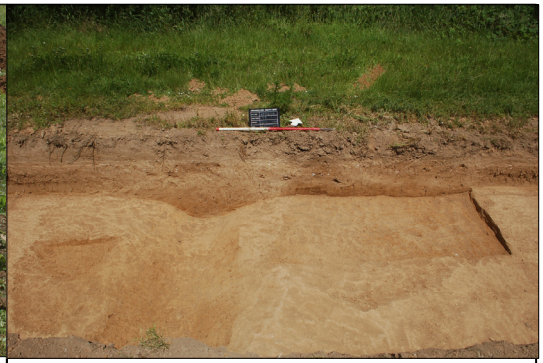
Ditch 47/007, looking north

Ditch 47/011, looking south-west

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig.25
Project Ref: 170696	Apr 2018	Trench 47 and 55 : plan and photographs	
Report Ref: 2018101	Drawn by: APL		



Trench 51, looking west

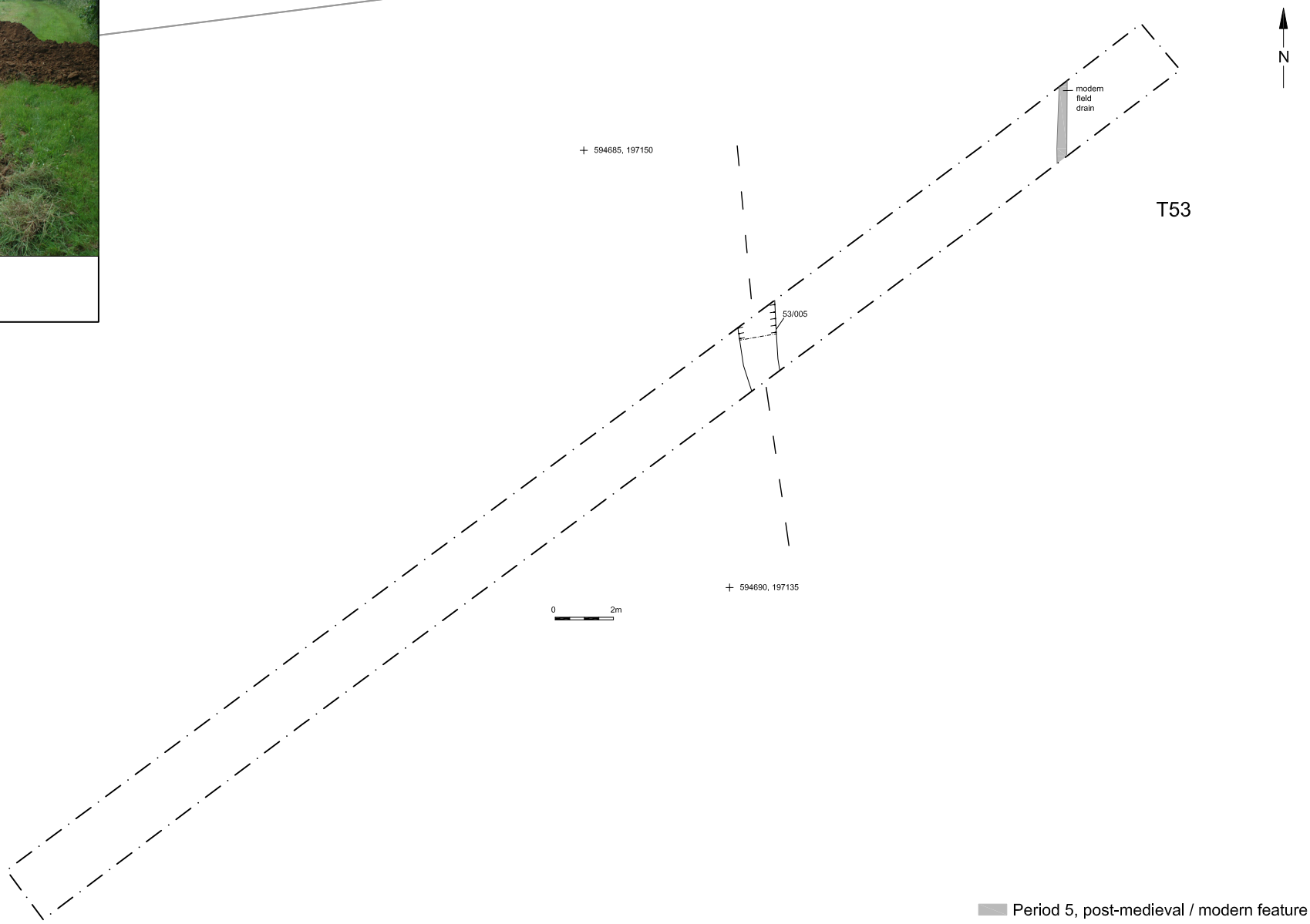


Features (from left) 51/008, 51/006 and 51/009 looking north

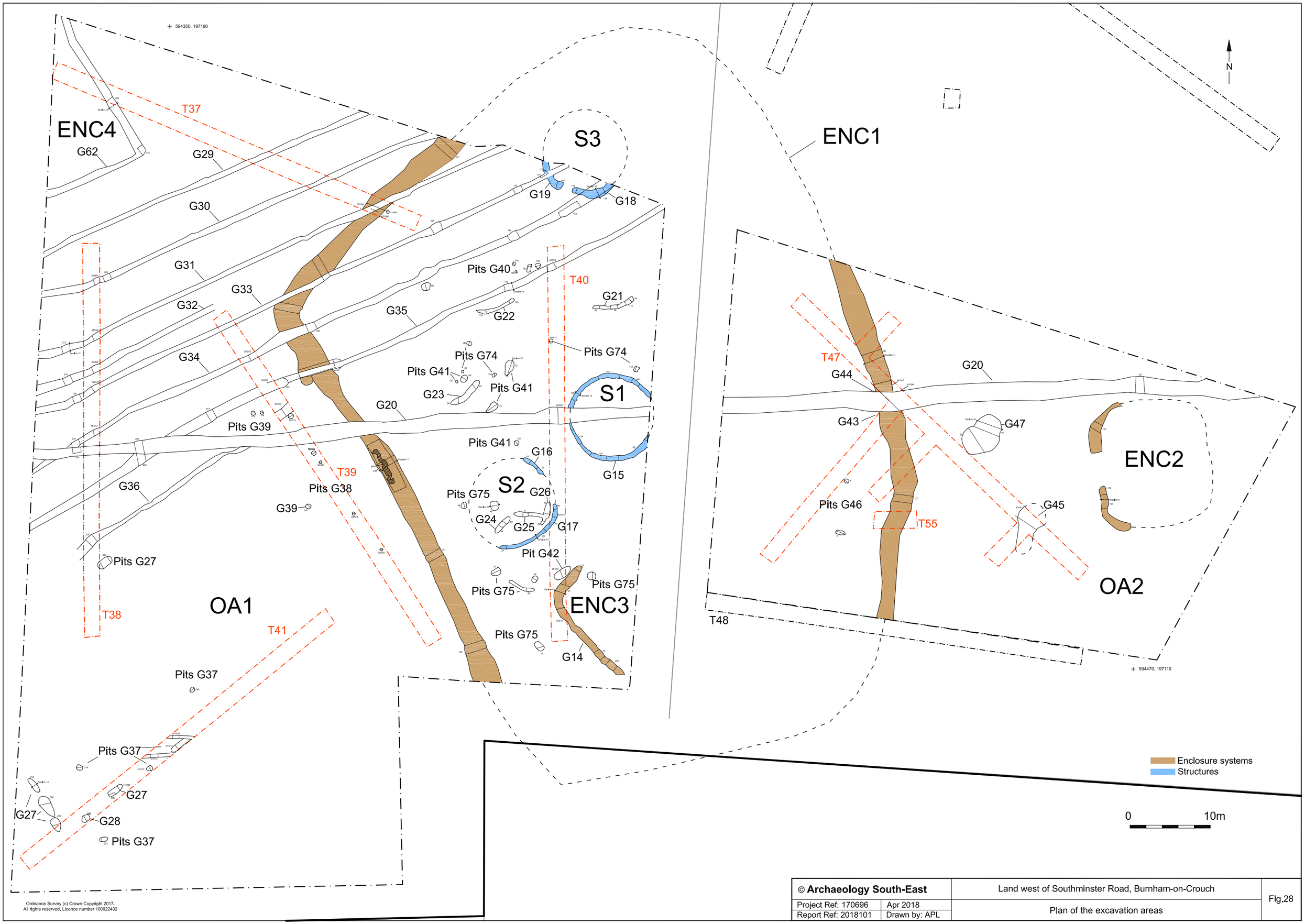
Period 5, post-medieval / modern feature
Undated feature

© **Archaeology South-East**		Land west of Southminster Road, Burnham-on-Crouch	Fig. 26
Project Ref: 170696	Apr 2018	Trench 51 : plan, sections and photographs	
Report Ref: 2018101	Drawn by: NG		

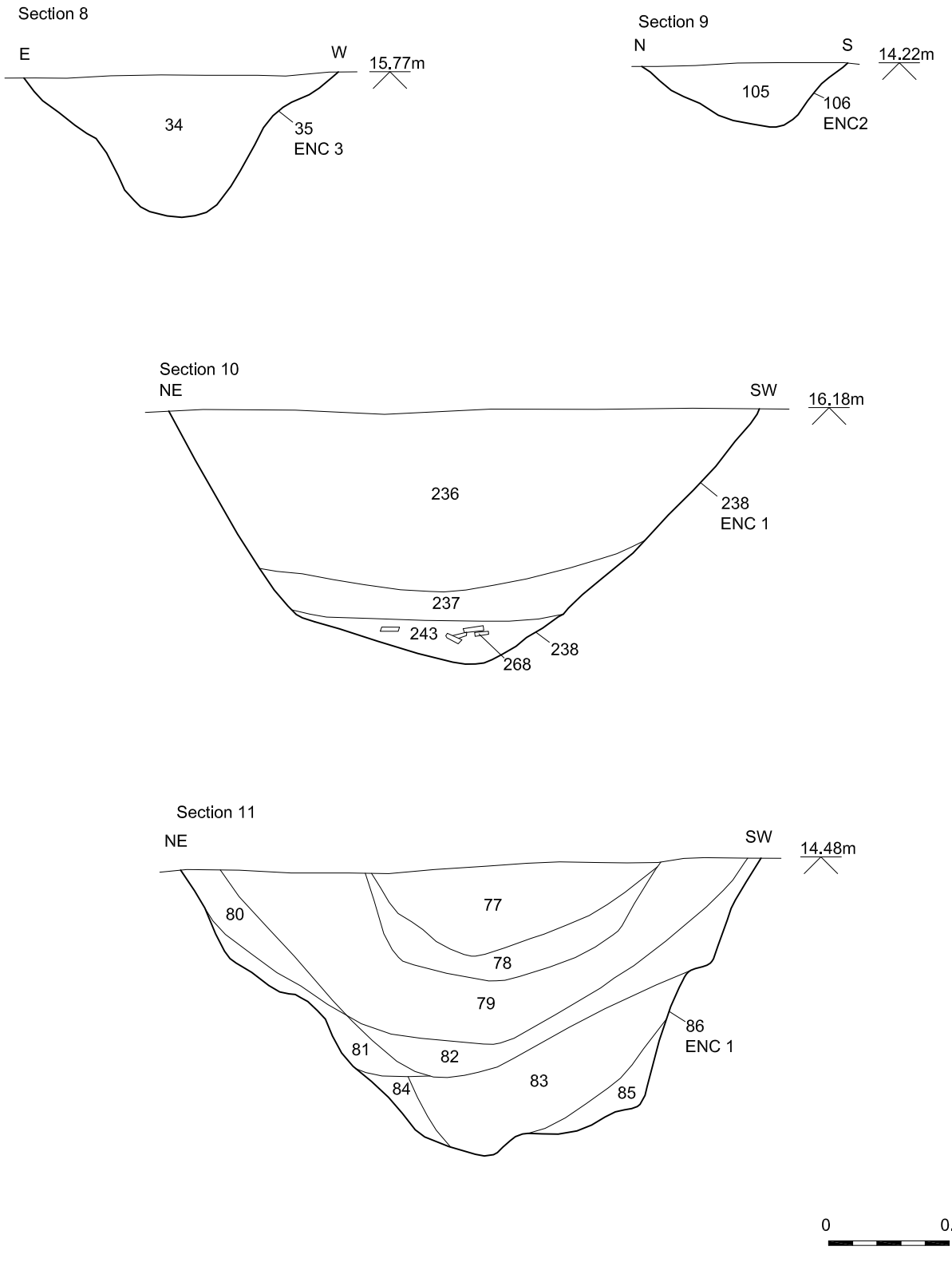
Trench 53, looking south



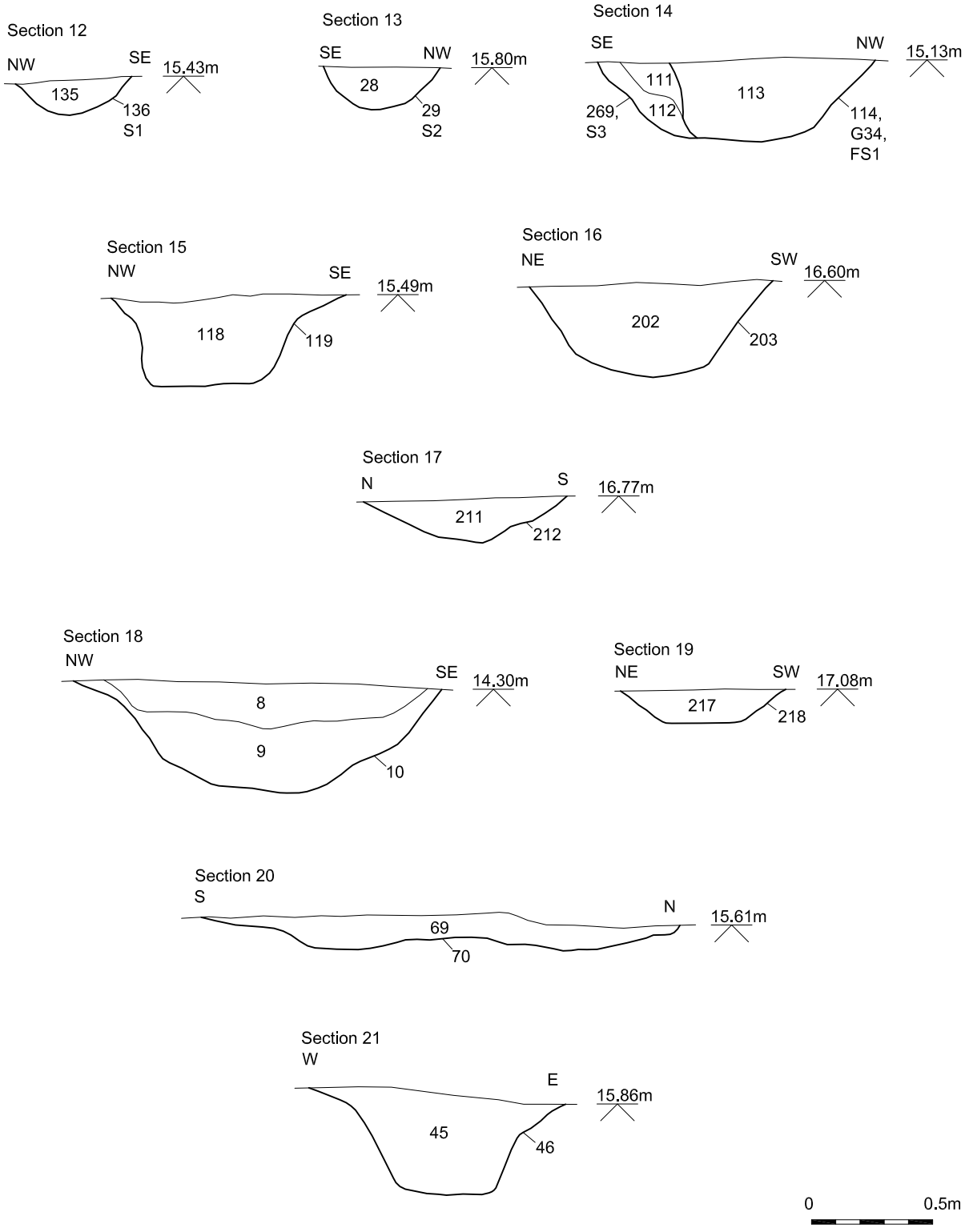
© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 27
Project Ref: 170696	Apr 2018	Trench 53 : plan and photographs	
Report Ref: 2018101	Drawn by: NG		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.28
Project Ref: 170696	Apr 2018	Plan of the excavation areas	
Report Ref: 2018101	Drawn by: APL		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.29
Project Ref: 170696	Apr 2018	Enclosure sections	
Report Ref: 2018101	Drawn by: APL		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.30
Project Ref: 170696	Apr 2018	Sections of structures, strip-fields and pits	
Report Ref: 2018101	Drawn by: APL		

Ditch 130, ENC 1

Finds spread 268, ENC1

Gully 56, S2

Ditch 114, S3

Pit 22, G42

Pit 33, G47

Ditch 144, G34

Ditch 203, G28

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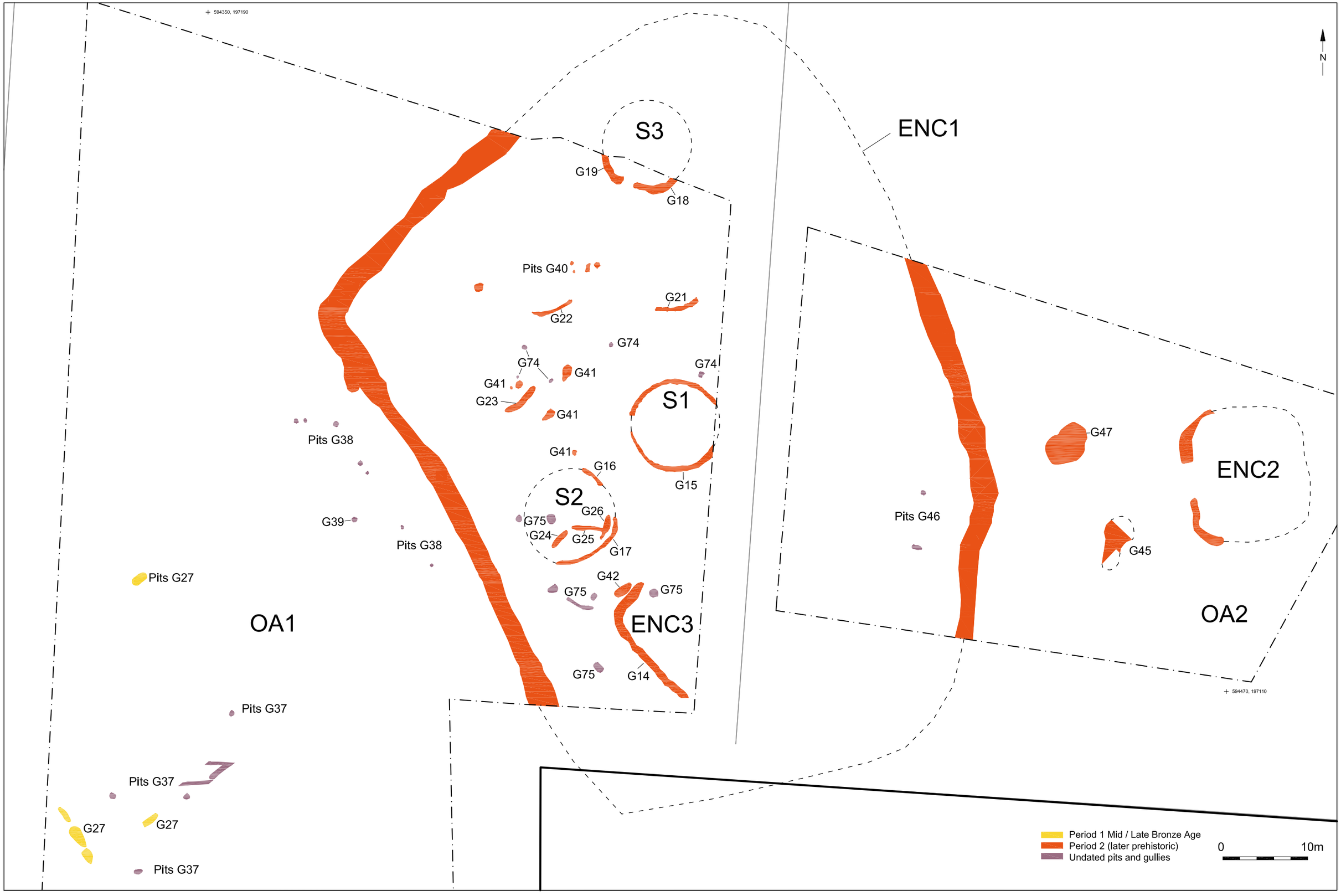
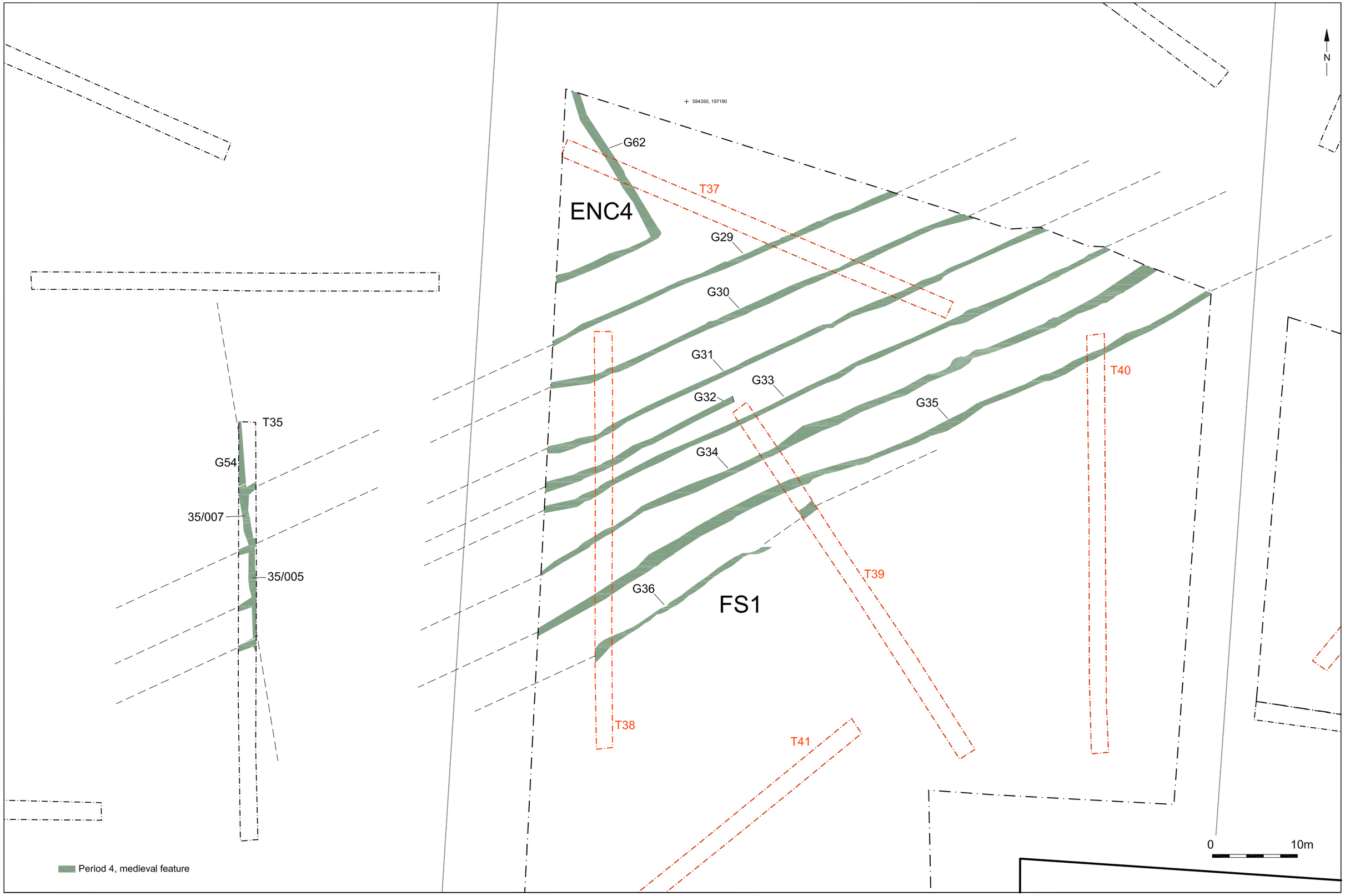
Project Ref: 170696	Apr 2018	Selected excavation photographs	
Report Ref: 2018101	Drawn by: APL		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.32
Project Ref: 170696	Apr 2018	Period 2 (later prehistoric), features in the excavation area	
Report Ref: 2018101	Drawn by: APL		



© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig.33
Project Ref: 170696	Apr 2018	Period 4 (medieval), features in the excavation area	
Report Ref: 2018101	Drawn by: APL		

© Archaeology South-East		Land west of Southminster Road, Burnham-on-Crouch	Fig. 34
Project Ref: 170696	Apr 2018	Period 5 (post-medieval / modern), features with Tithe map boundaries	
Report Ref: 2018101	Drawn by: APL		

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