



**Land at Maldon Road,
Burnham West,
Burnham-on-Crouch, Essex
Archaeological Evaluation and
Mitigation Area Report**

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**Land at Maldon Road, Burnham West,
Burnham-on-Crouch, Essex**

Archaeological Evaluation and Mitigation Area Report

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Summary

Between the 16th April and the 29th May 2018, OA East conducted an archaeological evaluation and mitigation works at land off Maldon Road (B1010), Burnham-on-Crouch, Essex. The work was undertaken in advance of a proposed development entailing industrial units and residential housing.

A total of 75 evaluation trenches totaling 2,250 linear metres were excavated, targeting both geophysical anomalies and blank areas across the site, 32 of which contained archaeological features. Extensions to three of these trenches were made subsequently in order to trace any further associated archaeological remains. A phase of geo-archaeological test pitting was also undertaken to investigate the location and composition of Pleistocene deposits. As part of a mitigation strategy to deal with archaeology located under a proposed haul road, a further three open areas were excavated, which encompassed and expanded areas where Trenches 65-69 were located.

The results of the evaluation can be broadly separated into three zones. Archaeology revealed in the northern zone (Zone A) pertained to the post-medieval/modern period and was present in Trenches 1-33. Trenches 34-64 in Zone B, situated in the middle of the site, contained a low concentration of archaeology from the Late Bronze Age period and consisted of linear ditch features, pits and postholes. The third zone (Zone C) located at the southern end of site (Trenches 65-75) uncovered further features dating to the Late Bronze Age period, including ditches and pits. The ditches appear to correspond to known cropmarks and geophysical anomalies in the immediate area.

Further Bronze Age features were revealed in the expanded excavation areas in the mitigation zone (Areas 1-3) located in the southern part of the site (Zone C), where enclosures, ring ditches and other anomalies had been identified by the geophysical survey. Several cremation burials of probable Middle to Late Bronze Age date (indicated by a radiocarbon date of one of the cremations) were revealed, including a cluster at the western edge of Area 2 that was possibly located between two ditches. Other features include pits, postholes and a large waterhole (possibly Middle Iron Age) with associated assemblages of Late Bronze Age pottery and fire-cracked flint, while several ditches appear to have been related to a contemporary field system. Of significance is the assemblage of briquetage recovered from some of the Late Bronze Age features, and one pit in particular; interpreted as a settling tank. This evidence places the site neatly in context with the eponymous 'Red Hills' of Essex, although saltworking sites of this early date are still relatively rare in the region. A number of Roman ditches and features were also revealed that appear to have been located on the periphery of an Early Roman farmstead previously investigated to the east of the site.

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1 INTRODUCTION

1.1 Scope of work

- 1.1.1 Oxford Archaeology (OA) East was commissioned by CgMs on behalf of David Wilson Homes to undertake an archaeological evaluation and subsequent mitigation areas to provide information concerning known Iron Age and Roman heritage assets that may be present on land (21.17 ha) immediately south of Maldon Road, Burnham-on-Crouch (the Site; Fig.1).
- 1.1.2 The work was undertaken on the requirement set by the Local Planning Authority (Essex County Council) due to the location of the proposed residential and light industrial development in an area of archaeological interest and potential (planning application MAL/0356/14). The Essex County Council Archaeologist (ECCA) and the client's consultant (CgMs) agreed the scope of works that would provide information sufficient to assess the heritage potential of the site. OA East prepared a written scheme of investigation detailing how the works would be implemented (see Macaulay 2018).
- 1.1.3 Work undertaken entailed archaeological trial trenching, comprising 75 trenches located to target known heritage assets, notably geophysical anomalies. Extensions of trenches and mitigation areas were also excavated and are detailed below in the methodology.

1.2 Location, topography and geology

- 1.2.1 The site lies on the northwestern edge of the historic settlement of Burnham-on-Crouch, in the eastern part of the county of Essex. Maldon is situated 13.5km to the northwest and Southminster is 3.3km to the northeast. The (tidal) River Crouch lies c.800m to the south of the site.
- 1.2.2 The site is centred on TQ 93762 96641. It is bounded by Maldon Road (B1010) to the north, the Great Eastern Railway Southminster line to the south, Creeksea Lane and agricultural land to the west, and the Springfield Industrial Estate and residential development along Chandlers Lane to the east. Currently the site comprises 21.17ha of agricultural land, divided into two fields with a public right of way running diagonally across the northern half of the site.
- 1.2.3 The underlying geology comprises London Clay Formation, clay, silt and sand and the overlying superficial deposits comprise the River Terrace Deposit 3m sand and gravel (British Geological Survey 2014, BGS online map viewer: <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>).
- 1.2.4 The site is situated on a downward slope (west to east), above the historic marshland of the River Crouch. The highest point, 27m OD, is on the north-west boundary and the land falls to 18m on the south-east boundary. The current land use is agricultural (arable) land.

1.3 Archaeological and historical background

- 1.3.1 As part of the planning application a Heritage Statement was commissioned (Tindall *et al.* 2015) and more recently a geophysical survey was carried out by SUMO across the site (Vickers 2017). A summary of these reports is included below, which were also incorporated in the WSI (Macaulay 2018), along with the pertinent records from the Essex Historic Environment Record (HER). The latter is also tabulated in Appendix E and depicted in Fig. 2.

Palaeolithic and Mesolithic

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

presence of Asheldham Gravels and the likelihood of the existence of Clactonian horizons — a source of internationally important Palaeolithic material, including both Palaeolithic flint tools and extinct Pleistocene faunal remains, such as rhino and lion. No finds of this nature have so far been recorded on the site, but several findspots of early prehistoric flint tools have been recorded further south and west, adjacent to the River Crouch. These include flint flakes and a Swanscombe-type chopper (EHER 11214 – see Fig. 2), a hand axe (EHER 11317) of possibly Palaeolithic origin, a Palaeolithic blade, Mesolithic microlith and point, and Neolithic blades, arrowheads and a scraper (EHER 11329). Further finds of flint tools (EHER 11318 and 11350) and flint cores (EHER 11309) have also been made c. 400m to the north-east of the site along with worked flint c.200m to the south east of site (EHER 11342 and 11365).

Neolithic and Bronze Age

- 1.3.3 Cropmarks pertaining to possible Late Neolithic-Early Bronze Age ring ditches have been identified on land to the south-west and south-east of the site. All are situated on the slope overlooking the River Crouch. They comprise a ring ditch c. 350m to the south-west (EHER 11237), two ring ditches within Burnham's Country Park c. 330m to the south-east (EHER 11341), and a ring-ditch in the area now occupied by the Springfield Industrial Estate (EHER 11338). Most recently, excavations carried out by Archaeology South East immediately north of site across the Maldon Road (EHER 49137) discovered small amounts of residual worked flint and also a possible structure tentatively dated to the Late Bronze Age. Other Bronze Age finds to the south of site previously discovered include six loopless palstaves found to north of the yacht harbour (EHER 11211), while (undated) 'Red Hill' briquetage has been recovered to the west of this (EHER 11282).

Iron Age and Roman

- 1.3.4 Between 1970 and 1979 a small-scale excavation was undertaken within the southern part of the development area by the Burnham Archaeological Society. They uncovered settlement evidence of either Iron Age and/or Romano-British date (EHER 11332 and 11333). The recent magnetometer geophysical survey identified rectilinear and circular anomalies in the area of the earlier excavation (Fig. 6). These are considered to be further potential evidence of Iron Age and Roman settlement. Other finds have been located c.200m to the east of site, including fragments of Iron Age pottery along with Roman flue tile (EHER 11231 and 11233) found on the housing estate in 1936. Further east, Iron Age burials found in 1930 just south of the railway line included several Iron Age vessels in a number of graves (EHER 11235). Additionally, two groups of Late Iron Age pottery were found in Maple Lodge towards the eastern end of Maldon Road (EHER 47026). The bulk of this was Belgic and it also included briquetage fragments of an evaporation vessel, and although this did not signify a Red Hill site, it may present evidence of salt drying further inland.
- 1.3.5 Excavation of land to the east of the site, now the Springfield Industrial Estate, identified a Roman farmstead of 1st-century date (EHER 16132). Rectilinear and linear cropmarks have also been mapped in this area, but now lie beneath the industrial units (see Fig. 5). Iron Age burials and further cropmarks have also been identified in two locations (EHER 11236 and EHER 11237) to the south of the site, at a distance of c. 100–350m. Other finds from near to the site include a sestertius of Antonius Pius (dated 130-161AD; see EHER 11234).

Anglo-Saxon, medieval and post-medieval

- 1.3.6 According to cartographic sources, the site has formed part of an extensive area of agricultural land since at least 1777 (Chapman and Andre map). The Maldon District Historic Environment Characterization Project defined the Dengie peninsula, upon which this site is located, as having a distinctive co-axial rectilinear field pattern with origins beginning in the Anglo-Saxon period (see Tindal and Hopkins 2014). Currently the site comprises two fields, but linear geophysical anomalies indicate the presence of former field boundaries (Vickers 2017; Fig. 6). An examination of the 1883 OS map (Fig. 4) and also the preceding 1844 Parish Tithe map (Fig. 3) both show that the site in general was arable

land. The number of heritage assets pertaining to the Anglo-Saxon period only includes one loomweight found on the nearby housing estate south-west of the church, in 1936 (EHER 11232).

- 1.3.7 As with the Anglo-Saxon period, the heritage assets from the medieval period are rare, with only the site of a deserted medieval village being mentioned to the west of site (EHER 11295). There are a great many post-medieval heritage assets comprising domestic buildings, bridges, churches and industrial works constructed from the 18th century onwards. These can be found listed in Appendix E (see also Fig. 2).

2 EVALUATION AND MITIGATION AREAS AIMS AND METHODOLOGY

2.1 Aims

2.1.1 This evaluation sought to establish the character, date, state of preservation of archaeological remains within the proposed development area. The scheme of works detailed below aimed to:

- ground truth geophysical results, by testing a range of anomalies of likely archaeological origin, and areas where no anomalies were registered
- establish the presence or absence of archaeological remains on the site, characterise where they are found (location, depth and extent), and establish the quality of preservation of any archaeology and environmental remains
- set results in the local, regional, and national archaeological context – and, in particular, its wider cultural landscape and past environmental conditions
- provide – in the event that archaeological remains are found – sufficient information to construct an archaeological mitigation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables, and orders of cost.

2.1.2 Site specific research objectives of this evaluation were:

- to assess the nature and significance of any Pleistocene deposits and Palaeolithic remains present on the site with reference to the Medway Valley Palaeolithic Project.

2.2 Methodology

2.2.1 A total of 75 evaluation trenches (Fig. 7) were excavated, totaling 2,250 linear metres. The trenches were 30m long and 1.8m wide and were positioned to address the aims in Section 2.1.

2.2.2 The trenches were set out using a Leica survey-grade GPS fitted with "smartnet" technology with an accuracy of 5mm horizontal and 10mm vertical. Before trenching began, the footprint of each trench was scanned by a qualified and experienced operator using a CAT that had a valid calibration certificate.

2.2.3 All trenches were excavated by a mechanical excavator to the depth of geological horizons, or to the upper interface of archaeological features or deposits, whichever was encountered first. A toothless ditching bucket with a bucket size of 1.8m was used to excavate the trenches.

2.2.4 After the trenches were excavated and examined, three trenches were extended to assess the presence of further archaeology situated in the immediate area. Trench 34 was extended to both the north by 10m and to the south by 7m by a machine slot that was positioned 5.5m from its eastern end (see Figs 7 and 9a). Trench 41 was widened by a further 3.6m both to the north and the south and from its centre towards the east. Trench 55 was extended 9m to the north and 7m to the south by a trench 6m wide.

2.2.5 As part of the mitigation process to deal with the planned construction of a proposed haulage road, three more areas were excavated (see Figs 12a-b). Area 1 was 10m wide and ran 162m from the eastern limit of site to the west and then curved round 70m up to the north. This encompassed Trenches 66-68 and revealed more of the archaeological features that were found therein. Area 2 measured 98m from the western site limit of site to the east before turning and running a further 67m to the north. This encompassed Trenches 65 and 69 and again further expanded the number of archaeological features found in the immediate area. Area 3 connected the two areas and ran 50m due north from the northernmost point of Area 1 to the southeast corner of Area 2.

2.2.6 Seventeen geo-archaeological test pits were excavated by machine in three main transects across the site (see Fig.7 and the full report in Appendix D.4). Test pits were located and excavated at the ends of the pre-existing archaeological trial trenches. The northernmost transect included Test Pits 1-6 and the southern transect included Test Pits 7-13. Both ran across site from east to west. One north/south running transect crossed the site and included test pits in Trenches 8, 18, 30, 40, 55, and 67. All transects

- were positioned to give a fair coverage across site in order to assess the possibility and presence of Palaeolithic remains.
- 2.2.7 Topsoil, subsoil, and archaeological deposits were kept separate during excavation, to allow for sequential backfilling of excavations.
- 2.2.8 The top of the first archaeological deposit was cleared by machine and then cleaned off by hand. Any archaeological deposits present were then excavated by context to the level of the geological horizon where safe to do so. Trench spoil was scanned visually and with a metal detector to aid the recovery of artefacts.
- 2.2.9 The depth, nature and potential artefact content of colluvial or other masking deposits were also investigated and recorded across the site.
- 2.2.10 All archaeological features along with the topsoil and subsoil from each trench were scanned with a metal detector and any metal objects were kept unless assessed as being clearly modern. Samples were taken where deemed appropriate by the archaeologist and in line with current OA sampling strategies. These included a minimum of 20L from basal fills of pits and ditches. Where there was a potential of greater recovery of environmental remains from features, a minimum of 40L from deposits were sampled.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The results of the evaluation and mitigation areas are presented below, organised by Zones A-C, and include a stratigraphic description of the trenches that contained archaeological remains. Details of archaeological features can be found in Appendix A. Appendix B contains details of topsoil and subsoil depths. Finds data is found in Appendix C and Environmental data in Appendix D. Results from the geo-archaeological test pits and mitigation areas have been amalgamated where appropriate with the evaluation results, and these are all illustrated in the accompanying figures (Figs 8-14) and plates (Plates 1-42).

3.2 General soils and ground conditions

3.2.1 Topsoil on site consisted of soft dark grey brown clay silt with occasional angular and rounded stones. It ranged in thickness from a maximum of 0.42m (in Trench 51, Zone B) to a minimum of 0.20m (in Trench 37, Zone B). This overlaid a subsoil consisting of mid grey brown firm silty clay with rare medium to small angular and rounded stones. It ranged in depth from a maximum of 0.27m (in Trench 68, Zone C) to a minimum of 0.09m (in Trench 56 at the south end of Zone B). All measurements of both top and subsoil can be found in Appendix B.

3.2.2 The natural geology varied significantly across site. In general, the southern end of the site consisted of mid orange firm clay. This clay was encountered additionally around the location of Trenches 70-75. Toward Trench 68, natural geology changed to light yellow grey loose sandy gravels. This is also true of the area around Trench 69. This intermittent appearance of both sandy gravels and clay was common at the base of trenches in the southern (Zone C) and middle areas (Zone B) of site. However, towards the north and near the Maldon Road, natural geology changed again to dense swathes of dark brown sandy gravels.

3.2.3 Where encountered, modern services or modern land drains were avoided. Archaeological features, where present, were fairly easy to identify against the underlying natural geology.

3.2.4 Land drains were noted in many of the trenches and generally consisted of 19th century extruded clay cylindrical drains with a 0.06m diameter.

3.3 General distribution of archaeological deposits

3.3.1 For ease of reference and description, the site was divided into three zones. The northernmost Zone A included Trenches 1-33 and 44-47 (see Fig. 8). Trenches 34-43 and 48-64 were located in the middle of site (see Figs 9a-b) in Zone B, with Trenches 65-75 and mitigation excavation Areas 1-3 situated in the south end and western end of the site in Zone C (see Figs 12a-b).

3.3.2 Significant archaeological features were classed into two main groups. The first included post-medieval ditches and pits and were located towards the north end of site close to Maldon Road. The second included both Bronze Age and post-medieval features situated in the middle and in the eastern part of the site. Features of Bronze Age date also appeared in the three main mitigation zones (Areas 1-3) as well as the trenches located towards the south of site. These included ditches and pits, large scale watering holes, cremated human remains and saltworking evidence. Additionally, large Roman ditches were also apparent in the far south end of the site in Area 1.

3.4 Zone A (see Figs 7 and 8)

3.4.1 Zone A was defined by the Maldon Road (B1010) bounding the top northern perimeter and a large hedgerow bounding the south. The eastern boundary was formed by land belonging to residential housing and the west was bounded by residential housing and a large ditch and hedgerow. Zone A was situated in the top field of site and contained Trenches 1-33 along with Trenches 44-47. Approximately half the number of trenches revealed archaeological features and these included Trenches 1, 5, 8-10,

14, 17-22, 27, 33 and 44. The remaining trenches displayed no archaeological features or deposits; details of these trenches are in Appendix B.

Trench 1 (Fig. 8)

- 3.4.2 Trench 1 was orientated east-west at the northwest end of the site (see Plate 1). Natural geology was encountered at an average depth of 0.41m. The trench contained two small pits and a posthole. Trench 1 was extended in the western end towards the south in order to reveal any further archaeological features. No other archaeological deposits or features were found.
- 3.4.3 Posthole **43** was the westernmost feature in Trench 1. It measured 0.24m in diameter and 0.08m deep and was filled with two deposits. The lower fill (51) consisted of mid brown grey sandy silt containing small fragments of rare charcoal. Overlying this was a fill (44) of dark grey sandy silt containing small fragments of rare charcoal, one single amorphous fragment of fired clay and small pottery sherds dating to the Late Bronze Age period.
- 3.4.4 Pit **45** was an oval shaped feature in plan with a concave base and gradual gently sloping sides. It measured 0.55m wide and 0.06m deep. Filled with a deposit (46) of mid brown grey soft sandy silt, it contained no archaeological finds and was classed as a natural non-anthropogenic feature.
- 3.4.5 Immediately to the southeast of this feature lay pit **47**. This measured 0.75 wide and 0.1m deep and was filled with dark grey brown soft sandy silt from which no archaeological artefacts were recovered.

Trench 5 (Fig. 8)

- 3.4.6 Trench 5 was orientated east-west close to the Maldon Road (see Plate 2). Natural geology/archaeology was encountered at an average depth of 0.43m. Two ditches and one gully were uncovered.
- 3.4.7 Easternmost ditch **29** was orientated northeast/southwest and measured 1.16m wide and 0.52m deep. Its steep sides and concave base were overlaid by a deposit (30) of dark brown grey loose sandy silt containing four small fragments of CBM, an intrusive brick fragment dating to the 17th-18th century and a mandible fragment from an undefinable medium sized animal. It also contained one abraded pottery sherd of a bowl/jar dating to the Early Roman period.
- 3.4.8 Small gully **35** ran roughly north-south across Trench 5. Although it was not seen, it appeared that this gully may have joined ditch **37** at its southwestern end. Gully **35** was 0.35m wide and only 0.11m deep. It was filled with a light grey loose sandy silt which yielded eight abraded sherds of a sooted early medieval vessel.
- 3.4.9 Ditch **37** was aligned west northwest/east southeast across the western end of the trench. It measured 0.84m wide but was only 0.13m deep. It had a concave base, and gentle sloping concave sides and was filled with a deposit (38) of mid grey soft loose sandy silt. No archaeological artefacts were recovered.

Trench 8 (Fig. 8)

- 3.4.10 Trench 8 was orientated north-south to the south of Trench 5. Natural geology/archaeology was encountered at an average depth of 0.40m. One ditch was aligned east-west across the middle of the trench.
- 3.4.11 Ditch **39** measured 0.94m wide and 0.22m deep. It had a concave base and gradual concave sloping sides. It was filled with a deposit (40) of light orangey grey firm silty clay. No archaeological finds were recovered from this feature which is not present on any of the OS or Tithe maps (see Tindall and Hopkins, 2014 and Figs 3-5). Its size and linear shape suggests it was formed for drainage and/or land delineation.

Trench 9 (Fig.8)

- 3.4.12 Trench 9 was orientated north-south. Natural geology/archaeology was encountered at an average depth of 0.40m. One pit was revealed in the northern trench end.
- 3.4.13 Pit **58** measured 0.88m wide and was 0.18m deep. It was only partly exposed and measured 1.92m long and had a flat base with gentle sloping sides. It was filled with mid orange brown firm silty clay (see deposit 59) but contained no datable archaeological finds. It is plausible that this feature was natural in origin.

Trench 10 (Fig.8)

- 3.4.14 Trench 10 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.45m. One ditch terminus was found along with a shallow curvi-linear feature towards the eastern trench end.
- 3.4.15 Ditch terminus **49** was aligned northwest-southeast and was a very shallow feature measuring only 0.07m deep and 0.71m wide. It was filled by mid brown grey firm silty clay (50) but contained no datable archaeological finds.
- 3.4.16 To the east of this was linear feature **52** which measured 12.81m long and a minimum of 1.41m wide. It was only partly revealed in the trench, running on an east-west alignment before curving down to the south at its western end. Its fill (53) consisted of mid grey brown firm silty clay which contained two abraded fragments of CBM dating to the post-medieval period along with coal and aluminium foil. Pottery sherds found within included one sandy medieval greyware body sherd, one sherd from a post-medieval red earthenware jar or bowl; and a small fragment from a blue transfer printed vessel. All point to a post-medieval date with the medieval sandyware interpreted as a residual artefact. Oyster shell was also recovered from this deposit along with one small fragment of coal.

Trench 14 (Fig.8)

- 3.4.17 Trench 14 was orientated north-south. Natural geology/archaeology was encountered at an average depth of 0.36m. One ditch was revealed in the southern trench end running at an orientation of northwest-southeast.
- 3.4.18 Ditch **54** measured 0.84m wide and 0.16m deep and extended beyond both the east and west trench limit of excavation (LOE). It had a concave base and gently sloping concave sides and was filled with a deposit (55) of light brown grey firm silty clay. No archaeological finds were recovered and this small drainage feature does not appear on any of the Tithe or OS maps.

Trench 17 (Fig.8)

- 3.4.19 Trench 17 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.41m. One ditch was revealed in the eastern trench end, aligned north/south.
- 3.4.20 Ditch **41** measured 1.1m wide and 0.32m deep. Its form suggested it was cut for drainage reinforced by the fact that upon excavation, this ditch filled with water slowly but steadily. Ditch **41** had a concave base, concave gradually sloping sides and was filled by a deposit (42) of mid grey brown firm silty clay. No datable finds were recovered.

Trench 18 (Fig.8)

- 3.4.21 Trench 18 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.43m. One shallow pit was revealed in the western trench end.
- 3.4.22 Pit **64** was very shallow, measuring only 0.1m deep. Its fill (65) consisted of a mid-brown grey firm silty clay which resided in a cut with a flat base and very gently sloping sides. This measured 2.05m long and

a minimum of 1.47m wide and extended beyond the southern trench LOE. It contained a small fragment of a tapered clay object that may be an item of briquetage or kiln furniture that is not closely datable.

Trench 19 (Fig.8)

- 3.4.23 Trench 19 was orientated east-west (see Plate 3). Natural geology/archaeology was encountered at an average depth of 0.58m. A ditch was found to run the entire length of this trench and two investigative slots were excavated across it.
- 3.4.24 The easternmost slot **68** measured 0.84m wide and 0.26m deep. It had steep concave sides with a concave base and was filled with a deposit (69) of mid grey brown plastic sandy clay. This contained small pieces fragmented tile indicating a post-medieval/early modern date, a fragment of sheep/goat bone and seven fragments of long bone from an unidentified medium sized animal. This ditch matches a boundary seen on both on the 1st edition OS map of 1883 and the 1844 Tithe map (see Figs 3-4).
- 3.4.25 Westernmost ditch section **66** was situated towards the middle of Trench 19 and measured 1.13m wide and 0.26m deep. It showed that this ditch was again sharply cut with concave steep sides and a concave base. Its fill (67) shared a similar consistency to (69) from the neighbouring intervention and contained fragments of brown glazed tile dating to the post-medieval period. It is probable that this ditch continued east and was revealed further in the middle of Trench 20 and in Trenches 21 and 22.

Trench 20 (Fig.8)

- 3.4.26 Trench 20 was orientated north-south. Natural geology/archaeology was encountered at an average depth of 0.46m. Four features were revealed including two ditches, a pit and gully.
- 3.4.27 Northernmost feature **90** consisted of a sub-circular pit which was extremely shallow (0.06m deep) and had a concave base with almost imperceptible shallow sloping sides. It measured 0.28m wide and 0.68m long and was filled with a deposit of mid grey brown soft silty sand containing frequent quantities of burnt cracked flint. No datable finds were recovered.
- 3.4.28 Situated in the middle of Trench 20 was ditch **76**, and as previously mentioned, ran at the same alignment as ditch **66/68** in Trench 19. Ditch 76 had steep concave sides and a concave base and was filled with a deposit (77) of mid grey brown firm sandy clay. It measured 1.03m wide and 0.18m deep. No datable finds were recovered.
- 3.4.29 Approximately 4m to the south of ditch **76** lay ditch **70**. This was recorded as having cut through the subsoil and was therefore dated to the post-medieval/modern period. It measured 0.92m wide and 0.4m deep and was filled with a deposit (71) of mid brown grey plastic silty clay, which contained a severely abraded brick fragment dating to the 18th-19th century.
- 3.4.30 Stratigraphically above this was small gully **72**. Both these features were aligned east/west. Gully **72** was only 0.1m deep and 0.4m wide. It was filled with a deposit (73) of light orange grey soft silty clay and contained no archaeological finds.

Trench 21 (Fig.8)

- 3.4.31 Trench 21 was orientated east-west (see Plate 4). Natural geology/archaeology was encountered at an average depth of 0.50m. The northern side of an east/west running ditch was located at the western end.
- 3.4.32 Ditch **92** was uncovered and seen to run from the western end through to the middle of Trench 21 where it disappeared beyond the trench's southern LOE. An intervention was excavated in the middle to reveal that the ditch measured 0.33m deep and 1.13m wide. It was filled with a deposit (93) of dark brown grey plastic clay silt which contained pieces of slag and iron alongside fragments of tile dated to the late medieval/post-medieval period.

Trench 22 (Fig.8)

- 3.4.33 Trench 22 was orientated north-south (see Plate 5). Natural geology/archaeology was encountered at an average depth of 0.49m. It contained two ditches and one gully.
- 3.4.34 The northernmost gully **56** measured 0.72m wide and 0.18m deep. Its gradually sloping sides led down to a concave base which was filled with a deposit (57) of dark grey brown plastic clay silt. One single iron object was recovered indicating a post-medieval date. Examination of the Tithe and OS maps shows no signs of a boundary in the location of this gully.
- 3.4.35 At the southern end of Trench 22, ditches **60** and **62** were revealed. Ditch **60** measured 1.25m wide and 0.37m deep and had sharp steeply sloping sides leading down to a concave base. It was filled with a deposit (61) of dark brown grey plastic sandy silt containing fragments of iron objects and one half of a brick dating to the 18th/early 19th centuries. It is interpreted as a post-medieval drainage/boundary ditch.
- 3.4.36 To the south lay ditch **62** which was 0.77m wide and 0.2m deep. Its gentle sloping sides led down to a concave base. Its fill (63) consisted of a mid-brown grey plastic silty sand which like its neighbour to the immediate north contained brick fragments.

Trench 27 (Fig.8)

- 3.4.37 Trench 27 was orientated north-south (see Plate 6). Natural geology/archaeology was encountered at an average depth of 0.50m. It contained one ditch.
- 3.4.38 Ditch **74** had a north northwest/south-southeast orientation and was situated in the far northern end of the evaluation trench. It measured 0.2m deep and was a minimum of 0.83m wide – total width measurement was not gained since it extended beyond the eastern trench LOE. Its steep sides sloped down to a concave base and it was filled with a deposit (75) consisting of mid grey brown plastic sandy silt. No datable finds were recovered.

Trench 44 (Fig.8)

- 3.4.39 Trench 44 was orientated east-west in the south-west corner of Zone A. Natural geology/archaeology was encountered at an average depth of 0.37m. It contained one ditch.
- 3.4.40 Ditch **94** was aligned north-south and contained two ceramic land drains. It measured 0.44m deep and was 1.12m wide and ran beyond both the northern and southern trench LOE. It was filled by a deposit (95) of mid grey brown firm silty clay which contained fragments of tile indicating a post-medieval date. This is supported by examination of both the OS and Tithe maps (see Figs 2-3) whereby a field boundary/drainage ditch is clearly depicted running through the area in which Trench 44 is situated.

3.5 Zone B (see Figs 7, 9 and 10)

- 3.5.1 Zone B was defined as the central area of the site. It was located to the south of the east-west running ditch/hedgerow that formed the southern extent of Zone A (see Figs 7 and 9). The eastern side of this area was formed by residential housing and the western by arable farmland. The area's southern extent was formed by an arbitrary line taken between the southern end of Trench 56 and the northern end of Trench 65 (Zone C).
- 3.5.2 Zone B contained Trenches 34-64, apart from Trenches 44-47. Two thirds of the total number of trenches in this zone revealed archaeological features. These included Trenches 34-5, 38-9, 41, and 49-53. The remaining trenches were classed as blank and contained no archaeological features or deposits, details of these trenches are in Appendix B.

Trench 34 (Fig.9a)

- 3.5.3 Trench 34 was orientated east-west at the eastern edge of the site (see Plates 7-8). Natural geology/archaeology was encountered at an average depth of 0.37m. After the initial trench was excavated, it was extended to both the north and south to reveal the total extent of one irregular shaped pit situated at its eastern end.
- 3.5.4 Pit **78** measured 2.46m x 0.93m x 0.43m (see Plate 7 and Fig. 13a, section 35). It was an irregular oval shaped feature in plan with steeply sloping sides that led down to a concave base. It was filled with a deposit (79) of light grey brown friable sandy silt and contained 63 sherds of pottery dated to the Late Bronze Age period. These included three rim sherds believed to be from the same vessel.

Trench 35 (Fig.9a)

- 3.5.5 Trench 35 was orientated north-south (see Plate 9). Natural geology/archaeology was encountered at an average depth of 0.4m. One pit and one ditch were found.
- 3.5.6 Pit **135** was located at the far northern trench end and extended north beyond the LOE (see Plate 10). It measured a minimum of 1.8m x 1.25m x 0.4m and was circular in shape with steep sides and a flat base. It was filled with light grey yellow firm sandy silt (136) but no datable archaeological finds were discovered. It is possible that this feature was natural in origin, possibly a tree throw, but too little was exposed to determine this.
- 3.5.7 Further south, ditch **137** was revealed aligned northeast-southwest. It was 1.16m wide and ran beyond the eastern and western trench LOEs. It was quite shallow, measuring 0.18m deep and had an irregular base with gently sloping sides. Ditch **137** was filled with a deposit (138) of mid orangey brown firm silty sand but contained no datable finds. This linear feature does not appear on any of the early cartographic documents.

Trench 38 (Fig.9a)

- 3.5.8 Trench 38 was orientated north-south. Natural geology was encountered at an average depth of 0.37m. One pit and one ditch were found.
- 3.5.9 Pit **96** was located at the northern trench end and contained six fills, some of which contained large quantities of burnt material and small fragments of Bronze Age pottery (see Plate 11 and section 44, Fig. 13a). The 0.6m-deep pit extended beyond the trench's western LOE and was sub-circular in plan. It had a concave base and steeply sloping sides.
- 3.5.10 Deposit (97) was the base layer of the pit and had the occasional small fragment of charcoal and small angular gravels. Overlying this was burnt material (98) which measured 0.1m thick. This deposit consisted of dark brown grey firm silty sand with frequently occurring small fragments of charcoal. On top, lay a thin deposit (99) of dark grey brown firm silty sand packed with small charcoal fragments, again representing another dump of burnt discarded material, which measured only 0.06m thick. No datable finds were recovered.
- 3.5.11 Fill (100) covered (99) and consisted of mid yellow red firm silty sand and contained occasional charcoal flecks. The colour of context (100) suggested a period of intense heating and was interpreted as a dump of heat-effected burnt clay, possibly oven or kiln debris. This measured a maximum of 0.2m in thickness. Top fill (102) consisted of mid reddish-brown firm silty sand containing small traces of charcoal but no datable finds. This measured 0.2m deep and was similar to fill (101) which consisted of light grey brown firm silty clay. This deposit contained one sherd of Bronze Age pottery. Both contexts were interpreted as upper silting in the top of pit **96**.
- 3.5.12 At the southern end of Trench 38 was pit **117**. This had an irregular shape in plan with steep concave sides and a concave base. It was filled with a deposit (118) of light yellow brown firm silty sand which contained three struck flints. These comprised two secondary flakes and the proximal portion of fine blade. All three of these pieces display technological traits suggestive of systematic core reduction of

the kind associated with Mesolithic or, more likely, Early Neolithic technologies. The pit's irregular shape suggested it was originally a tree-throw but had accumulated the struck flint through the gradual infilling through time.

Trench 39 (Fig.9a)

- 3.5.13 Trench 39 was orientated north-south. Natural geology was encountered at an average depth of 0.37m. One pit and one ditch were found.
- 3.5.14 Northernmost feature, ditch **119**, was orientated northwest-southeast and had a concave base and steeply sloping sides (see Plate 12). It measured 1.3m wide and 0.4m deep. Its fill deposit (120) was light grey brown firm sandy silt. No datable finds were recovered.
- 3.5.15 Pit **121** extended beyond the eastern LOE and was 1.87m wide and 0.24m deep. It had an irregular base and steeply sloping sides. It was filled with a deposit (122) of mid brown grey soft silty sand. No datable finds were recovered.

Trench 41 (Figs 9b and 10)

- 3.5.16 Trench 41 was orientated east-west. Natural geology was encountered at an average depth of 0.39m. One pit and two postholes were revealed. This trench was expanded further to the north, south and east with the aim of discovering further features. Only one other pit was revealed.
- 3.5.17 Pit **141** measured 0.64m x 0.54m and was 0.15m deep. It was filled with two deposits. Basal fill (143) consisted of pale grey yellow soft silty sand while the upper layer (142) consisted of mid grey yellow soft silty sand containing abundant small fragments of charcoal. No datable finds were recovered but the dumped charcoal suggested a small phase of waste tipping.
- 3.5.18 Immediately northeast of pit **141** lay posthole **133**. This measured 0.37m x 0.35m and was 0.19m deep. This steep-sided feature had a concave base and was filled with a mid-brown grey soft sandy silt (134) containing abundant small fragments of charcoal. Again, this feature indicated a phase of dumped burnt material similar to pit **141** but contained no datable finds.
- 3.5.19 The northernmost feature of Trench 41 was posthole **131**, which had a circular shape in plan, steep sides and a concave base. It was filled with a deposit (132) of brown yellow grey soft sandy silt containing frequent quantities of small charcoal fragments. Like its immediate neighbours, this feature contained no datable finds but the presence of charcoal suggests disposal of burnt material. No signs of *in situ* burning were recovered.

Trench 49 (Fig.9a and 10)

- 3.5.20 Trench 49 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.39m. One posthole was discovered.
- 3.5.21 Posthole **123** was circular in plan with a diameter measuring 0.29m and a shallow depth of 0.08m. It had a flat base and steep sides and was filled with a deposit (124) consisting of dark blue grey firm silty sand which contained small fragments of charcoal and ash. It was reminiscent of the posthole and pit features in Trench 41 to the northwest.

Trench 50 (Fig.9a)

- 3.5.22 Trench 50 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.39m. Two ditches, one gully and one pit were discovered.
- 3.5.23 Ditch **86** lay at the far western end of Trench 50 and extended beyond the LOE to the west as well as the north and south. It was aligned northwest/southeast and had gentle sloping sides which led down to an irregular base. Its minimum width was 1.3m and it measured 0.22m deep. Ditch **86** was filled with

a deposit (87) of light grey brown soft sandy silt which contained one small pottery sherd dating to the Late Bronze Age period.

- 3.5.24 The second ditch found in Trench 50 was again situated towards the western end. Ditch **82** was 1m wide and 0.3m deep (see Fig. 13a, section 37). It had moderately steep concave sides sloping down to a concave base and was orientated northeast/southwest. It ran beyond both the northern and southern trench LOEs and was filled with a deposit (83) consisting of mid orange grey firm silty clay. It also contained one abraded pottery sherd of a bowl/jar dating to the Early Roman period.
- 3.5.25 Gully **84** was situated in between the two aforementioned ditches. This measured just 0.34m wide and 0.16m deep and was orientated northwest-southeast, seemingly parallel to ditch **86**. Gully **84** was seen to terminate within the confines of the trench and was filled with a deposit (85) of mid brown grey soft silty sand. No datable finds were recovered.
- 3.5.26 Pit **80** was located towards the eastern end of the trench and extended beyond the southern trench LOE. It measured 0.98m wide, 0.16m deep and was filled with a deposit (81) of dark brown firm silty clay. It had an oval shape in plan with moderately steep concave sides leading down to a concave base. No datable finds were recovered.

Trench 51 (Figs 9a and 10)

- 3.5.27 Trench 51 was orientated north-south. Natural geology/archaeology was encountered at an average depth of 0.44m. One ditch and three postholes were found.
- 3.5.28 Ditch **103** was a curvilinear feature that ran from the southeast to the northwest before turning sharply off to the northeast. It measured 0.64m wide and was 0.16m deep with a concave base and moderately steep sloping sides. It was filled with a deposit (104) consisting of mid grey brown soft silty sand. No datable finds were recovered.
- 3.5.29 Truncating the top of ditch **103** was posthole **106**. This sub-circular feature was 0.2m long, 0.16m wide and 0.11m deep. Its basal fill (105) was mid brown grey soft sandy silt. Overlying this was fill (107), possibly representing backfill after post removal, which consisted of dark brown grey friable silt. No datable finds were recovered.
- 3.5.30 Immediately to the south of these northernmost features was posthole **108**. This was 0.29m long, 0.15m wide and 0.13m deep. This oval feature had a concave base with steep sides and was filled with a deposit (109) of mid grey brown soft sandy silt. No datable finds were recovered.
- 3.5.31 To the south, another posthole (**110**) was located. It measured 0.37m x 0.27m x 0.12m. This sub-circular feature had a concave base and steeply sloping sides and was filled with two deposits. Basal deposit (111) was a layer of mid grey brown soft sandy silt which was overlaid by upper fill (116), which consisted of dark brown grey soft sandy silt. Neither fill contained datable archaeological evidence. Collectively, postholes **106**, **108** and **110** may suggest the presence of a small structure or fence.

Trench 52 (Fig. 9a)

- 3.5.32 Trench 52 was orientated north-south (see Plate 15). Natural geology/archaeology was encountered at an average depth of 0.38m. Two ditches and one gully were found.
- 3.5.33 Northernmost ditch **88** ran across Trench 52 on a northwest/southeast orientation and extended beyond both the eastern and western trench LOE. This measured 1.7m wide and 0.4m deep. Its moderately steep sides led down to a concave base and it was filled with a deposit (89) of light brown grey firm clay silt. No datable archaeological finds were recovered.
- 3.5.34 Ditch **125** was located to the south of ditch **88** (see Plate 14). Again, this was orientated northwest-southeast but was also seen to veer towards the west before running beyond the western trench LOE. It measured 0.67m wide and was 0.27m deep. Its steep sides ran down to a flat base and it was filled with a deposit of light yellow grey firm clay silt. No datable finds were recovered.

- 3.5.35 Gully **127** was initially interpreted as a land drain given its narrow and very straight form in plan. Excavation proved there was no drain present. This thin gully only measured 0.08m deep and 0.33m wide and was filled with a deposit (128) of light brown grey firm silty clay. No datable finds were recovered, and it was interpreted as a small drainage gully.

Trench 53 (Fig.9a)

- 3.5.36 Trench 53 was orientated east-west. Natural geology/archaeology was encountered at an average depth of 0.43m. Two ditches were found.
- 3.5.37 Westernmost ditch **114** ran on a northwest-southeast alignment and extended beyond both the northern and southern trench LOE. It measured 0.88m wide and was 0.2m deep. Its gentle sloping sides led down to a concave base which had been filled with a deposit (115) of mid orange brown firm sandy silt. No datable finds were recovered.
- 3.5.38 Parallel ditch **112** was situated in the middle of Trench 53. Like the neighbouring feature to the west, it was shallow measuring only 0.16m deep. Ditch **112** was 0.55m wide and had a concave base with steep sides. It was filled with a deposit (113) of light brown grey firm sandy silt but had no datable archaeological finds.

Trench 55 (Figs 9a and 10)

- 3.5.39 Trench 55 was orientated east-west originally with further excavation added to its western end. Extensions were also made 9m to the north and 7m to the south by a trench 6m wide, effectively forming a cross-shaped trench in plan. This was in order to determine whether more archaeology was present in this immediate area of site after initial features were revealed. Natural geology/archaeology was encountered at an average depth of 0.46m. Two postholes and two pits were discovered.
- 3.5.40 Pit **201** measured 3.33m long, 0.68m wide and was 0.4m deep. It lay immediately due north of a row of three postholes. It had a concave base and moderately steep sloping sides and had been filled with a deposit (202) of mid grey brown soft silty sand containing small angular gravels and occasional small fragments of charcoal. No datable archaeological finds were recovered.
- 3.5.41 Pit **19** lay immediately due south of pit **201** and was a circular feature measuring 0.46m x 0.41m x 0.13m. It had a concave base and moderately steep sloping sides. Its fill (20) consisted of mid grey brown firm silty sand containing small angular gravels and occasional small fragments of charcoal. No datable archaeological finds were recovered.
- 3.5.42 Posthole **15** was a circular feature with a diameter of 0.31m. It measured 0.18m deep and had moderately steep sides which ran down to a concave base. It was filled with mid red brown firm silty sand containing rare fragments of charcoal. No other datable finds were recovered.
- 3.5.43 To the east of posthole **15** was posthole **17**. This measured 0.22m in diameter and had steep sides and a concave base. It was filled with deposit (18) which consisted of dark grey brown silty sand containing small fragments of charcoal. Like the neighbouring posthole to the west, it contained no datable finds.

Trench 56 (Fig.9b)

- 3.5.44 Trench 56 was orientated north-south (see Plate 17). Natural geology/archaeology was encountered at an average depth of 0.40m. One pit was located at the southern trench end.
- 3.5.45 Pit **13** was sub-circular in plan and measured 0.77m x 0.74m x 0.20m (see Plate 16). Its gently sloping sides ran down to a concave base and was filled with a deposit of mid grey brown soft silty sand. No datable archaeological finds were recovered.

Trench 59 (Figs 9b and 10)

- 3.5.46 Trench 59 was orientated northeast/southwest. Natural geology/archaeology was encountered at an average depth of 0.40m. One posthole was located towards the middle of the trench.
- 3.5.47 Posthole **139** was a small sub-circular feature measuring 0.35m x 0.28m x 0.11m. It had a concave base and gently sloping sides and was filled with an ashy mid brown grey firm silty sand. Small fragments of charcoal were also present but no datable finds were recovered.

Trench 60 (Figs 9b and 10)

- 3.5.48 Trench **60** was orientated north/south (see Plate 18). Natural geology/archaeology was encountered at an average depth of 0.43m. One posthole was located towards the northern trench end.
- 3.5.49 Posthole **129** was a small circular feature with a diameter of 0.29m and measured 0.14m deep. It had a concave base and steep sloping sides and was filled with an ashy mid brown grey firm silty sand. Small fragments of charcoal were also present but no datable finds were recovered.

3.6 Zone C (see Figs 7 and 11)

- 3.6.1 Zone C was defined as an area in the south and west of site where Trenches 65-75 were located. Its parameters were formed by the railway line to the south, the Springfield Industrial estate to the east, arable farming land to the west and an arbitrary east/west line stretching across site immediately due north of the northern end of Trench 65. Zone C also contained the three mitigation excavation Areas 1-3, the results of which are described below.
- 3.6.2 Approximately half the number of trenches revealed archaeological features and these comprised Trenches 65-69. The remaining trenches contained no archaeological features or deposits; details of these trenches are in Appendix B.

Trench 65 (Fig.11a)

- 3.6.3 Trench 65 was orientated north/south. Natural geology/archaeology was encountered at an average depth of 0.43m. One ditch was located towards the northern trench end. Evidence of a palaeochannel was also present.
- 3.6.4 Evidence of a palaeochannel **33** was present running east-west across the trench in the form of mixed mid brown grey silty clay packed with frequent rounded flint gravels. This was also seen in the geophysical results (see Fig.6) as a swathe of magnetic anomaly that cuts across the south end of site.
- 3.6.5 Ditch **31** was orientated east-west across the palaeochannel and was extremely waterlogged. It had a concave base and moderately steep sides. It was filled with a very damp deposit (32) of dark grey brown loose silty sand containing frequent rounded and sub rounded flint gravels. No datable finds were recovered.

Trench 66 (Fig.11a)

- 3.6.6 Trench 66 was orientated north/south. Natural geology/archaeology was encountered at an average depth of 0.43m. One ditch was located towards the southern trench end.
- 3.6.7 Ditch **21** measured 2.48m wide and was 0.64m deep (see Plate 19 and Fig. 12b, section 10). It extended beyond both the eastern and western trench LOE. It had a concave base and steep sloping sides and was filled with a light red brown firm clayey sand. Pottery recovered dated to the Late Bronze Age period. It also contained 10 fragments of fired clay and one rib from a medium-sized mammal. Additionally, it had two struck flints, one fragment of quartzite which appeared polished on one side and 86 fragments of burnt unworked flint. It was clear that this ditch was placed for drainage purposes as well as demarcating the parameters of a field system.

Trench 67 (Fig.11b)

- 3.6.8 Trench 67 was orientated north-south. Natural geology/archaeology was encountered at an average depth of 0.40m. One ditch was located towards the eastern trench end.
- 3.6.9 Ditch **11** was orientated north northwest-southsoutheast and extended beyond both the northern and southern trench LOEs (see Plate 20). It was 1.37m wide but very shallow measuring only 0.13m deep. The ditch's moderately sloping sides ran down to a concave base and the feature was filled with a deposit (12) of mid brown grey firm silty clay containing rare small pieces of charcoal. Twenty-two sherds of grey coarse ware pottery from a lid-seated jar were located dated to the Early Roman period.

Trench 68 (Fig.11b)

- 3.6.10 Trench 68 was orientated east/west. Natural geology/archaeology was encountered at an average depth of 0.51m. Two ditches and two pits were discovered.
- 3.6.11 Westernmost ditch **9** was seen to run beyond both the western and northern trench LOE and was orientated east/west. It was clear that only the southern extent of the ditch had been revealed and so the full dimensions were not apparent, including the base. The ditch had a gently sloping southern side and was excavated down to a minimum of 0.33m deep: only the edge of this ditch was seen in the trench. No datable finds were recovered from the fill, which consisted of mid grey brown silty sand with occasional charcoal flecks.
- 3.6.12 To the east of ditch **9** was another small ditch feature (**7**) which was north/south aligned and measured 0.5m wide and 0.2m deep. It had a concave base and gently sloping sides and was filled with a deposit (8) consisting of mid reddish brown friable silty sand. It was clear that this ditch, which was parallel to ditch **11** in Trench 67, extended beyond the northern and southern trench LOE.
- 3.6.13 Further to the east of these two ditches lay pits **5** and **3**. Pit **5** was located approximately 2m to the east of ditch **7** and was circular in plan with a diameter of 0.75m. It was very shallow measuring only 0.06m deep. It had a concave base, gently sloping sides and was filled with a deposit (06) of mid red brown firm sandy silt. No datable finds were recovered.
- 3.6.14 Easternmost pit **3** lay at the far end of Trench 68. This extended south beyond the southern LOE and again was very shallow, measuring only 0.1m deep. This irregular shaped feature was 0.68m wide and had a shallow concave base with gently sloping sides. It was filled with a deposit (04) consisting of light grey brown firm sandy silt with rare fragments of charcoal and three sherds of Early Roman pottery.

Trench 69 (Fig.11a)

- 3.6.15 Trench 69 was orientated east/west (see Plate 22). Natural geology/archaeology was encountered at an average depth of 0.40m. Two pits were discovered located in the middle of the trench.
- 3.6.16 Pit **23** was sub-circular in plan and had a concave base (see Plate 21). It had a diameter of 1.2m and measured 0.42m deep. Its basal fill (27) consisted of mid grey brown firm silty sand which contained 40 sherds of Late Bronze Age pottery, eight fragments of burnt unworked flint and two long bone fragments from an unidentifiable mammal. It also contained five amorphous but refitting burnt clay fragments that formed a clay block with no distinct shape alongside a similar fragment but with a flattened edge and perpendicular groove or rod impressions. It also produced a possible body fragment of a briquetage pan or a kiln plate of possible Late Iron Age type (thickness 15mm; 43g). Overlying this was top fill (24) which was a dark brown grey firm silty sand. This contained frequent inclusions of charcoal fragments, one unretouched worked flint flake, 61 burnt flint fragments and 26 sherds of Late Bronze Age pottery as well as two fragments of porous vegetable tempered clay; one of which has a curved lip and internal creases or incisions. This could be briquetage or a mould fragment, although the fragments were too small and abraded for a definite identification.
- 3.6.17 Immediately to the southeast lay pit **25**. Most of this pit lay beyond the extent of Trench 69 so only the northern side was excavated. Excavation showed that the pit had a flat base and steeply sloping sides.

Like its neighbour to the northwest, it had two fills. Basal fill (26) consisted of dark brown grey/black loose silty sand which was packed with 11 fragments of burnt flint, charcoal fragments and burnt clay. Burnt clay objects included a severely abraded amorphous fragment, seven fragments of a flattened clay object with smooth surfaces and a rounded semi-cylindrical fragment of clay with poorly mixed flint inclusions. None of these could be assigned to a diagnostic object or form. It also contained 88 sherds of Late Bronze Age pottery as well as a broken piece of dark grey basaltic lava stone that may have formed part of a rubbing/quern stone. Eleven fragments of burnt reworked flint were also counted. Top fill (28) consisted of light grey brown soft sandy silt and also contained 17 sherds of Late Bronze Age pottery. There were four rim forms found in the pottery assemblage from pit **25**. One was upright and tapered, one hooked and one flat and lipped externally. The final rim was particularly diagnostic since it was flat and everted, with regular deep fingertip impressions along it.

3.7 Zone C - Mitigation Areas 1-3

- 3.7.1 The extended scope of works attached to the 75 trench evaluation programme included the excavation of three areas at the location of the planned haulage road designed to service the proposed industrial estate development. These three areas were located at the southern end of site and essentially covered land immediately in and around Trenches 65 to 69 (see Fig. 7 and 12a-b). A description of the archaeology is given below, by Area feature type and, where possible, date.

3.8 Area 1 (see Figs 1 and 12a)

- 3.8.1 Area 1 measured 10m wide and extended 156m westwards from the gated entrance to the site (located in the south-east corner) whereupon it turned and ran 65m to the north. The northern end of the area culminated in a T-junction shaped area aimed for the use of parking vehicles. Area 1 covered land originally evaluated by Trenches 66-68. These trenches and the land around them were re-excavated thereby allowing features originally encountered in the trial trenching programme to be further investigated. This revealed further Bronze Age activity in addition to a series of Roman boundary and field system ditches.

Watering hole and associated (Bronze Age) ditches

- 3.8.2 Watering hole **285** was very large and was situated towards the northern end of Area 1 (see Fig. 13b section 112 and Plate 33). Ditches **257**, **297** and **313** appeared to run into this feature (see below). The watering hole extended beyond the eastern LOE and so measured a minimum width of 4.4m wide and 9.65m long. Excavation extended to a level of 1.2m and then stopped for Health and Safety reasons. A machine then excavated the base of the intervention to gauge the full depth of the feature which measured 2.6m below the archaeological horizon.
- 3.8.3 It contained a minimum of three fills (see Fig. 13b section 112). Basal fill (289) consisted of mid grey orange firm clay which contained two fragments of burnt cracked flint and small sherds of Middle Iron Age pottery as well as three fragments of burnt clay. Overlying this was secondary fill (288) which was a mid brown grey firm silty clay which also contained small fragments of burnt clay. Third fill (287) consisted of light brown grey firm silty clay with four fragments of burnt clay but no datable finds. Top fill (286) consisted of a mid brown grey firm silty clay containing one LBA pottery sherd and 16 sherds of pottery dating to the Middle Iron Age period.
- 3.8.4 Curving to the north-west was large ditch **22** containing Late Bronze Age pottery sherds that was initially uncovered in Trench 66. Examination of the geophysical survey results (see Fig. 6) shows that this ditch was situated in an area with several other curvi-linear features, possibly ring ditches. In plan it was seen to be cut by a northwest-southeast running ditch **313** which ran down to a waterhole (**285**).
- 3.8.5 Ditch **313** was 1.62m wide and 0.75m deep (see Fig. 13b section 120 and Plate 29). It had a concave base and steeply sloping sides and was filled with two deposits. Base fill (315) consisted of mid red grey firm silty clay and contained two sherds of Late Bronze Age pottery. Top fill (314) consisted of mid red grey firm silty clay containing two sherds of Late Bronze Age pottery, four fragments of burnt clay and one burnt flint. Inspection of the geophysical survey results (see Fig. 6) show that this ditch heads off

- to the northwest for some distance beyond the LOE. Its depth, size and the fact that it may have fed large watering hole **285** suggests it was a large drainage ditch.
- 3.8.6 Ditch **257** was located to the south-west of the watering hole and measured 1.2m wide and 0.4m deep (see Fig 13b, section 100). It had a concave base and moderately steep sides and was filled with a deposit (258), which consisted of mid grey brown firm silty clay containing four fragments of burnt flint two sherds of Late Bronze Age pottery. It also contained four fragments of burnt clay, which were refitting fragments of a circular object with a flat base. Like its neighbour to the north (ditch **313**), this ditch ran northeastwards into waterhole **285** and is thought to have been broadly contemporaneous with it.
- 3.8.7 Immediately to the southeast lay ditch **297**. This was separated from parallel gully **299** by approximately 0.4m and presumably extended southeast beyond the LOE. It was also seen to run directly into the waterhole **285** 2m to the northwest. It was not fully excavated since the majority of it extended beyond the LOE. Therefore, this feature measured a minimum 0.7m wide and 0.15m deep. No datable finds were recovered from its fill (298) consisting of mid orange grey firm silty clay.
- 3.8.8 Gully **299** terminated in Area 1 but was seen to extend beyond the LOE in the east. It was fairly shallow measuring only 0.19m and was 0.65m wide. Its sides gently sloped down to a concave base. It was filled with a deposit (300) consisting of mid orange grey firm silty clay but contained no datable finds.

Roman Field system

- 3.8.9 Linear features recorded within Area 1 consisted of ditches and gullies, extending across the area and in some cases into Area 2. Some were clearly Roman, although some could be earlier.
- 3.8.10 Ditch **203** effectively dominated the eastern end of Area 1 and ran in an east northeast/west southwest direction for over 60m across the excavation area. The southern side of this ditch was originally uncovered with the excavation of Trench 68 and recorded as ditch **9** (see Trench 68 discussion above). It was fully uncovered in Area 1 and was seen to run 61m from the east northeast to the west southwest. Both east and western ends ran beyond the LOE. Three additional 1m long interventions were excavated along the ditch to complement intervention **9**.
- 3.8.11 The easternmost intervention **203** showed that the ditch narrowed in the east where it measured 1.2m and 0.37m deep. It was filled with a deposit (204) of mid brown grey friable silty sand and contained 7 sherds of Roman pottery, representing fragments of a storage jar and a bowl. Two fragments of fired clay were also recovered. Further to the northeast, ditch cut **217** measured 2.1m wide and 0.7m deep (see Fig. 13b section 83). Again, it was filled by a deposit (218) of mid brown grey soft silty sand containing 11 sherds of Roman pottery, fragments of tegulla mamata and burnt clay and two worked flint flakes. It had an irregular base with steeply sloping sides. The westernmost ditch cut **251** showed that the ditch was widest here at 2.8m (see Plate 26). It measured 0.62m deep and had an irregular base with steeply sloping sides. It was filled with a deposit of mid brown grey soft silty sand with 79 sherds of pottery (1.275kg) dating to the Roman period which included a dish fragment of South Gaulish samian as well as fragments of white Verulamian mortaria. Additionally, it also contained one fragment of Roman roof tile (imbrex), seven fragments of flattened burnt clay and two worked flints.
- 3.8.12 To the southeast of main ditch **203** was east-west running ditch **211**. This terminated immediately to the west of later ditch **213** and ran east and beyond the eastern LOE. The terminus itself had a concave base and steep sloping sides and was filled with a deposit (212) of mid brown grey firm silty sand containing struck flint flakes, burnt flint and Roman pottery. Another intervention **219** was excavated immediately east of later ditch **213** to gauge the full depth of the ditch. Ditch **219** measured 1.86m wide and 0.49m deep (see Fig. 13b, section 84 and Plate 27). Its gentle sloping sides led down to a concave base which was filled with a deposit (220) of mid brown grey firm silty clay containing sherds pottery including rim and base sherds of an early medieval sandy ware jar and two struck flint flakes.
- 3.8.13 Later ditch **213** ran north-south and cut perpendicular ditch **211** as well as ditch **203**. It had a concave base and steeply sloping concave sides. It was filled with a dark grey brown firm silty sand deposit (214) containing occasional pieces of smashed ceramic drain pipe. It also contained a fragment of imbrex tile

- from the Roman period and three worked flint flakes, which were defined as residual elements possibly derived from east-west running ditch **211**. Examination of the 1844 Tithe map and the 1883 OS map shows that this ditch was marked as a field boundary (see Figs 3-4).
- 3.8.14 A small gully (**237**) measured 0.84m wide and 0.19m deep. This ran into ditch **203** from the south and appeared to be more of an offshoot of the ditch than a separate feature. It had steep sides and a concave base and was filled with a deposit (238) of mid yellow brown firm silty clay but contained no datable finds.
- 3.8.15 Feeding into ditch **203** about half way along its exposed length was narrow ditch **7**, which had also been revealed in Trench 68 of the evaluation. A small intervention was placed between the two to gauge any possible stratigraphic relationship, which showed that they were contemporary. This excavated section was filled with a deposit (246) of mid brown grey firm silty sand.
- 3.8.16 To the south-west, a short length of gully (**247**) curved from the northwest down to the southeast and resembled the very end of a ring gully. This lay immediately west of ditch **7** and was a small curvilinear feature that extended beyond the southern LOE. It measured 0.18m wide and 1.5m long. It was quite shallow measuring 0.2m deep and was filled with a deposit (248) of mid brown grey firm silty sand which contained one pottery sherd dated to the Late Bronze Age period and one burnt flint.
- 3.8.17 Gully **253** extended both north and south beyond the LOE and was orientated north northwest-south southeast to the west of and parallel to ditch **7**, perhaps joining with ditch **203** beyond the LOE to the south. It measured only 0.42m wide and 0.09m deep, with a concave base and gently sloping sides. It was filled with a deposit (254) of light brown grey firm silty sand. No datable finds were recovered.
- 3.8.18 To the west of this was ditch **11** (already discussed in Trench 67, see above) which was also parallel to gully **253** and ditch **7** and contained 22 sherds of coarse grey ware Roman pottery. Further excavation around this trench showed that the ditch continued both north and south beyond the LOE. This may be the same ditch as ditch **261** revealed at the northern edge of Area 1 (see below).
- 3.8.19 Ditch **264** further to the west was aligned southwest to northeast (see Fig. 13c and Plate 28), at right angles to and possibly joining with ditch **11** beyond the northern LOE. Ditch **264** had a concave base with steep sloping sides and was filled with a deposit (265) of mid yellow grey firm silty clay with two sherds of Roman pottery. It measured 1.4m wide and was 0.43m deep. Its single fill was mottled and diffuse suggesting a gradual infill through silting and natural weathering processes.
- 3.8.20 Ditch **261** was located at the northern end of Area 1 and was orientated northwest-southeast (see Fig 13c, section 101). It may represent a continuation of ditch **11** to the southeast; it certainly is the same feature that appears in Area 3 as ditch **320** immediately to the north. Ditch **261** was 1.68m wide and measured 0.45m deep. It contained two fills. Basal fill (262) was a light whitish grey soft silty sand. Top fill (263) consisted of mid brown grey loose silty sand and contained four sherds of pottery dating to the Roman period and one sherd of Late Bronze Age pottery.

Late Bronze Age and Roman Pits

- 3.8.21 There were a significant number of pits in Area 1, some of which were quite substantial but few contained datable finds. They appear to span the Late Bronze Age and Roman periods.
- 3.8.22 Pit **205** was located stratigraphically on top of Roman ditch **203** towards the eastern end of the area (see Fig. 13b, section 79 and Plate 30). This measured 1.62m long and 0.94m wide. It had a concave base and steeply sloping sides. It was filled with three deposits. Base fill (206) consisted of mid brown grey friable silty sand. Middle fill (207) was dark brown grey soft silty clay containing frequent inclusions of charcoal. Top fill (208) consisted of friable mid brown grey silty sand. All fills indicated a dump of waste material.
- 3.8.23 To the south of ditch **203** lay a series of pits that were all similar in fill colour and consistency and contained few, if any, datable finds. Pit **209** was an irregular shaped oblong pit measuring 2.9m long and 0.95m wide. Its steep sides led down to a concave base that was 0.24m deep. It was filled with a deposit (210) of light brown grey friable clay silt which contained two struck flint fragments.

- 3.8.24 Small pit **215** was sub-circular in plan, measuring 0.76m x 0.7m and was 0.14m deep. Its gentle sloping sides led down to a concave base which was filled with a deposit (216) of light brown grey friable clay silt. One small fragment of coarse grey ware Roman pot was recovered.
- 3.8.25 Pit **221** was another elongated sub-oval shaped pit with a concave base and steeply sloped sides. It measured 2.11m x 1.8m x 0.45m and was filled with a two deposits. Base fill (222) consisted of mid grey brown firm sandy silt but produced no datable finds. Top fill (223) was mid grey brown clay firm clay silt and contained one fragment of prehistoric pottery.
- 3.8.26 Pit **228** was a sub-circular feature which was 2.1m long and 1.43m wide (see Fig. 13b section 87 and Plate 31). It was very deep measuring 0.7m and had a concave base and very steep sides. Two fills were present in this feature. Base fill (232) was 0.3m thick and consisted of light brown grey friable clay silt. This was very diffuse and appeared to merge gradually with the underlying natural geology. This indicates that silting at the base had occurred only very gradually suggesting the pit has been left open for a while. Top fill (229) consisted of mid grey brown friable clay silt which contained two sherds of pottery dating to the Late Bronze Age period and four small pieces of struck flint.
- 3.8.27 Pit **230** to the south measured 3.15m in length and 0.9m wide. It was 0.4m deep and had a flat base with vertical sides. No datable finds were recovered from its fill (231) which comprised of light brown grey firm silty clay.
- 3.8.28 Small pit **233** which cut underlying pit **230**, measured 0.8m x 0.43m x 0.16m and had gently sloping sides leading down to a concave base. It was filled with a deposit (234) of mid brown grey firm silty sand which contained one struck flint flake and pottery dated to the Late Bronze Age period.
- 3.8.29 Pit **235** was sub-rectangular in plan and had gentle sloping sides with a concave base. It measured 1.48m x 0.83m x 0.22m and was filled with light brown grey firm silty sand (see deposit 236). No datable finds were recovered.
- 3.8.30 Pit **242** had already been partially investigated in the evaluation programme (see pit **3** in Trench 68 above). Further excavation showed that it measured 1.86m long and 1.1m wide. Its steep sides led down to a concave base that was 0.32m below the archaeological horizon surface. One small pottery fragment dating to the Iron Age period and one small struck flint were recovered from a fill deposit (243) which consisted of light brown grey friable clay silt.
- 3.8.31 The last feature that lay directly south of main ditch **203** was pit **249**: an elongated pit with a concave base and gently sloping sides. It was filled with a deposit (250) consisting of mid brown grey firm silty sand which contained no datable finds.
- 3.8.32 To the west, between ditches **253** and **11**, was massive pit **255** (see Fig.13b section 99). This was 3.64m long and a minimum of 2.26m wide with steeply sloping sides leading down to an irregular base. Its sole fill (256) was 0.7m thick and consisted of mid grey brown firm sandy silt containing 13 sherds of pottery dating to the Late Bronze Age period and small fragments of daub. The size and fill indicates that this was either a watering hole or a tree throw that had been gradually backfilled. The feature's irregular base and sides would certainly support the latter suggestion.
- 3.8.33 Pit **281** was situated due south of waterhole **285**. It was only partially exposed but measured a minimum of 1.18m long. It was 1.1m wide and 0.33m deep with steeply sloping sides and a concave base, filled with a deposit (282) of light brown grey firm silty clay. No datable finds were recovered although one fragment of charcoal was present.
- 3.8.34 The last definable pit of Area 1 was northernmost feature **316**. This was oval in plan and measured 0.8m x 0.72m x 0.22m. It had steep sides, a concave base and two fills. The basal fill (326) was light yellow grey firm silty clay, while the upper fill (317) consisted of light yellow grey concreted sandy clay. No datable finds were recovered.

Undated postholes

- 3.8.35 Six postholes were scattered, occasionally in pairs, across Area 1 without suggesting any form of structure.

- 3.8.36 Posthole **268** lay to the west of ditch 261 in the northern end of Area 1. Its circular shape had a diameter of 0.49m and it was 0.28m deep. It had a concave base, steeply sloping sides and two fills. Basal fill (269) consisted almost entirely of charcoal along with dark blue grey soft silt. Top fill (270) was mid brown grey soft silty sand and represented a backfill over the main charcoal base fill below. No datable finds were recovered.
- 3.8.37 Postholes **277** and **279** were located between ditch **264** and watering hole **285**. Posthole **277** had a diameter of 0.22m and was 0.16m deep. It had steep sides and a concave base. It was filled with a deposit (278) consisting of mid brown grey firm silty clay and contained one sherd of Late Bronze Age pottery. Posthole **279** lay to the immediate southwest and measured 0.2m x 0.15m x 0.13m. It had steep sides and a concave base and was filled with light brown grey firm silty clay (deposit 280). Like the neighbouring posthole to the northeast, it also contained one small fragment of prehistoric pottery and two fragments of burnt clay.
- 3.8.38 Another pair of postholes were located immediately due west of large waterhole **285**. The larger of the two, posthole **301**, had a diameter of 0.48m and was 0.21m deep. It was filled with a deposit (302) of mid grey brown firm silty clay which contained very small fragments of prehistoric pottery and fragments of burnt clay. Immediately due north, smaller posthole **303** had a diameter of 0.16m and was 0.07m deep. This feature was filled with a deposit of dark brown grey firm silty clay that contained seven small fragments of burnt flint. No datable finds were recovered.
- 3.8.39 Posthole **318** was circular in plan and had a diameter of 0.28m. It had a flat base and steep sides. Its sole fill (319) was 0.13m thick and consisted of almost pure charcoal along with dark grey friable sandy silt. No datable finds were recovered.

Cremation

- 3.8.40 Cremation **224** was located between ditches **253** and **11** to the south of large pit **255** at the southern edge of Area 1. The cremation **224** (see Fig 13b, section 86 and Plate 32) measured 0.86m long, 0.54m wide and 0.12m deep. It had an irregular shape in plan with an irregular base and gentle sloping sides. It was filled with three deposits. Base layer (226) consisted of light orange brown firm sandy clay and contained very small fragments of bone. Secondary fill (227) consisted of light yellow grey firm sandy clay. Top fill (225) consisted of dark brown grey soft sandy clay which contained small fragments of burnt bone and charcoal.

Bronze Age saltworking feature

- 3.8.41 At the far northern end of Area 1 was saltern feature **290** (see Fig 13c, section 119 and Plate 34). This measured 1.11m x 1m x 0.46m and was sub-circular in plan with steep undercutting sides and a flat base. It was 100% excavated and contained four fills. Base fill (291) was only 0.04m deep and consisted of a pale blue grey firm clay which appeared to be a lining for the base of the pit itself. Secondary fill (292) consisted of a dark grey brown soft clay silt which contained abundant clumps of burnt sand and burnt clay as well as occasional pieces of charcoal. Briquetage representing fragments of a pedestal and container body and rim was found, associated with salterns and the salt making process (see Appendix C.5 below). It also contained one sherd of Late Bronze Age pottery. Overlying this was dumped layer (311), measuring 0.3m thick, a mid brown grey soft sandy silt with abundant fragments of burnt clay, fragmented pottery sherds dating to the Late Bronze Age period and occasional charcoal pieces. Like the layer below it, it produced container rim and body sherds but also contained thick pan fragments as well as fragments of a cylindrical pedestal. Top fill (312) was a mid brown soft sandy silt containing rare quantities of charcoal, nine sherds of Late Bronze Age pottery and briquetage similar to that evident in the lower fills. Pit **290** was probably a settling tank associated with a saltern and/or salt making activities in the area.

3.9 Area 2 (see Fig 12b)

- 3.9.1 Area 2 ran from 100m the west to the east (joining the northern end of Area 3) by before turning sharply and running for 53m to the north. The excavation area encompassed and expanded upon the location where both Trenches 65 and 69 were situated. Features located in Trench 69 during the evaluation stage were fully uncovered and excavated in their entirety.

Ditches

- 3.9.2 Four linear features were revealed in Area 2. Two were uncovered at the far western end, associated with a small cremation cemetery, one was situated towards the middle adjacent to a group of pits and the fourth was located towards the far northern end of the area.
- 3.9.3 Westernmost ditch **295** crossed the excavation area on a slightly curving north-south alignment and extended beyond both the north and south LOE (see Fig. 13c section 114 and Plate 35). Ditch **295** measured 1m wide and 0.4m deep. It had a concave base and steep sides and was filled with a deposit (296) of mid grey brown firm silty sand. No datable finds were recovered.
- 3.9.4 To the east, gully **283** terminated 4m from the southern LOE. This feature was orientated north-south and extended to the east of a small group of cremations (see below). Two interventions were excavated in this feature. Intervention **283** showed that the gully narrowed towards the south. Gully **283** measured 0.52m wide and 0.28m deep. It had a concave base and steep sloping sides and was filled with mid grey brown loose silty sand. Excavation in this part of the gully recovered no datable finds. Northernmost gully terminus **293**, measured 0.72m wide and 0.14m wide. It was filled with a deposit (294) of mid grey brown firm silty sand which contained one small burnt flint.
- 3.9.5 Ditch **350** was located towards the middle of Area 2 and was surrounded by numerous pits and postholes (see below). It was orientated northwest-southeast and extended beyond both the north and south LOE (see Fig. 13c section 139). It was quite shallow measuring only 0.15m deep and 0.54m wide. It had a concave base and gradual sloping sides. Its fill (351) consisted of mid brown grey friable silty sand which contained three sherds of Late Bronze Age pottery.
- 3.9.6 At the far northern end of the area was east-west ditch **31**, which had already been revealed in Trench 65 (see above). No other interventions were made in this post-medieval feature, which is present on the Tithe and historic OS maps (see Figs 3-4).

Bronze Age cremations

- 3.9.7 A cluster of five cremations (**266**, **271**, **273**, **275** and **390**) was revealed at the western end of Area 2 situated between ditch **295** and gully **283**. All cremations were completely excavated.
- 3.9.8 Cremation **266** was a small sub-circular pit 0.89m long and 0.76m wide (see Fig.13c section 103 and Plate 40). It had steep sides that led down to an irregular base. Its sole fill (267) measured 0.24m thick and it consisted of dark blue grey firm silty sand which contained common small fragments of burnt bone and charcoal. Five fragments of burnt clay were recovered possibly indicating a platy object. Fourteen Late Bronze Age pottery sherds were recovered when this feature was entirely excavated. No signs of *in situ* burning were apparent.
- 3.9.9 Cremation **271** was located very close to the eastern edge of ditch **295**. This was a sub-circular feature measuring 0.49m x 0.39m x 0.19m which had moderately steep sloping sides and a concave base. Its sole fill (272) consisted of very dark blue grey firm ashy sand containing frequent charcoal pieces and small burnt bone fragments. No datable finds were recovered and no signs of *in situ* burning were apparent.
- 3.9.10 Cremation **273** was a sub-circular pit measuring 0.44m x 0.33m x 0.14m which had steep sloping sides and a concave base. Its sole fill (274) consisted of mid red yellow soft sand containing abundant charcoal pieces and small burnt bone fragments. No datable finds were recovered and no signs of *in situ* burning were apparent.

- 3.9.11 Cremation **275** as a sub-circular feature measuring 0.76m x 0.67m x 0.26m which had moderately steep sloping sides and a concave base (see Fig 13c section 111 and Plate 41). Its sole fill (276) consisted of very dark blue grey firm ashy sand containing frequent charcoal pieces and small burnt bone fragments. Radiocarbon dating showed that this bone was dated to 3319BP ± 25 (1666-1526 cal BC; SUERC80845), placing the formation of the cremation well into the Middle Bronze Age period. It also contained charred tubers of onion couch grass which were thought to represent de-turfing around the fire site to create a fire-break. Out of all the cremation pits, this feature contained the largest amount of burnt bone fragments. No datable finds were recovered and no signs of *in situ* burning were apparent.
- 3.9.12 Small pit **390** was classed as a cremation pit due to its location and size. However, this did not contain any visible amount of burnt bone. This small pit measured 0.45m x 0.31m x 0.11m. It had a concave base and gently sloping sides. Its sole fill (391) consisted of dark grey black friable silty sand but was almost 100% charcoal. It contained similar charred tubers of onion couch grass seen in cremation **275**. No datable finds were recovered.

Bronze Age (and undated) pits

- 3.9.13 There were 24 pits in Area 2, many of which were located near to Bronze Age ditch **350**, but only a few contained datable finds.
- 3.9.14 Pits **23** and **25** have already been mentioned in the results from evaluation Trench 69. The area around this trench was expanded further in Area 2 and consequently, the total extent of these features was revealed. Moreover, further excavation occurred, and both these pits were fully excavated.
- 3.9.15 Pit **23** was totally excavated showing that it was a circular pit with a diameter of 1.2m and a depth of 0.42m. It has already been mentioned that top fill (24) yielded burnt flint and pottery dating to the Late Bronze Age period. No other datable finds were recovered after the pits total excavation.
- 3.9.16 Total excavation of pit **25** (see Fig.13c, section 151 and Plate 36) showed it measured 1.9m long and 1.72m wide and contained two fills. Bottom fill (26) was extremely dark, almost black, and consisted of dark brownish grey/black loose silty sand. It held abundant quantities of burnt flint, charcoal and large sherds of pottery dating to the Late Bronze Age period. Top fill (28) consisted of soft light grey brown sandy silt which also contained similar types of Late Bronze Age pottery and burnt flint. It is possible that such fills represented a deliberately dumped episode of burnt material and discarded broken pottery indicating that this feature represented some form of waste pit.
- 3.9.17 To the southeast of pit **25** was elongated sub-oval pit **305**. This had a concave base and gently sloping sides and was filled with a deposit (306), which consisted of mid brown grey firm silty sand. No datable finds were recovered.
- 3.9.18 To the north of pit **23** was small pit **401**. This was a circular feature with a 0.5m diameter and measured 0.14m in depth. It had a concave base and gently sloping sides. Its fill deposit (402) consisted of dark grey soft sandy silt containing moderate amounts of small charcoal fragments. No datable finds were recovered.
- 3.9.19 Further to the west was a group of pits and postholes clustered around Bronze Age ditch **350**. Immediately due west of the ditch were three pits: **307**, **309** and **327**. Southernmost pit **309** extended beyond the southern LOE and measured a minimum of 1.56m long and 1.3m wide. It was 0.3m deep and had a flat base and moderately steeply sloping sides. It was filled with mid brown grey friable silty sand (310) which contained 19 sherds of Late Bronze Age pottery.
- 3.9.20 Pit **307** was oval in plan and measured 0.93m x 0.88m x 0.29m. It had a concave base and steep sides and was filled by a deposit (308) consisting of mid brown grey firm silty sand. This contained 15 sherds of Late Bronze Age pottery and small fragments of charcoal and 20 fragments of burnt flint.
- 3.9.21 Pit **327** was a sub-circular feature measuring 0.66m x 0.59m x 0.23m. It had a concave base and moderately steep sloping sides and was filled with a deposit (328) of mid brown grey firm silty sand containing three fragments of burnt flint. No datable finds were recovered.

- 3.9.22 Immediately to the east of ditch **350** were 10 pits. Pit **329** was a sub-circular feature with steeply sloping sides leading down to a concave base. This was 0.74m long and 0.62m wide. Its sole fill (330) was 0.24m thick and consisted of mid grey brown firm silty clay. This contained pottery dating to the Bronze Age period.
- 3.9.23 Pit **331** was circular in plan and had a 0.62m diameter. It had a concave base and steep sides and was filled with a deposit of mid brown grey firm silty sand which contained rare burnt pieces of flint and charcoal. It measured 0.24m deep and two counts of burnt flint. No datable finds were recovered.
- 3.9.24 Pit **333** was sub-circular in plan and measured 1.3m long and 1.22m wide. It was 0.24m deep and had a concave base and gently sloping sides. It was filled with two deposits. Bottom fill (334) consisted of mid brown grey firm silty sand and contained rare small pieces of charcoal, pottery sherds dating to the Bronze Age and six burnt flints. Top fill (335) consisted of light brown grey firm silty sand which again contained rare small pieces of charcoal, one burnt flint and Bronze Age pottery sherds.
- 3.9.25 Truncating lower pit **333** was pit **336**. This measured 0.94m x 0.3m x 0.08m and had a concave base with very gently sloping sides. Its sole fill (337) consisted of dark brown grey firm silty sand with occasional charcoal flecks. No datable finds were recovered.
- 3.9.26 Pit **338** was the largest feature out of the pit cluster surrounding ditch **350** and was located towards the northern LOE. It was sub-circular in plan measuring 1.84m long and 0.96m wide. It had a flat base and gently sloping sides. Its sole fill (339) was 0.18m thick and consisted of mid grey brown firm silty sand which contained pottery dating to the Bronze Age period and two burnt flints.
- 3.9.27 Pit **340** was a sub-circular feature measuring 0.74m in length and 0.62m in width. It had steep sides and a concave base. Its sole fill (341) consisted of mid brown grey firm silty sand which contained five burnt flints and Bronze Age pottery.
- 3.9.28 Pit **342** was situated to the immediate east of pit **340** and was sub circular in plan. It was 0.52m long and 0.46m wide. It had moderately steep sloping sides running down to a concave base and was 0.22m deep. Its sole fill (343) consisted of mid brown grey friable silty sand with small rare fragments of charcoal. Pottery dating to the Bronze Age was recovered along with fragments of daub, one worked flint and one burnt flint.
- 3.9.29 Pit **344** was sub-circular in plan and measured 0.63m x 0.5m x 0.18m. It had steep sides and a concave base and was filled with a deposit (345) of mid brown grey firm silty sand, which contained two pieces of burnt flint, two worked flints and rare fragments of charcoal.
- 3.9.30 Pit **346** was sub-circular in plan and measured 0.43m x 0.37m x 0.16m. It had steep sides and a concave base and was filled with a deposit (347) of mid brown grey firm silty sand, which contained 1 piece of burnt flint and rare fragments of charcoal.
- 3.9.31 Pit **348** was a circular pit with a 0.32m diameter but extremely shallow, measuring only 0.06m in depth. It had gently sloping sides and a concave base. Its sole fill (349) consisted of mid brown grey firm silty sand with rare fragments of charcoal. No datable finds were recovered.
- 3.9.32 Pit **352** was 0.7m long and 0.32m wide. It was oval in plan and had a concave base and steep sides. Its sole fill (353) consisted of mid brown grey firm silty sand. No datable finds were recovered.
- 3.9.33 Three pits were spaced to the east of the main group (pits **354**, **356** and **358**). Pit **358** was 1.2m long and 0.96m wide. It measured 0.18m deep and had a concave base with gently sloping sides. Its sole fill (359) consisted of mid yellow brown firm sandy silt. No datable finds were recovered.
- 3.9.34 Pit **354** was located at the southeastern corner of Area 2 and was circular in plan. It had a diameter of 0.56m and was 0.15m deep. Its steep sides led down to a concave base and its sole fill (355) consisted of dark brown grey firm sandy silt. No datable finds were recovered.
- Pit **356** was also located in the far southeastern corner of Area 2 and was sub-circular in plan. It measured 1.8m long and 1.05m wide. It was 0.2m deep and had gently sloping sides that led down to a concave base. It was filled with a deposit (357) which consisted of mid brown grey friable clay silt. This contained pottery sherds dating to the Bronze Age period. Additionally, it contained 11 briquetage

fragments of a perforated slab very similar to those found on a Bronze Age site in Mucking (see below Appendix C.5).

- 3.9.35 A small group of pits (**392**, **396**, **399** and **403**) was located to the east of the cremations at the western end of the area. Pit **392** was excavated in its entirety since it contained a fill (393) of dark brown grey/black loose sandy silt along with small quantities of burnt flint (see Fig.13c section 145 and Plate 37). It was originally believed to be a cremation given its blackened silty fill but no burnt bone was found. It had a diameter of 1m and was 0.2m deep. Eight burnt flints were found along with two sherds of Late Bronze Age pottery.
- 3.9.36 Westernmost pit **396** measured 0.76m x 0.68m x 0.47m (see Fig.13c section 147 and Plate 38). It was sub circular in shape and had near vertical sides leading down to a fairly flat base. It contained two fills. Top deposit (397) consisted of dark grey brown soft silty sand and contained burnt flint and 62 pottery sherds dating to the Late Bronze Age period. Base deposit (398) and consisted of light yellow grey loose silty sand and had eight Late Bronze Age pottery sherds.
- 3.9.37 Pit **399** was a circular feature with a diameter of 0.63m and a depth of 0.26m (see Fig.13c section 148 and Plate 39). It had a concave base and steeply sloping sides and was filled with a deposit (400) of mid grey brown friable silty sand. Three fragments of fired clay were recovered as well as 22 pottery sherds dating to the Middle Bronze Age period.
- 3.9.38 Pit/posthole **403** was a circular feature with a diameter of 0.34 and a depth of 0.13m. It had steep sloping sides that led down to a concave base and was filled with a deposit (404) of mid grey brown friable silty sand which contained one fragment of pottery dating to the Mid-Late Bronze Age period.

3.10 Area 3 (see Fig 12b)

- 3.10.1 Area 3 linked both Areas 1 and 2 together. It measured 50m north-south from the northern end of Area 1 to the south-eastern corner of Area 2. Area 3 contained four archaeological features.

Ditches

- 3.10.2 Southernmost ditch **320** was orientated northwest-southeast and was the same feature as seen in the northern end of Area 1 (see ditch **261**). Ditch **320** was 0.85m wide and 0.3m deep and had steep sides leading down to a concave base. It was filled with a deposit (321) of light brown grey friable silty clay which contained one fragment of fired clay.
- 3.10.3 Immediately to the north of ditch **320** lay ditch terminus **322**, which was 1.2m wide and 0.18m deep. It had gentle sloping sides and a concave base. This feature ran to the east and beyond the LOE. It was filled with a deposit (323) of light brown grey friable sand silt that contained no datable finds.

Pit

- 3.10.4 Pit **324** was located towards the northern end of Area 3. It had a diameter of 1.1m and was very shallow measuring only 0.12m deep. It had a concave base and very gentle sloping sides. It was filled with a mid brown grey loose sandy silt (deposit 325) which contained small fragments of Iron Age and Roman pottery.

Cremation

- 3.10.5 Small cremation **394** was located approximately 5m due north of ditch terminus **322**. This was 100% excavated since it contained very small fragments of cremated bone and frequent quantities of charcoal. Cremation **394** measured 0.3m in diameter and 0.17m deep (see Plate 42). No datable finds were recovered.

3.11 Geo-archaeological test pits (Figs 14a-b and App. B4)

- 3.11.1 The site lies in an area of Pleistocene deposits (Area 228) that have been marked as of having 'High Palaeolithic Potential' (Wenban-Smith et al. 2007; map CROUCH 1). Four Palaeolithic handaxes that were recovered from the gravel deposits in the Burnham area, including in situ handaxes from a gravel pit section at Goldsands Road near Southminster. Closer to the site, handaxes have been recorded to Creeksea Place, immediately to the south, and from Eves corner, c. 500m to the north. Somewhat larger quantities of struck flint including flakes and a 'chopper' described as Clactonian were recovered from gravels to the west of Burnham (Warren 1933).
- 3.11.2 A total of 17 dedicated geo-archaeological Test Pits were excavated in the ends of selected archaeological evaluation trenches located across the site. The Test Pits were located in order to provide broad east-west transects across the site; one in the north field (Test Pits 01, 02, 03, 04, 05 and 06) and one in the south field (Test Pits 07, 08, 09, 10, 11, and 13). Additional Test Pits were excavated in the most northerly and southerly parts of the site with further Test Pits being located to complement these to provide an approximate north – south transect (Test Pits 16, 17, 14 and 15) (see Fig.7).
- 3.11.3 The Test Pits measured approximately 2 x 2m and were excavated under the supervision of the Palaeolithic specialist until either pre-Quaternary geology was exposed or to the maximum reach of the mechanical excavator (c. 4m). Sediment was removed by the mechanical excavator using a 1.8m wide toothless ditching bucket in spits up to 250mm thick, but followed the interfaces between sedimentary units wherever possible. Each sedimentary unit was numbered separately. Where safe to enter (the upper c. 1m of the Test Pits) the sides of the Test Pits were cleaned, photographed and drawn. The deeper parts of each Test Pit were photographed and drawn from the side. Samples (100 litres) from each significant geological unit was shaken through a 10mm mesh on site to order retrieve artefacts and coarse ecofacts and 10 litre bulk samples taken for off-site analysis. A column sample was taken through the upper fine grained deposits in Test Pit 08 for laboratory analysis.
- 3.11.4 A full report of the geo-archaeological test pits can be found in Appendix D.4. Eight worked pieces of flint were discovered from the sieving strategy carried out on site which are discussed below. Four pollen samples were also investigated but unfortunately these proved to be barren. Samples taken for clast lithology and general environmental processing were also undertaken.
- 3.11.5 All of the test pits revealed Pleistocene deposits although at widely varying heights and depths, providing valuable evidence relating to the location and composition of the Pleistocene deposits in the area. Pleistocene deposits were recorded in all trenches immediately beneath top- and subsoils and consisted of a complex sequence of fluvial gravels, sands and silt-clays. The Test Pits revealed complex sequences of alternating fine-grained (silt-clays, fine sands) and coarser-grained (cobbles, pebbles, gravels and coarse sands) dominated deposits. Whilst some broad trends might be apparent, the sequences in the Test Pits were rarely easily comparable and direct co-relation of the deposits between the pits were difficult.
- 3.11.6 The base of the Pleistocene deposits was at its highest in the north (in Zone A) at 21.00m OD but in the south (Zone B-C) they continued below the maximum limits of excavation; extending below 13.20m OD. This suggested that the deposits represented the left bank of a wide channel flowing to the northeast and is consistent with the BGS mapping which indicates that the site lies towards the western edge of a series of Pleistocene deposits.
- 3.11.7 Each major sedimentary unit was sieved on-site through a 10mm mesh with a minimum of 100 litres per unit being processed. In total, c. 5500 litres of sediment were examined. No macro environmental indicators were found but eight struck flints were recovered. Four of the eight pieces came from Test Pit 14, with Test Pits 4, 12, 21 and 22 each producing single pieces. Two of the pieces have been retouched, these comprising an end-scraper from Test Pit 4 and a (non-Clactonian) notched flake from Test Pit 14. The flake from Test Pit 12 is thin and has a curved profile, similar to biface thinning flakes, although its proximal end is missing making identification as such tentative. None of the pieces are truly chronologically diagnostic although all would comfortably fit into Palaeolithic technologies, a date which is supported by their mineral staining and rolled or abraded condition. All came from coarse

sands or gravels and have been residually deposited, although the lack of any intensive rolling would suggest possibly not from far away.

3.12 Finds and environmental remains summary

3.12.1 The finds from the evaluation and mitigation areas are fully described in Appendix C. A summary of these is given below.

Late Bronze Age pottery

3.12.2 A total of 464 pottery sherds weighing 6.835kg were recovered and almost all of this dates from the Late Bronze Age. It includes a small number of feature sherds characteristic of Post-Deverel-Rimbury ceramics, together with fabrics typically associated with this ceramic tradition in the region. A small quantity of Middle Bronze Age pottery was also recovered, almost entirely from pit **399** in Area 2.

3.12.3 Middle Bronze Age pottery comprises a total of 23 sherds (481g) from the investigations, from deposit 400 in pit **399** in Area 2. It is possible that these sherds represented a highly truncated urned cremation burial but this remains a speculative theory since three other body sherds from a different vessel were also found associated with these.

3.12.4 A total of 242 sherds (4.244kg) of Late Bronze Age pottery were recovered from the evaluation trenches along with a further of 180 sherds (2.043kg) from the mitigation excavation areas. The Late Bronze Age material was found in pits and ditches as well as within a cremation and a pond. It includes a small number of feature sherds characteristic of Post-Deverel-Rimbury ceramics, together with fabrics typically associated with this ceramic tradition in the region. The assemblage is characterized by sherds in soft flint and sand tempered fabrics FS1 and FS2, which are typical of the Late Bronze Age across East Anglia. Most of the pottery is in good condition. Although some sherds are abraded, most are quite fresh and large. The good condition and overall character of the pottery is typical of that recovered from Late Bronze Age settlement sites.

3.12.5 A total of 18 sherds (64g) of pottery dated to the Middle Iron Age date came from pond **285**. The majority of these are body sherds but one sherd is from a pot base which dates to the Middle to Late Iron Age.

Roman pottery

3.12.6 A total of 166 sherds, weighing 1961g, of Late Iron Age and Early Roman pottery was recovered from the two phases of work. Generally, this pottery represents rubbish disposal from a nearby settlement and is a relatively small Early Roman pottery assemblage, largely comprising utilitarian coarse wares typical of domestic use in the region between the mid to late 1st century AD. The pottery was recovered from nine ditch segments, with the largest assemblage (79 sherds, weighing 1275g) found within ditch **251**. The majority of the pottery comprises locally produced Early Roman wheel-made coarse grey ware (GRS) jar/bowl fragments. Exceptions to this are from some conservative Iron Age-type vessels which were still in use and contemporary with the Early Roman material. These were from large handmade vessels with rolled rims. Others are Late Iron Age/Early Roman wheel-made and grog tempered wares. Three other sherds of pottery were also discovered indicating small traces of fine ware. A small piece of South Gaulish samian from an undiagnostic dish was found which dates from the 2nd half of the 1st century AD; a sherd of London fine ware beaker was located in the subsoil and also a single body-herd fragment from a Verulamium white ware mortaria or mixing bowl was recovered dated between AD 50-160.

Ceramic building material

3.12.7 Archaeological work recovered 22 fragments, 3779g, of ceramic building material (CBM). The ceramic building material was collected from seven trenches and Area 1. Two fragments, 4g, were collected from the subsoil. This assemblage comprises mostly non-descript flat tile fragments which are broadly attributable to the medieval to post-medieval periods. There are several brick fragments that were

given closer date ranges, but these too are medieval to post-medieval. A minor fraction of the assemblage has been assigned Roman dates (four fragments, 786g); this portion came from the mitigation Area 1. Generally, the CBM assemblage is moderately to heavily abraded but diagnostic. Taken in sum this material is indicative of low-level medieval to post-medieval activity probably largely associated with manuring, across the trenched area, with a concentration of Roman period activity in and around the mitigation excavation area (A1). The assemblage is heavily abraded and is likely to have been subject to post-depositional erosion processes, most likely related to more recent agricultural activity.

Fired clay and briquetage

- 3.12.8 Archaeological work recovered 929 fragments, 11648g, of fired clay: 30 fragments (613g) from the evaluation trenches and 899 fragments (11.035kg) from the mitigation excavation. The evaluation assemblage comprises mostly non-descript amorphous fragments (287g) alongside some more structural fragments – mostly pieces with exacted and flattened surfaces. There were no complete nor diagnostic forms within the assemblage.
- 3.12.9 Although moderately to severely abraded and fragmentary, a large portion of the assemblage was identifiable as briquetage (823 fragments, 10361g), defined as the equipment and associated hearth/oven material associated in processual manufacture of sea salt for domestic use. No complete forms were apparent in this assemblage, however container and support fragments were predominant with a minor fraction of hearth lining recorded. Other amorphous pieces were wholly uninformative beyond their bulk and as such are only mentioned here; they are likely to have derived from lining for the hearth/oven. Flattened fragments of clay made in the friable flint and vegetable tempered fabric forms the majority of the briquetage. These fragments were classified as ‘body’ fragments deriving from a trough or pan. Fragments of ‘supports’ consisting of pedestals, probable spacers or clips and a perforated plate were also identified. A small collection of more ad hoc clay objects was present in the assemblage; all were classed as props or spacers.
- 3.12.10 This assemblage was recovered from contexts within pit **290** which was posited as a settling tank, given its blue-grey clay lining and subsequent infilling with briquetage. The significance of this assemblage lies in its probable Bronze Age date. The association with prehistoric pottery at this site suggests it is of this date. Saltern sites and briquetage assemblages dating to this period are rare on a national scale and Essex examples of this kind of site are rarer still, owing to the erosion of the marshland coastline. As such, this assemblage forms part of a small but significant body of Bronze Age salt making sites.

Worked flint

- 3.12.11 A total of 37 worked flints and over 12.5kg of unworked burnt flint were hand recovered during the evaluation and mitigation phases of fieldwork. In addition to this, a large quantity (11.9kg) of unworked burnt flint was recovered from wet sieving of bulk soil samples taken from two features. The worked flint is dominated by unretouched removals, with no cores and few retouched forms, and were all derived from fills of cut features. It represents residual material inadvertently caught up in the fills of later features. Some blade-based/narrow-flake removals were indicative of Mesolithic or Earlier Neolithic activity but much of the remainder of the assemblage could date to anytime between the later Neolithic and later Bronze Age/Iron Age.
- 3.12.12 Several features produced substantial quantities of unworked burnt flint, mostly pits (**23, 24, 25, 91, 307, 333, 340, 392**), but also from ditches **21** and **257**. In these cases, the quantities of burnt flint strongly suggest that this material was deliberately deposited and broadly contemporary with the features from which it derived rather than representing residual material. The burnt flint from the different features is all broadly comparable, consisting of heavily burnt reddened or calcined heat-cracked and shattered fragments. Burnt flint accumulations such as this are generally interpreted as the residues for some kind of craft or processing activity involving the heating of water with heated stones. Large accumulations of burnt flint from several features can be paralleled on prehistoric sites of various

periods in the region and probably relate to some kind of processing activity involving the heating of water, possibly associated with saltworking.

Worked flint from the geo-archaeological test pits

- 3.12.13 Eight struck flints of Palaeolithic date and no biogenic indicators were recovered. The condition of the struck flints indicates they are derived, although not necessarily from far, and were residually incorporated within coarser-grained sediments laid down by relatively fast flowing water. No stabilized land surfaces were identified. The struck flints are not closely dateable but would be consistent with either Clactonian or Acheulean industries and cannot contribute to the debate concerning the possible succession of these industries or their relationship to the Asheldham Gravels.
- 3.12.14 Four of the six pieces came from Test Pit 14, with Test Pits 1, 4, 12, 21 and 22 each producing single pieces. Two of the pieces have been retouched, these comprising an end-scraper from Test Pit 4 and a (non-Clactonian) notched flake from Test Pit 14. The flake from Test Pit 12 is thin and has a curved profile, similar to biface thinning flakes, although its proximal end is missing making identification as such tentative. None of the pieces are truly chronologically diagnostic although all would comfortably fit into Palaeolithic technologies, a date which is supported by their mineral staining and rolled or abraded condition. All came from coarse sands or gravels and have been residually deposited, although the lack of any intensive rolling would suggest possibly not from far.

Miscellaneous – stone and fuel by-products

- 3.12.15 A total of 0.163kg of stone was recovered from ditch **21** and pit **25** in Trenches 66 and 69 respectively. A further 0.280kg of unworked burnt stone (quartzite and sandstone cobbles) recovered from pit **24** in Trench 69 was discarded at quantification stage. The stone recovered is not closely dateable, however both features produced Late Bronze Age pottery. The quartzite fragment from ditch **21** indicates the usage of available materials on an *ad hoc* basis while the lava fragment may be intrusive material from later reworking of the feature, as both Roman and medieval material was recovered from other trenches.
- 3.12.16 A total of 0.008kg of bituminous coal was recovered from the site. The coal would have been used as a fuel. Although it can be burnt as a domestic fuel, it may have been used in industrial processes, however, if this was the case, more of the material should have been recovered. It was classed as belonging to the post-medieval/modern periods.

Faunal remains

- 3.12.17 The site produced a total number of 11 fragments or 33g of bone. These were recovered from four contexts; 22, 27, 30 and 69. All of the bone was identifiable to medium mammal only, bar one sheep/goat metapodial from context 69. The surface condition of the bone is poor, badly fragmented and too small and fragmentary to provide any further information.

Mollusca

- 3.12.18 A total of 0.010kg of shells were collected by hand during the evaluation. The shells recovered are edible examples of oyster *Ostrea edulis*, from estuarine and shallow coastal waters. The shell is relatively well preserved and has not been deliberately broken or crushed. The shells were recovered from ditch **52** in Trench 10 and represent general food waste. Although not dateable, they were found with a single pottery sherd dating to the post-medieval period. The shells represent general discarded food waste and, although not closely dateable in themselves, may be dated by their association with pottery or other material also recovered from the feature.

Plant remains

- 3.12.19 Ten bulk samples were taken from features within the evaluated area. Sixty-one samples were taken during the mitigation phase of work; 20 bulk samples were taken from three open areas of excavation and 41 samples were taken primarily for geotechnical analysis with the remaining soil processed as bulk samples. Preservation of plant remains is poor, probably due to the sand content of the soil; many of the flots contain rootlets which may have caused movement of material between contexts. Mollusc shells are not preserved. The geotechnical samples did not contain any preserved remains in either the flot or the residues.
- 3.12.20 Charcoal volumes are generally low but a number of features contain wood charcoal as evidence of burning. Cremations **275** and **390** contained burnt tubers which are commonly found in cremation deposits and are thought to represent de-turfing around the pyre-site to create a fire break or may simply have become carbonised due to proximity to the pyre. The low density and diversity of the plant remains suggests that this was not an area of direct human occupation but the small recovery of occasional charred grain, chaff, weed seeds and charcoal indicates that there is some potential for the preservation of plant remains in archaeological deposits at this site. The geotechnical samples do not show any potential for the recovery of preserved plant macrofossils or molluscs.

Radiocarbon dating and cremated human remains

- 3.12.21 Cremated human bone (or ? human bone) was recovered from six features across the site (Areas 1, 2 and 3) in the mitigation phase of the excavation. Bone from one of these, **275** was selected for radio carbon dating and produced an early Middle Bronze Age date (SUERC 1666-1526 BC).
- 3.12.22 From the six features that contained calcined bone, one was immature (**271**), two were subadult/adult (**224** and **394**), one was adult (**226**) and one could not be positively identified as either animal or human (**273**). However, only feature **275** can be fully described as a cremation burial, with the others in close proximity at the western end of Area 2 being classed as contemporary. The other five features can be best described as cremation-, or pyre-related features and not formal cremation burials since the amounts of calcined bone and burnt flint recovered from them are very small in number and weight. The pits nearby which contain large quantities of burnt flint, e.g. **392** and those with Deverel-Rimbury pottery (**400** and **404**) often associated with Middle Bronze Age cremation burials may relate to the features analysed here. Without archaeological investigations beyond the mitigation area it is difficult to interpret these features beyond stating that there is Middle Bronze Age mortuary activity on the site.

4 DISCUSSION

4.1 Overview of Evaluation results

- 4.1.1 The evaluation identified two main areas of potential archaeological interest within Zones B and C. Zone A appears to be of less archaeological significance.

4.2 Zone A

- 4.2.1 Most features in Zone A consisted of linear ditch/boundary systems that were identified as being present of the 1st edition OS and Tithe maps and therefore probably date to the post-medieval and modern periods. There was no evidence that any of these ditches had their origins in the medieval or earlier periods. Examination of the geophysical survey results from this Zone (see Fig. 6) shows good correlation with the features revealed in the archaeological trial trenching as well as the cartographic evidence. Clearly, the ditches in Trenches 19-22 corroborate the evidence of an east-west aligned former field boundary shown in the geophysics results. Additionally, the north-south running field boundary was also apparent in Trench 17. However, the geophysics survey does show parallel lines running northwest-southeast (marked in green – see Fig 6) across Zone A and these were not encountered during the archaeological trial trenching. It is possible that these could represent plough lines or were linked to modern agricultural farming practices.
- 4.2.2 The most extensively investigated post-medieval/modern ditch from this Zone was located in Trenches 19-22. The ditch in Trench 19 (interventions **66** and **68**) is present on the 1st edition OS map of 1883 and the 1844 Tithe map (see Figs 3-4). It is possible that this ditch continued east and was revealed further in the middle of Trench 20 (ditch **76**) and in Trench 21 (ditch **92**) and 22 (ditch **60** and **62**). It is likely that the southernmost ditch **62** in Trench 22 aligns with the east-west ditch running through Trenches **19-21**. This interpretation would also be reinforced by the slight east-south-east orientation of the ditch seen on both the Tithe map of 1844 and within the trenches during the evaluation. It is possible that the northern ditch **60** is a recut given its very close proximity to this ditch. This evidence is reinforced by the geophysical survey results as discussed above.
- 4.2.3 A number of other features can also be phased to the post-medieval and modern periods. These include the large natural hollow feature **52** in Trench 10 which contained modern finds within its back fill such as aluminium foil. This was probably the result of gentle colluvial run-off that had settled at the base of a natural depression in the landscape. Pit **64** in Trench 18 contained fragments of modern tile. Features **76** and **70** were seen to cut the upper subsoil, while ditch **94** in Trench 44 contained ceramic land drains in a ditch that is clearly visible on both the OS and Tithe maps (see Figs 3-4). Ditch **29** in Trench 5 which was shown depicted in the 1844 Tithe map as a field boundary for arable land which had later been backfilled to amalgamate two fields into one. It was no longer present on the 1883 1st edition OS (see Fig. 4) and contained fragments of tile. Ditch **41** from Trench 17 was evident on the 1st edition OS map from 1883 to the east of Creeksea Lodge (previously known as Lodge Farm – see Hopkins et al 2014 and Fig. 4). Examination of the OS map regression shows that this land division in the field-scape was short lived since it appears on the 1st edition OS map of 1883 but not the 2nd edition OS map of 1897.
- 4.2.4 There were a few examples of linear features that could not be traced back to the early cartographic documentations of this direct area. These included linear features **35** and **37** in Trench 5, ditch **56** in Trench 22; ditch **39** in Trench 8; ditch **49** in Trench 10 as well as ditch **54** in Trench 14 and ditch **74** in Trench 27. Little or no datable finds were recovered from these features and in some cases, modern tile and iron objects associated with agriculture were found, suggesting they had been infilled relatively recently.
- 4.2.5 The only two features from Zone A that pre-dated the modern periods were posthole **43** in Trench 1 and pit **90** at the northern end of Trench 20. Pottery recovered from the posthole dated to the Late Bronze Age period but only included a few small sherds. Pit **90** did not contain any datable finds but did produce some small fragments of burnt flint. Such finds were common in features dating from the prehistoric period, and in light of the other prehistoric dated features found located to the south in Zone B and particularly Zone C, it would be unsurprising if this feature also dated to this period. While

these two features are of minor significance, they do signify an extension of the activity found so prevalent in Zone C and to some extent Zone B. A possible Late Bronze Age structure was identified during excavations to the north-east of the site (EHER 49137), suggesting that activity of this date was dispersed but possibly extensive in this area.

- 4.2.6 Zone A was the only area on site where Palaeolithic finds were recovered from the geo-archaeological test pits. Test Pits 4, 12 and 14 all yielded worked flint consistent with Palaeolithic technologies although none of them are chronologically diagnostic. All came from coarse sands or gravels and had been residually deposited, although the lack of any intensive rolling would suggest a close point of origin.

4.3 Zone B

- 4.3.1 Trenches within this zone uncovered more features that were dated to the prehistoric (Late Bronze Age) period and signified an increased frequency of activity compared to that seen in Zone A. Zone B contained linear features that could not be correlated to the boundaries shown on any cartographic records. Examination of the geophysical survey results show little in the way of possible features. One northeast/southwest running linear anomaly (in green – see Fig. 6) was seen to cross both Trenches 39 and 49. However, no linear feature was discovered in Trench 49 and where one ditch **119** was present at the northern end of Trench 39, it was seen to run in a different direction (northwest/southeast). The geophysical survey does show large 'spots' of ferrous material towards the end of Trench 49 and near Trenches 61 and 57, although larger swathes of this material were also identified at the southeastern boundary edge, and may relate to natural occurrences of iron in the ground, or modern disturbance.
- 4.3.2 Features containing Late Bronze Age pottery and flint from this Zone included pit **78** in Trench 34; pit **96** in Trench 38; and ditches **86** and **82** in Trench 50. Pit **78** contained 69 sherds from a vessel dated to the Late Bronze Age although when the trench was extended, no further archaeology was present. Struck flint flakes were also seen present in pit **117** in Trench 38 but no clear dating evidence was found alongside them. Pit **96** in Trench 38 contained intensely burnt and subsequently dumped material. Additionally, ditches **86** and **82** in Trench 50 also hinted at land division possibly associated with the activity found further to the north. Collectively, this very small assemblage of evidence points to small scale peripheral activity from the Late Bronze Age activity found further to the south in Zone C.
- 4.3.3 There were many features uncovered in Zone B that did not contain datable material but could hint at further evidence of prehistoric occupation. Postholes seen in Trenches 41, 49, 51, 55 and 59-60 contained no dating evidence but did contain small traces of charcoal. Postholes **106**, **108** and **110** located in Trench 51 appeared to run in a short north/south line indicating a possible structure. However, without conclusive evidence, these features could effectively belong to any period.
- 4.3.4 A similar situation is evident with the undated linear features. Gully **84** in Trench 50, ditch **112** in Trench 53, ditch **103** at the northern end of Trench 51 and gully **127** in Trench 52 contained no dating evidence. It is possible that ditch **88** from Trench 52 is represented in Trench 53 by ditch **114** but without further excavation, this cannot be substantiated. Ditch **88** was substantial enough to manage field drainage and possibly mark out a field boundary. It was not evident on any of the historic OS maps. Again, the relative proximity to the north-eastern Late Bronze Age features could tentatively suggest that the undated linear features provide further evidence of this phase of occupation.
- 4.3.5 Undated pits in Zone B also share the same ambiguity as the linear features. Pit **117** in Trench 38 contained struck flint flakes, evidence typically recovered in pre-Roman sites. The pit itself was filled with soil that was very light in colour and had an irregular sub-circular shape in plan typical of natural features such as tree throws. This was similar for pit **135** in the northern end of Trench **35** and pit **121** at the southern end of Trench 39. Pit **201** in Trench 5 was irregularly-shaped enough to suggest that this too was a natural feature that had been backfilled. The only pit in Zone B that could possibly be a direct result of human activity was pit **141** which contained similar charcoal-rich material as its neighbouring postholes **131** and **133**.
- 4.3.6 Collectively, the evidence from Zone B suggest that this area contains peripheral activity from the prehistoric (Bronze Age) remains that lie to the south of the site.

4.4 Zone C

- 4.4.1 Zone C contained the fewest number of trenches yet these revealed the greatest density of archaeology. This was not surprising as both cropmarks and geophysical survey, as well as the HER record, identified archaeological enclosures in this area (see Figs. 5-6 and Vickers 2017). It was anticipated prior to fieldwork excavation that some form of prehistoric and/or Roman settlement activity would likely be encountered, and this proved to be the case in the subsequent trenching programme. While Trenches 70-75 uncovered no archaeological features or deposits, Trenches 65-69 showed remnants of prehistoric occupation.
- 4.4.2 The geophysical survey highlighted the former field boundary running through the end of Trench 65. This was apparent as ditch **31** in Trench 65 where it was interpreted as a post-medieval boundary/drainage ditch. It was clear on both the 1844 Tithe and 1st edition OS map from 1883. This was the only linear feature in Zone C attributed to the later post-medieval/modern period.
- 4.4.3 Two other geophysical anomalies were identified by the evaluation trenches. The first was palaeochannel **33** seen in Trench 65. This is shown on the geophysical survey map (see Fig. 6) as a large swathe of natural geology running in a wide irregular band across Zone C, aligned northeast/southwest. Given the proximity to the River Crouch and the coast and considering the geological studies on this area of Essex and the Dengie peninsula, it is unsurprising that this large feature was present. The second feature present on the geophysical survey map was small linear feature **7** in Trench 68 which was seen as a continuing north out of the trench and then curving round to the east (see far south east corner of Fig 6B). Trenches 66-68 were located in an area where curvi-linear anomalies and also recti-linear boundary systems were common; collectively indicating possible roundhouse drip gullies (or ring ditches) and rectangular enclosures. Interestingly, the axis of the rectilinear system seen on the geophysical survey results respects the orientation of the palaeochannel. Given that the small anomaly shown running through Trench 68 (as ditch **7**) was a proven archaeological feature, it is likely that the geophysical results here are indicative of more extant and extensive archaeological remains in this area. This was proven in the excavation of the mitigation areas, discussed below.
- 4.4.4 Late Bronze Age activity was largely represented by ditch features that indicate the presence of a field system. Ditch **22** in Trench 66 was deep enough and contained finds to suggest a substantial land boundary/drainage system. Its orientation northwards towards east-west ditch **9** indicated it collectively formed part of a field system in the southern end of site. North-south aligned ditch **11** in Trench 68 also contained pottery of the same period. Collectively, these features demonstrate a definite process of systemic land use, presumably linked to farming and human occupation. They were all seen to extend beyond the trench LOEs indicating that further excavation would probably uncover the greater extent of these ditches.
- 4.4.5 Associated settlement-related activity was also represented by the presence of pits **23** and **25** in Trench 69 and pits **3** and **5** in Trench 68. Pit **25** in particular contained large quantities of pottery dated to the Late Bronze Age period. This was true to a lesser extent of pit **23**. Large quantities of burnt cracked flint along with pottery dating to the Late Bronze Age period suggest probable domestic activity in the immediate vicinity. Pit **3** in Trench 68 contained a small amount of pottery dating to the Late Bronze Age period. The pits from Trench 68 were very reminiscent of the features located in the northeast corner of Zone B. Collectively, the prehistoric features from this Zone presumably represent a continuation of those found to the north in Zone B.
- 4.4.6 Two linear features in this Zone were attributed to the later post-medieval/modern period. Ditch **31** in Trench 65 was interpreted as a post-medieval boundary/drainage ditch. It was clear on both the 1844 Tithe and 1st ed. OS map from 1883. This was also true of ditch **213** at the far eastern end of Area 1.

4.5 Mitigation Area 1

Cremation

- 4.5.1 Cremation **244** was very small and shallow but contained small traces of cremated bone. It foreshadowed the presence of another solitary cremation **394** located in Area 3 (see below) as well as the collection of cremations situated in the west end of Area 2 (see features **266**, **271**, **273**, **275** and **390**). Cremation **275** was radiocarbon dated to the Middle Bronze Age period and shared a similar date to pottery recovered from nearby pit **399**; signaling the presence of mortuary activity in this area.

Bronze Age ditches

- 4.5.2 Late Bronze Age activity was represented by a number of ditches indicative of a wider field system and/or land management. Ditch **22** in Trench 66 was deep enough and contained Bronze Age pottery to suggest a substantial land boundary/drainage system. Further excavation in Area 1 revealed that this ditch ran off to the south east and was truncated by a southeast-northwest running ditch **313**.
- 4.5.3 Three other linear features (**257**, **297** and **299**) were also present in this immediate area. Examination of the geophysical survey map (Figs 6 and 15) shows ditch **257** ran beyond the LOE to the southwest and towards two ring-shaped anomalies. It is possible that these could represent roundhouses, or possibly ring ditches of ploughed-out barrows given the presence of cremations in the mitigation areas. All of the ditches **257**, **297**, **299** and **313** were seen leading into one main feature: watering hole **285**.

Watering hole and associated features

- 4.5.4 Watering hole **285** was extremely large and extended beyond the eastern LOE. It was also extremely deep, measuring 2.6m below the archaeological horizon. Its sides were steep indicating that it had been deliberately cut into the clay. The purpose of this remains unclear, especially since its total extent ran beyond the excavation area parameters. Various interpretations are possible, including that it was originally cut as some form of quarrying activity or that it was excavated merely as a water source, possibly for animals. Whatever the case, this massive pit contained prehistoric pottery in three of its four fills, including the base, which dated to the Late Bronze Age and Middle Iron Age periods. This suggests that the waterhole may have originally been sunk in the Bronze Age period and subsequently backfilled at some point in the Middle Iron Age. Collectively, the watering hole and the ditches running into it displayed a definite process of systemic land use from the prehistoric era pointing to the organisation of land for arable/pastoral land use commonly associated with human settlement. Furthermore, excavation of these features has also proved that the geophysical anomalies (Fig. 6) correspond to tangible archaeological features. This means that those features on the geophysical survey seen outside the areas of excavation highlight the possibility of more archaeology located to the immediate east and west, significantly in an area of site that was not evaluated by the trial trenches.

Salt-working evidence

- 4.5.5 Pit **290** is significant since it was one of the few features on site to contain abundant amounts of dumped Late Bronze Age pottery as well as briquetage related to salt making activities. The pottery from main fill (311) appeared very badly made and some was still fused to large fragments of burnt clay. These had possibly been dumped into the pit or stamped down into the base. Underlying layer (292) also contained some of the same material. Clay lining (291) appeared blue grey in appearance, which along with the absence of signs of *in situ* burning (i.e. the clay may have discoloured due to the heat), suggest that pit **290** was a settling tank.
- 4.5.6 Pit **290** appears to have been a discrete feature but one which points directly to Late Bronze Age industrial activity. It should be seen in context with the remains of ancient salt making that was prevalent in this area, known as the 'The Red Hills of Essex'. The red hills were mounds of industrial waste including coarse pottery fragments, ash and soil reddened by fires used to evaporate sea water

to produce salt. Beneath these were commonly found pits, hearths, working areas and salt-water settling tanks. Salterns were places where crystalline salt was extracted from seawater. The salt marshes along the Essex coast and estuaries were ideal places for this salt making industry and some have been found up to 5km inland from shore. Early evidence for salt-manufacture has been found at South Woodham Ferrers, Essex, dating from the Middle-Late Bronze Age (1412-1130 BC) (Historic England 2011), also overlooking the River Crouch a few kilometers to the west of the site. With the invention of the open-pan system, where wide shallow flat based vessels were utilised, salt-making became prolific in the century prior to the Roman invasion and the 'Red Hills' of Essex are a reflection of this. Although rare, brine hearths, lined with clay or stone, have been found at Bronze Age and Iron Age sites in Tetney Lock, Essex and Billingbrough Fen, Lincs (Historic England 2011) along with more typical discoveries of broken pottery vessels (briquetage).

- 4.5.7 This contextual history of salt manufacture resonates strongly with the presence of pit **290** since it too was both clay-lined and contained large quantities of poorly formed pottery alongside large quantities of burned reddened clay. Pieces of this briquetage included flat lumps thought to belong to flat-based saltern panning vessels. Unfortunately, this pit is not associated with any large mounds of reddened soil and ash synonymous with mostly larger scale Essex "Red Hill" sites. Salterns were associated with urban centres as well as isolated sites in the rural countryside near the coast (Historic England 2011). In the latter case, links to settlements to this small scale manufacturing place were indicated by road and track ways or by the delineation of field and boundaries marking property. In this light, pit **290** could be placed in a rural context possibly connected to the surrounding field boundaries and watering holes. Whether pit **290** was connected to a settlement or not, the very fact that it exists is significant. Certainly, both briquetage from Iron Age and Roman salt-making sites are similar to that found within the pit. The importance lies in the fact that this was found associated with Bronze Age pottery. Briquetage and salt-making sites from this period are rare on a national scale, with examples from Essex rarer still due to the erosion of the marshland coastline.

Roman linear features

- 4.5.8 Two significant linear features were located that are dated to the Roman period, the first of which was large ditch **203**. Significantly, there were more archaeological features present to the southeast of this ditch than to the northwest, suggesting that it may have marked the edge of a settlement area. However, the pits and postholes are largely undated, and, when they are datable, provide evidence of both the Bronze Age and to a lesser extent Roman periods. Additionally, the land immediately north of the ditch had not been stripped for excavation so no comparison between the areas directly north and south of ditch **203** could be made. However, the ditch itself was wide and deep enough to suggest a significant boundary/drainage ditch. Narrow ditch **7** fed into ditch **203**, again indicating drainage for a field system. Linear feature **253** also appeared to run into this ditch, based on its orientation towards the south.
- 4.5.9 More evidence to suggest the presence of human occupation in the immediate area is indicated by the cropmarks (see Fig. 5) recorded in the Essex Historic Environment Record (EHER). These show similar ditch/field systems to the east in the Springfield industrial estate (see EHER 16132 where a Roman farmstead was located dated to the 1st century AD). Additionally, inspection of the geophysical results (see Fig. 6 and 15) show that Area 1 runs directly through anomalies pointing to yet more field systems and round house gullies or ring ditches. It is reasonable therefore to place ditch **203** in context with the other documented anomalies indicative of settlement.
- 4.5.10 Although not well-dated, ditch **261** in the far north end of Area 1 appears to be the same ditch as **320** in Area 3 and is significant as it forms part of the western side of a rectangular anomaly seen in the geophysical survey results, situated to the east of Area 3 and the northern end of Area 1. The axis of this rectangular enclosure or field system is not aligned north-south, rather, its longest sides are orientated northeast-south west with the palaeochannel. Such rectilinear systems are typically found to mark boundaries of small settlements or stock-related enclosures throughout the prehistoric through to the Roman periods. Therefore, it is probable that more archaeological features linked to occupation could be found within the enclosure. This would be significant since the Historic

Environment Record only documents finds in the area around this and so far no settlement areas have been directly mapped or documented. Based on its alignment it may be Roman in origin, although a much earlier date is also feasible.

- 4.5.11 Two ditches that appear to respect the alignment of the rectangular anomaly noted in the geophysical survey to the east of Area 1 are features **11** and **264**. Although the excavation of Area 1 did not show these two features joined, examination of the orientation of both ditches **11** and **264** suggests that the two join at some point close beyond the LOE, collectively forming a right angled corner of a field system. Although conjectural, examination of this “corner” in comparison to the rectilinear system highlighted by the geophysical survey (see Fig 6) suggests the possible northeastern corner of another enclosure system. This theory will obviously need testing during further excavation work. Another possible idea is that ditch **11** runs directly northwest and joins ditch **261** at the northern end of Area 1. Whatever the case, inspection of the orientation of ditch **261** shows that it shares a similar west southwest/east northeast alignment with large Roman ditch 203. Similarly, ditch **11** is aligned in the same direction as ditches **253** and ditch **7**. The evidence here would collectively point to a contemporaneous field system.
- 4.5.12 Another linear feature associated with the Roman period was ditch **219**. Again, this headed to the east beyond the LOE almost on the same alignment as ditch **203** due west. Examination of the cropmarks seen from Historic Environment Record (see Fig.2 and 5) show that both ditches **219** and **203** run off towards significant field systems located in the present day Springfield estate to the east (see Fig. 2 and 5, EHER 11338 and 16132). It is possible that the regular series of ditches identified within the mitigation areas formed a western continuation of this larger field system.

Pits

- 4.5.13 It has already been mentioned that ditch **203** may have been a marker for the edge of a settlement and seven pits were located immediately to the south of this (pits **5**, **209**, **215**, **221**, **228**, **230**, **233** and **242**) but it remains difficult to ascertain their function. Four of these (**5**, **228**, **221**, **230**) contained no finds whereas the rest contained small fragments of pottery and/or struck flint flakes. Their irregular shapes, bases and moderately steep sloping sides suggested that small scale pitting activity occurred here, possibly for quarrying. Pit **228** was markedly different having almost vertical sides with a very diffuse fill at base, suggesting this had been left open and not backfilled in one event. In plan this resembled a small watering hole.
- 4.5.14 To the southwest of these pits and to the west of ditch **7** lay the very shallow end of a prehistoric feature, possibly the part of a roundhouse drip gully. Significantly, it contained datable Late Bronze Age material similar to that found in the pits nearby, suggestive of settlement in this area. Other signs of human occupation in this area included minor pits at the northern end of Area 1 (see pits **316** and **268**), a pit (**281**) containing nothing but one fragment of charcoal and a large waterhole **255**. This extended north beyond the LOE but was far smaller than the large waterhole/pond **285**. Postholes found in Area 1 did not denote any kind of formal structure. These were dispersed and appeared only as pairs or as single features. Postholes **277-9** contained small traces of prehistoric pottery as did posthole **301**. Whereas posthole **303** did not contain dating evidence, small traces of burnt cracked flint were found within suggesting again a pre-Roman date.

4.6 Mitigation Area 2

Cremation group

- 4.6.1 Area 2 expanded the excavation area surrounding previously excavated Trenches 65 and 69. It contained a large number of pits and cremations along with three linear features. Cremations **266**, **271**, **273**, **275** and **390** were all located at the far western end of Area 2 in a small confined group. Cremated bone was evident in large quantities, particularly in feature **275** which has been dated to the Middle Bronze Age period by radiocarbon dating. Previous cremations had been found in Area 1 (cremation **224**) and in Area 3 (cremation **394**) but only as isolated incidents.

- 4.6.2 The cremation group lay between two north-south aligned ditches **295** and **283** at the western end of the area. Their proximity to the cremation group could tentatively suggest an association but without definite dating evidence, this remains inconclusive. Ditch **350** to the east has already been discussed but in brief could be the same ditch as seen in Area 3 (ditch **320**) and Area 1 (ditch **261**) since all are similarly orientated.

Pits

- 4.6.3 Further evidence of human activity was represented by large scale pit features located towards the middle of the excavation area, particularly around ditch **350**. Immediately further to the east of the cremation group, pits **392**, **396**, **399** and **403** contained traces of charcoal and pottery dating to the Late Bronze Age period. East of this small group were pits **23** and **25** which were by far the largest in this area. Pit **25** in particular contained large quantities of pottery dated to the Late Bronze Age period. This was true to a lesser extent of pit **23**. Material found in pits **25** and **23** suggested early activity that predated the Roman period. Large quantities of burnt cracked flint along with pottery dating to the Late Bronze Age period suggested industrial activity and could be seen in context with clay lined pit **290** from Area 1. They were 100% excavated in order to acquire a large assemblage for dating purposes. These pits, particularly pit **25**, showed evidence not only of settlement-related activity but also industry (salt working) in this area. The massive quantities of burnt flint point to large scale burning, perhaps for the heating of water (?brine) or the production of pottery. The high frequency of recoverable large sherds of dumped pottery again point to human occupation in this area.
- 4.6.4 The last group of pits in Area 2 provide further evidence of human activity. Pits **307**, **309**, **327**, and **350** to the west of ditch **350** along with pits **329-352** show a conglomeration of pitting activity which contained in varying degrees small amounts of fragments of Late Bronze Age pottery and struck flint flakes. Although these pits were dissimilar to **23** and **25** in that no large quantities of charcoal, flint and pot were found within them, their location suggests that they may have been indicated associated with the Late Bronze Age saltworking and settlement remains. Pits **354**, **356** and **401** were peripheral features to this main group.

4.7 Mitigation Area 3

- 4.7.1 Area 3 was a small north/south running strip of land connecting the northern end of Area 1 and the southeastern corner of Area 2. Unlike the first two main areas, no trenches from the evaluation programme had been excavated here. The main feature in Area 3 was a northwest/southeast running ditch **320** situated towards the southern end and towards the northern end of Area 1. It has already been mentioned that this was a continuation of ditch **261** from Area 1 and could also be the possible continuation of ditch **11** in the same area. Both features seem to run at the same orientation. It also raises the question as to whether ditches **11**, **261**, **320** and **350** were all linked together in one continuous northwest-southeastern line across site.
- 4.7.2 Other features located in this area were similar to those found in Areas 1 and 2. One shallow pit **234** contained Late Bronze Age pottery and the terminal end of a shallow linear **322** were seen to head beyond the LOE to the east. Examination of the geophysical survey (see Fig. 6 and 15) shows that this feature heads east into an area surrounded by a recti-linear field system or possible enclosure ditch (see above). While this feature is not explicitly highlighted by the geophysical survey results, its proximity to the recti-linear system could suggest a possible association with it.
- 4.7.3 The last feature of note is cremation **394**. Both shape, depth and size made this small oval feature reminiscent of cremation **224** in Area 1. This was an isolated cut located towards the edge of the LOE and was not surrounded by other cremated remains like those found at the western end of Area 2. The small amount of cremated bone may suggest that there was further funerary activity located in the vicinity.

4.8 Significance

- 4.8.1 The evaluation and excavation of land off Maldon Road has shown the presence of human activity dating (intermittently) from the Palaeolithic to the Roman periods. Most notably and indeed importantly, it has shown evidence of Late Bronze Age occupation and industry. In broad terms, areas of archaeological interest are located at the southern end of site, becoming less dense but nonetheless present in the middle of site to almost non-existent towards the northern end. In addition to a hint of earlier (Bronze Age, Roman and ?medieval) activity, the northern end of site predominantly shows the presence of previous land boundaries dating from the post-medieval to modern periods where conversely, the southern end does so only rarely. On current evidence, the potential for preservation of environmental remains on the site appears low, with occasional charred grains, chaff, weed seeds and charcoal, along very few animal bones and molluscs, being recovered; probably at least in part due to the sand content of the soil.
- 4.8.2 In terms of the evidence gained from the evaluation test pits, it has shown valuable evidence relating to the location and composition of Pleistocene deposits in this area. These were recorded in all the test pits excavated and, in brief, appear to represent the left bank of a wide channel flowing to the northeast. This is consistent with BGS mapping where the site is situated towards the western edge of Pleistocene deposits. These deposits equate to Southchurch/Asheldham gravels which are classed as the highest of the “Low Level East Essex Gravels” (see Appendix D.4). The eight pieces of struck flint recovered from the test pit deposits derived from coarse grained sediments laid down in relatively fast flowing water, suggesting they came from an area not immediately proximal to the site but also not necessarily from far away. They could be classed as belonging to either Clactonian or Acheulean industries. Although rare, examination of the HER record (Appendix E and Fig.2) shows that Palaeolithic finds are not uncommon in the immediate surrounding area, with a hand axe found at Creeksea Place in the 1950s (see EHER 11317) along with evidence of Clactonian industry in gravels to the east (EHER 11214), including flakes and a Swanscombe style chopper. Finds of Palaeolithic worked flint were additionally recovered to the east of the reservoir just south of Green Lane (see Fig. 2; EHER 11350) which included one core, one unretouched flake and one miscellaneous worked fragment. Collectively, all this evidence shows that the area in general exhibits signs of human activity dating from the Palaeolithic period.
- 4.8.3 Results from the extended mitigation excavation areas reinforced and substantiated the interpretation that the southern Zone C was an area of human activity, particularly during the later prehistoric period. Although rare, there were some indications of activity from the Middle Bronze Age period (including funerary activity) including the radiocarbon date of cremation **275** and pottery from pit **399** just to the east. Evidence of Late Bronze Age industry was provided by the presence of salt production briquetage and associated dumped pottery sherds. Significantly, the Late Bronze Age dated briquetage from pit **290** is rare from this period on a national scale and appears to be rarer still from this area of Essex. The scattered pits and linear features also containing small traces of Late Bronze Age pottery in Zone B are testament to the fact that the Bronze Age activity wasn't localised entirely in the south since it was also seen to spread to the north. Prehistoric features became more frequent in trenches towards the middle of the site in Zone B, particularly in the east and north-eastern corner.
- 4.8.4 Excavation work has also demonstrated that there was a both an Iron Age (albeit limited) and in particular Roman presence in the form of an extensive ditch system which overlaid previous prehistoric pit and burial features. Middle Iron Age pottery dated the layers from watering hole **285**, possibly indicating when it became disused. However, this was the only material from this period recovered. Both the evaluation trenches and the mitigation excavation areas in the southern end of the site in Zone C revealed extensive ditches relating to field systems and enclosures. In view of previous results, it is likely that these field systems are a continuation of those shown by cropmarks and investigated during the development of the Springfield Industrial estate to the east of site. The large ditch **203** contained Roman pottery dating from the 1st century AD, which when viewed in relation to the material shown in the Essex HER, appears to fit neatly with the other archaeological remains from the surrounding area. The possible ring ditches shown on the geophysical survey may relate to

roundhouses, or possibly ploughed out barrows given the presence of cremations within the mitigation areas.

- 4.8.5 Evidence from the medieval period was rare with early medieval pottery sherds restricted to ditches at the northern end of the site. Post-medieval ditch and drainage features can be related to those on the Tithe and OS maps and were associated with land management, particularly in the north of site.
- 4.8.6 In general, however, it is the southern end of the site (below the 18m contour) that has displayed frequent extant remains, revealing archaeology dating from the Middle Bronze Age to the Roman periods. The significance of the Late Bronze Age material pertaining to early salt production manufacture (and presumably settlement) is notable, as is the evidence of funerary activity given the location of the site overlooking the River Crouch. The Roman field system and other features can be related to the cropmarks and geophysical survey results, as well as the adjacent excavation to the east. The conglomeration of the small cremation pits at the western end of Area 2 also suggests the possibility of more of these features further to the south. The small clay lined pit **290** is definite evidence of Late Bronze Age industry (salt-making) in this immediate area, and together with the geophysical survey anomalies, indicates the potential for more features of this type on the site. This high potential for further remains is further signified by the geophysical anomalies shown immediately to the east and west of the mitigation excavation areas. The small circular features identified in the geophysical survey to the west and the rectilinear ditch system to the east further suggests the likely presence of settlement, industrial/saltworking features and/or funerary activity in the vicinity.

APPENDIX A CONTEXT INVENTORY

CONTEXT	TRENCH/AREA	LENGTH	BREADTH	THICKNESS	CATEGORY	COLOUR	COMPACTION	FINE COMPONENT	FEATURE TYPE	CUT	FILLED BY
1	site				layer	light greyish brown	soft	silty clay	topsoil	1	2
2	site				layer	mid greyish brown	firm	silty clay	subsoil		
3	68	0.85	0.68	0.1	cut				ditch terminal	3	4
4	68	0.85	0.68	0.1	fill	light greyish brown	firm	sandy silt	ditch	3	
5	68	0.75	0.75	0.06	cut				pit	5	06
6	68	0.75	0.75	0.06	fill	mid reddish brown	firm	sandy silt	pit	5	
7	68	1.8	0.5	0.2	cut				ditch	7	08
8	68	1.8	0.5	0.2	fill	mid reddish brown	friable	silty sand	ditch	7	
9	68	2	0.54	0.33	cut				ditch	10	
10	68	2	0.54	0.33	fill	mid greyish brown	friable	silty sand	ditch	9	
11	67	1	1.37	0.13	cut				gully	11	12
12	67	1	1.37	0.13	fill	mid greyish brown	firm	silty clay	gully	11	
13	56	0.77	0.74	0.2	cut				pit	13	14
14	56	0.77	0.74	0.2	fill	mid greyish brown	soft	silty sand	pit	13	
15	56	0.31	0.31	0.18	cut				posthole	15	16
16	55	0.31	0.31	0.18	fill	mid reddish brown	firm	silty sand	posthole	15	
17	55	0.22	0.21	0.16	cut				posthole	17	18
18	55	0.22	0.21	0.16	fill	dark grey brown	soft	silty sand	posthole	17	
19	55	3.34	1.36	0.4	cut				20	19	20
20	55	3.34	1.36	0.4	fill	mid grey brown	firm	silty sand	posthole	19	
21	66	1.8	2.48	0.64	cut				ditch	21	22
22	66	1.8	2.48	0.64	fill	light reddish brown	firm	clayey sand	ditch	21	22
23	69	1.2	1	0.42	cut				pit	23	24,27
24	69	1.2	1	12	fill	dark brownish grey	firm	silty sand	pit	24	
25	69/a2	1.72	1.9	0.46	cut				pit	25	26,28
26	69/a2	1.72	1.9	0.46	fill	dark brownish grey	loose	silty sand	pit	25	
27	69	1.2	1	0.32	fill	mid grey brown	firm	silty sand	pit	23	
28	69	1.72	1.9	0.27	fill	light greyish brown	soft	sandy silt	pit	25	
29	5	1	1.4	0.52	cut				ditch	29	30
30	5	1	1.4	0.52	fill	dark brownish grey	loose	sandy silt	ditch	29	
31	65	1.8	1.28	0.45	cut				ditch	31	32
32	65	1.8	1.28	0.45	fill	dark grey brown	loose, waterlogged	silty sand	ditch	31	
33	65	1.8	6	0	cut				palaeochannel	33	34
34	65	1.8	6	0	fill	mixed mid brownish grey	firm	silty clay	palaeochannel	33	

35	5	2	0.35	0.11	cut					gully	35	36
36	5	1	0.35	0.11	fill	light grey, mixed with mid red brown	loose/soft	sandy silt		gully	35	
37	5	1	0.84	0.13	cut					ditch	37	38
38	5	1	0.84	0.13	fill	mid grey, mixed with mid reddish brown	soft/loose	sandy silt		ditch	37	
39	8	1	0.94	0.22	cut					ditch	39	40
40	8	1	0.94	0.22	fill	light orangey grey	firm	silty clay		ditch	39	
41	17	1.8	1.1	0.32	ditch					ditch	41	42
42	17	1.8	1.1	0.32	fill	mid greyish brown	firm and plastic	silty clay		ditch	41	
43	1	0.24	0.24	0.08	cut					pit	0	44, 51
44	1	0.11	0.11	0.06	fill	dark grey	soft	sandy silt		ditch	43	
45	1	0.55	0.45	0.06	cut					pit	45	46
46	1	0.55	0.45	0.06	cut	mid brownish grey	soft	sandy silt		pit	45	
47	1	0.75	0.64	0.1	cut					pit	47	48
48	1	0.75	0.64	0.1	fill	dark greyish brown	soft	sandy silt		pit	47	
49	10	1	0.71	0.07	cut					ditch	49	50
50	10	1	0.71	0.07	fill	mid brownish grey	firm	silty clay		ditch	49	
51	1	0.24	0.24	0.08	fill	mid brownish grey	soft	sandy silt		pit	43	
52	10	1	1.14	0.38	cut					ditch	52	53
53	10	1	1.41	0.38	fill	mid greyish brown	firm	silty clay		ditch	52	
54	54	1.8	0.84	0.16	cut					gully	54	55
55	54	1.8	0.84	0.16	fill	light greyish brown	firm	silty clay		gully	54	
56	22	2	0.72	0.18	cut					gully	56	57
57	22	2	0.72	0.18	fill	dark greyish brown	plastic	clayey silt		gully	56	57
58	9	1.92	0.88	0.18	cut					pit	58	59
59	9	1.92	0.88	0.18	cut	mid orangey brown	firm	silty clay		pit	58	
60	22	2	1.25	0.37	cut					ditch	60	61
61	22	2	1.25	0.37	fill	dark brownish grey	plastic	sandy silt		ditch	60	
62	22	2	0.77	0.2	cut					gully	62	63
63	22	2	0.77	0.2	cut	mid brownish grey	plastic	silty sand		gully	62	
64	18	2.05	1.47	0.1	cut					pit	64	65
65	18	2.05	1.47	0.1	fill	mid brownish grey	firm	silty clay		pit	64	
66	19	1	1	0.26	cut					ditch	66	67
67	19	1	1	0.26	fill	mid greyish brown	plastic	sandy clay		ditch	66	
68	19	1	0.84	0.26	cut					ditch	68	69
69	19	1	0.84	0.26	fill	mid greyish brown	plastic	silty clay		ditch	68	
70	19	1.8	0.92	0.4	cut					ditch	70	71
71	20	1.8	0.92	0.4	fill	mid brownish grey	plastic	silty clay		ditch	70	
72	20	1.8	0.4	0.1	cut					gully	72	73
73	27	1.8	0.4	0.1	fill	light orangey grey	soft, baked hard	silty clay		gully	72	
74	27	1	0.83	0.2	cut					ditch	74	75
75	27	2.8	0.83	0.2	fill	mid greyish brown	plastic	sandy silt		ditch	74	

76	20	1.8	1.03	0.18	cut					gully	76	77
77	20	1.8	1.03	0.18		mid greyish brown	firm	sandy clay		gully	76	
78	34	1.5	0.93	0.43	cut					ditch	78	79
79	34	1.5	0.93	0.43	fill	light grey brown	friable	sandy silt		ditch	78	
80	50	0.98	0.53	0.16	cut					pit	0	
81	50	0.98	0.53	0.16	fill	dark brown	firm	silty clay		pit	80	
82	50	1	1	0.3	cut					ditch	82	83
83	50	1	1	0.3	fill	mid orange grey	firm	silty clay		ditch	82	
84	50	1	0.34	0.16	cut					ditch	84	85
85	50	1	0.34	0.16	fill	mid brown grey	friable / soft	silty sand		gully	84	
86	50	1.8	1.3	0.22	cut					ditch	86	87
87	50	1.8	1.3	0.22	fill	light grey brown	soft	sandy silt		gully	86	
88	52	1	1.7	0.4	cut	light brown grey	firm	clay silt		ditch	88	89
89	52	1	1.7	0.4	fill	light brown grey	firm	clay silt		ditch	88	
90	20	0.68	0.28	0.06	cut					pit	90	91
91	20	0.68	0.28	0.06	fill	mid greyish brown	soft, dried loose	silty sand		pit	90	
92	21	1	1.13	0.33	cut					ditch	0	93
93	21	1	1.13	0.33	fill	dark greyish brown	plastic	clayey silt		ditch	92	
94	44	1	1.12	0.44	cut	mid brownish grey.	firm	silty clay		ditch	94	95
95	44	1	1.12	0.44	fill	light brownish grey	firm	silty sand		ditch	94	
96	44	2.35	1.5	1.6	cut					pit	96	97,98,99,100,101,102
97	38	0.85	0.65	0.44	fill	light yellowish brown	firm	silty sand		pit	96	
98	38	0.69	0.15	0.1	fill	dark brownish grey	firm	silty sand		pit	96	
99	38	0.46	0.2	0.06	fill	dark greyish brown	firm	silty sand		pit	96	
100	38	0.45	0.33	0.2	fill	mid yellowish red	firm	silty sand		pit	96	
101	38	0.98	0.48	0.18	fill	light greyish brown	firm	silty sand		pit	96	
102	38	0.98	0.48	0.18	fill	light reddish brown	firm	silty sand		pit	96	
103	51	3	0.64	0.16	cut					ditch	103	104
104	51	1.6	0.64	0.16	fill	mid reddish greyish brown	soft	silty sand		ditch	103	
105	51	0.2	0.16	0.11	fill	dark brownish grey	soft	sandy silt		posthole	106	
106	51	0.2	0.16	0.11	cut					posthole	106	105,107
107	51	0.1	0.05	0.05	cut	dark brownish grey	friable	silt		posthole	106	
108	51	0.29	0.15	0.13	cut					posthole	108	109
109	51	0.29	0.15	0.13	fill	mid greyish brown	soft	sandy silt		posthole	108	
110	51	0.37	0.27	0.12	cut					posthole	110	111
111	51	0.37	0.27	0.12	fill	mid greyish/yellowish brown	soft	sandy silt		posthole	0	
112	55	1.8	0.55	0.16	cut	light brownish grey	firm	sandy silt		ditch	112	113
113	55	1.8	0.55	0.16	fill	light brownish grey	firm	sandy silt		ditch	112	
114	53	1.8	0.88	0.2	cut					ditch	114	115
115	53	1.8	0.88	0.2	fill	mid orangey brown	firm	sandy silt		ditch	114	
116	51	0.1	0.09	0.06	fill	dark brownish grey	soft	sandy silt		posthole	11	

117	38	1.44	1.3	0.71	cut				pit	117	
118	38	1.44	1.3	0.31	fill	light yellowish brown	firm	silty sand	pit	117	
119	39	2.4	1.3	0.4	cut				ditch	119	120
120	39	1	1.3	0.4	cut	light greyish brown	firm	sandy silt	ditch	19	
121	39	2	1.87	0.24	cut				pit	121	122
122	39	1	1.87	0.24	fill	mid brownish grey,	soft	silty sand	pit	121	
123	49	0.29	0.27	0.08	cut				posthole	123	124
124	49	0.24	0.27	0.08	fill	dark bluish grey	firm	silty sand	posthole	123	
125	52	1.2	0.67	0.27	cut				ditch	125	126
126	52	1.2	0.67	0.27	fill	light yellow grey	firm	clay silt (90:10)	ditch	125	
127	52	1	0.33	0.08	cut				gully	127	128
128	52	1	0.33	0.08	fill	light brown grey	firm	silty clay	gully	127	
129	52	0.29	0.28	0.14	cut				posthole	129	130
130	60	0.29	0.27	0.12	fill	mid greyish brown	firm	silty sand	gully	129	
131	41	0.23	0.2	0.15	cut				posthole	131	132
132	41	0.27	0.29	0.15	fill	mid brownish/yellowish grey	soft	sandy silt	posthole	131	
133	41	0.35	0.37	0.19	pit				pit	133	134
134	41	0.35	0.37	0.19	fill	mid brownish/yellowish grey	soft	sandy silt	pit	133	
135	35	1.25	1.8	0.4	cut				pit	135	136
136	35	1.25	1.8	0.4	fill	light greyish yellow	firm	sandy silt	pit	135	
137	35	1.8	1.16	0.18	cut				ditch	137	138
138	35	1.8	1.16	0.18	cut	mid orangey brown	firm	silty clay	ditch	137	
139	59	0.35	0.28	0.11	cut				posthole	139	140
140	59	0.35	0.28	0.11	fill	mid brownish grey	firm	silty sand	posthole	139	
141	41	0.64	0.54	0.15	cut				pit	141	142,143
142	41	0.23	0.54	0.14	fill	light greyish yellow	soft	silty sand	pit	141	
143	41	0.64	0.19	0.35	fill	pale greyish yellow	soft	silty sand	pit	141	
201	55	3.33	0.68	0.36	cut				ditch	201	202
202	55	3.33	0.68	0.36	fill	mid greyish brown	soft	silty sand	ditch	201	
203	a1	1	1.2	0.37	cut				ditch	203	205
204	a1	1	1.2	0.37	fill	mid brownish grey	friable	silty sand	ditch	203	
205	a1	1.95	0.94	0.3	cut				pit	205	206,207,208
206	a1	1	0.52	0.11	fill	mid brownish grey	friable	silty sand	pit	205	
207		1	0.8	0.8	fill	dark brownish grey	soft, plastic when compressed	sandy silt clay (10:40:50)	pit	205	
208	a1	1	0.82	0.1	fill	mid brownish grey	soft, somewhat friable	silty sand	pit	205	
209	a1	2.9	0.95	0.24	cut				pit	209	210
210	a1	2.9	0.95	0.24	fill	light brownish grey	friable	clayey silt	pit	209	210
211	a1	2.32	1.07	0.3	cut				ditch	211	212
212	a1	2.32	1.07	0.3	fill	mid brownish grey	firm	silty sand	ditch	211	212

213	a1	1	1.96	0.55	cut				ditch	213	214
214	a1	1	1.96	0.35	fill	dark greyish brown	firm	silty sand	ditch	213	
215	a1	0.76	0.7	0.14	cut				pit	215	216
216	a1	0.76	0.7	0.14	fill	light brownish grey	friable	clayey silt	pit	215	
217	a1	1	2.1	0.7	cut				ditch	217	218
218	a1	1	2.1	0.7	fill	mid brownish grey	soft	silty sand	ditch	217	
219	a1	1	1.86	0.44	cut				ditch	219	220
220	a1	1	1.86	0.44	fill	mid brownish grey	firm	silty sand	ditch	219	
221	a1	1.8	2.11	0.45	cut				pit	221	222, 223
222	a1	0.77	1.3	0.17	fill	pale greyish brown	firm	sandy silt	pit	221	
223	a1	0.47	2.11	0.34	fill	mid greyish brown	firm	clayey silt	pit	221	
224	a1	0.86	0.54	0.12	cut				pit	224	225, 226, 227
225	a1	0	0.41	0.05	fill	dark brownish grey	soft	sandy silt	cremation	224	
226	a1	0	0.32		fill	light orangey brown	firm	silty clay	cremation	224	
227	a1	0.4	0.58	0.08	layer	light yellowish grey	firm	silty clay	scorch halo for cremation	224	
228	a1	2.1	1.43	0.7	cut				pit	228	229, 232
229	a1	2.1	1.43	0.44	fill	mid greyish brown	friable	clayey silt	pit	228	
230	a1	3.15	0.9	0.4	cut				pit	230	231
231	a1	3.14	0.9	0.4	fill	light brownish grey	firm	silty sand	pit	230	
232	a1	1.62	1.43	0.3	fill	light brownish grey	friable	clayey silt	pit	228	
233	a1	0.8	0.43	0.16	cut				pit	233	234
234	a1	0.8	0.43	0.16	fill	mid brownish grey	firm	silty sand	pit	233	
235	a1	1.48	0.83	0.22	cut				pit	235	236
236	a1	1.48	0.83	0.22	fill	light brownish grey	firm	silty sand	pit	235	
237	a1	3	0.84	0.19	cut				ditch	237	238
238	a1	3	0.84	0.19	fill	mid yellowish brown	firm	silty sand	ditch	237	
239	a1	1.9	1.18	0.23	cut				pit	234	240, 241
240	a1	1.05	0.46	0.23	fill	light reddish brown	firm	silty sand	pit	239	
241	a1	1.05	0.6	0.15	fill	mid greyish brown	firm	sandy silt	pit	239	
242	a1	1.86	1.1	0.32	cut				pit	242	243
243	a1	1.86	1.1	0.32	fill	light brownish grey	friable	clayey silt	pit	242	
244	a1	0.88	1.9	0.42	cut				ditch	244	246
245	a1	1.16	0.86	0.4	cut				gully	245	
246	a1	1.16	1.9	0.42	fill	mid brownish grey	firm	silty sand	ditch	244	
247	a1	1.5	0.18	0.2	cut				gully	247	248
248	a1	1.5	0.18	0.2	fill	mid brownish grey	firm	silty sand	gully	247	
249	a1	2.2	0.87	0.24	cut				pit	249	250
250	a1	2.2	0.87	0.24	fill	mid brownish grey	firm	silty sand	pit	249	
251	a1	1	2.8	0.62	cut				ditch	251	252
252	a1	1	2.8	0.62	fill	mid brownish grey	soft	silty sand	ditch	251	
253	a1	1	0.42	0.09	cut				gully	253	254

254	a1	1	0.42	0.09	fill	light brownish grey	firm	silty sand	gully	253	
255	a1	3.64	2.56	0.97	cut				pit	255	256
256	a1	3.64	2.26	0.97	fill	mid greyish brown	firm	sandy silt	pit	255	
257	a1	1	1.2	0.4	cut				ditch	257	
258	a1	1	1.2	0.4	fill	mid greyish brown	firm	silty sand	ditch	257	
259	a1	1.15	0.68	0.13	cut				pit	259	260
260	a1	1.15	0.68	0.13	fill	mid brownish grey	firm	silty sand	pit	259	
261	a1	1	1.68	0.45	cut				ditch	261	262, 263
262	a1	1	0.23	0.04	fill	light whitish grey	soft	silty sand	ditch	261	
263	a1	1	1.68	0.36	fill	mid brownish grey	loose	silty sand	ditch	261	
264	a1	1	1.4	0.43	cut				ditch	264	265
265	a1	1	1.4	0.43	fill	mid yellowish grey	firm	silty clay	ditch	264	
266	a1	0.89	0.76	0.24	cut				cremation	266	267
267	a1	0.89	0.76	0.24	fill	dark blueish grey	firm	silty sand	cremation	266	
268	a1	0.49	0.47	0.35	cut				pit	268	269, 270
269	a1	0.4	0.29	0.28	fill	dark blueish grey	soft	charcoal	pit	268	
270	a1	0.47	0.47	0.13	fill	mid brownish grey	soft	silty sand	pit	268	
271	a2	0.49	0.39	0.19	cut				cremation	271	272
272	a2	0.49	0.39	0.19	fill	dark blueish grey	firm	ashy sand	cremation	272	
273	a2	0.44	0.33	0.14	cut				cremation	273	274
274	a2	0.44	0.33	0.14	fill	mid reddish yellow	soft	sand	cremation	273	
275	a2	0.76	0.67	0.26	cut				cremation	275	276
276	a2	0.76	0.67	0.26	fill	dark blueish grey	firm	ashy sand	cremation	275	
277	a1	0.22	0.22	0.16	cut				posthole	277	278
278	a1	0.22	0.22	0.16	fill	mid brownish grey	firm	silty clay	posthole	277	
279	a1	0.2	0.15	0.13	cut				posthole	279	280
280	a1	0.2	0.15	0.13	fill	light brownish grey	firm	silty sand	posthole	279	
281	a1	1.18	1.1	0.33	cut				pit	281	282
282	a1	1.18	1.1	0.33	fill	light brownish grey	firm	silty clay	pit	281	
283	a1	1	0.52	0.28	cut				gully	283	284
284	a1	1	0.52	0.28	fill	mid greyish brown	loose	silty sand	gully	283	
285	a1	4.4	1.8	2.6	cut				pond	285	286, 287, 288, 289
286	a1	4.4	1.8	0.44	fill	mid brownish grey	firm	silty clay	pond	285	
287	a1	4.4	1.8	0.3	fill	light brownish grey	firm	silty clay	pond	285	
288	a1	1.1	1.8	0.5	fill	mid brownish grey	firm	silty clay	pond	285	
289	a1	1.1	1.8	0.5	fill	mid orange	firm	clay	pond	285	
290	a1	0.95	1.11	0.46	cut				pit	290	291, 292, 311, 312
291	a1	1.01	1.11	0.04	fill	pale blueish grey	firm	clay	pit	290	
292	a1	1.01	1.09	0.19	fill	dark greyish brown	soft	clayey silt	pit	290	
293	a2	1	0.72	0.14	cut				gully	293	294
294	a1	1	0.72	0.14	fill	mid greyish brown	firm	silty sand	gully	293	

295	a2	1	1	0.4	cut				ditch	295	296
296	a1	1	1	0.4	fill	mid greyish brown	firm	silty sand	ditch	295	
297	a1	1	0.7	0.15	cut				gully	297	298
298	a1	1	0.07	0.15	fill	mid orangey grey	firm	silty clay	gully	297	
299	a1	1	0.65	0.19	cut				gully	299	300
300	a1	1	0.65	0.19	fill	mid orangey grey	firm	silty clay	gully	299	
301	a1	0.48	0.48	0.21	cut				posthole	301	302
302	a1	0.48	0.48	0.21	fill	mid greyish brown	firm	silty clay	posthole	301	
303	a1	0.16	0.16	0.07	cut				posthole	303	304
304	a1	0.16	0.16	0.07	fill	dark brownish grey	firm	silty clay	posthole	303	
305	a1	1.7	0.52	0.23	cut				pit	305	306
306	a1	1.7	0.52	0.23	fill	mid brownish grey	firm	silty sand	pit	305	
307	a2	0.93	0.88	0.29	cut				pit	307	308
308	a2	0.93	0.88	0.29	fill	mid brownish grey	firm	silty sand	pit	307	
309	a2	1.56	1.3	0.3	cut				pit	309	310
310	a2	1.56	1.3	0.3	fill	mid brownish grey	friable	silty sand	pit	309	
311	a1	0.97	1.08	0.3	fill	mid brownish grey	soft	sandy silt	pit	290	
312	a1	0.95	0.6	0.17	fill	mid brownish grey	soft	sandy silt	pit	290	
313	a1	1	1.62	0.75	cut				ditch	313	314
314	a1	1	1.62	0.48	fill	mid reddish grey	firm	silty clay	ditch	313	
315	a1	1	1.28	0.48	fill	mid reddish grey	firm	silty clay	ditch	313	
316	a1	0.8	0.72	0.12	cut				posthole	316	317
317	a1	0.8	0.72	0.12	fill	light yellowish grey	concrete	sandy clay	posthole	316	
318	a1	0.28	0.26	0.13	cut				posthole	318	319
319	a1	0.28	0.26	0.13	fill	dark greyish grey	friable	sandy silt	posthole	318	
320	a3	1	0.85	0.3	cut				ditch	320	321
321	a3	1	0.85	0.3	fill	light brownish grey	friable	silty clay	ditch	320	
322	a3	1	1.2	0.18	cut				ditch	322	323
323	a3	1	1.2	0.18	fill	light brownish grey	friable	sandy silt	ditch	322	
324	a3	1.1	1.1	0.12	cut				pit	324	325
325	a3	1.1	1.1	0.12	fill	mid brownish grey	loose	sandy silt	pit	324	
326	a1	0.8	0.72	0.1	fill	light yellowish grey	firm	silty clay	posthole	316	
327	a2	0.66	0.59	0.23	cut				pit	327	328
328	a2	0.66	0.59	0.23	fill	mid brownish grey	firm	silty sand	pit	327	
329	a2	0.74	0.62	0.24	cut				pit	329	330
330	a2	0.74	0.62	0.242	fill	mdi greyish brown	firm	silty clay	pit	329	
331	a2	0.62	0.61	0.24	cut				pit	331	332
332	a2	0.62	0.61	0.24	fill	mid brownish grey	firm	silty sand	pit	331	
333	a2	1.3	1.22	0.24	cut				pit	333	334, 335
334	a2	1.3	1.22	0.24	fill	mid brownish grey	firm	silty sand	pit	333	
335	a2	0.65	0.59	0.24	fill	light brownish grey	firm	silty sand	pit	333	
336	a2	0.94	0.3	0.08	cut				pit	336	337

337	a2	0.94	0.3	0.08	fill	dark brownish grey	firm	silty sand	pit	336	
338	a2	1.84	0.96	0.18	cut				pit	338	339
339	a2	1.84	0.96	0.18	fill	mid greyish brown	firm	silty sand	pit	338	
340	a2	0.74	0.62	0.27	cut				pit	340	341
341	a2	0.74	0.62	0.27	fill	mid brownish grey	firm	silty sand	pit	340	
342	a2	0.52	0.46	0.22	cut				pit	342	343
343	a2	0.52	0.46	0.22	fill	mid brownish grey	friable	silty sand	pit	342	
344	a2	0.63	0.5	0.18	cut				pit	344	345
345	a2	0.63	0.5	0.18	fill	mid brownish grey	firm	silty sand	pit	344	
346	a2	0.43	0.37	0.16	cut				pit	346	347
347	a2	0.43	0.37	0.16	fill	mid brownish grey	firm	silty sand	pit	346	
348	a2	0.31	0.32	0.06	cut				pit	348	349
349	a2	0.31	0.32	0.06	fill	mid brownish grey	firm	silty sand	pit	348	
350	a2	1	0.54	0.15	cut				gully	350	351
351	a2	1	0.54	0.15	fill	mid brownish grey	friable	silty sand	gully	350	
352	a2	0.32	0.7	0.12	cut				pit	352	353
353	a2	0.32	0.7	0.12	fill	mid brownish grey	firm	silty sand	pit	352	
354	a2	0.51	0.56	0.15	cut				pit	354	355
355	a2	0.51	0.56	0.15	fill	dark brownish grey	firm	sandy silt	pit	354	
356	a2	1.8	1.05	0.2	cut				pit	356	357
357	a2	1.8	1.05	0.2	fill	mid brownish grey	friable	clayey silt	pit	356	
358	a2	1.15	0.85	0.18	cut				pit	358	359
359	a2	1.15	0.85	0.18	fill	mid yellowish brown	firm	sandy silt	pit	358	
390	a2	0.45	0.31	0.11	cut				cremation	390	391
391	a2	0.45	0.31	0.11	fill	dark grey/black	friable	silty sand	cremation	390	
392	a2	1	0.94	0.2	cut				pit	392	393
393	a2	1	0.94	0.2	fill	dark brownish grey	loose	sandy silt	pit	392	
394	a3	0.3	0.3	0.17	cut				pit	394	395
395	a3	0.3	0.3	0.17	fill	dark brownish grey	soft	sandy silt	pit	394	
396	a3	0.76	0.68	0.47	cut				pit	396	397, 398
397	a3	0.68	0.76	0.3	fill	dark greyish brown	soft	silty sand	pit	396	
398	a3	0.76	0.68	0.3	fill	light yellowish grey	loose	silty sand	pit	396	
399	a2	0.63	0.63	0.26	cut				pit	399	400
400	a2	0.63	0.63	0.26	fill	mid greyish brown	friable	silty sand	pit	399	
401	a2	0.5	0.5	0.14	cut				cremation	401	402
402	a2	0.5	0.5	0.14	fill	dark grey	soft	sandy silt	cremation	401	
403	a2	0.22	0.22	0.13	cut				posthole	403	404
404	a2	0.22	0.22	0.13	fill	mid greyish brown	friable	silty sand	posthole	403	
405	site	0			layer				natural geology	0	

APPENDIX B TRENCH SUMMARY

Trench number	Top soil max. depth (m)	Sub soil max. depth (m)
1	0.3	0.15
2	0.29	0.17
3	0.27	0.12
4	0.28	0.13
5	0.32	0.20
6	0.29	0.15
7	0.26	0.16
8	0.31	0.13
9	0.31	0.16
10	0.38	0.19
11	0.35	0.27
12	0.27	0.14
13	0.28	0.12
14	0.26	0.20
15	0.31	0.14
16	0.24	0.18
17	0.32	0.18
18	0.36	0.12
19	0.33	0.32
20	0.26	0.24
21	0.39	0.17
22	0.36	0.22
23	0.30	0.12
24	0.34	0.15
25	0.31	0.13
26	0.36	0.11
27	0.32	0.22
28	0.36	0.12
29	0.31	0.20
30	0.33	0.16

Trench number	Top soil max. depth (m)	Sub soil max. depth (m)
31	0.35	0.23
32	0.34	0.21
33	0.30	0.10
34	0.25	0.15
35	0.30	0.12
36	0.23	0.17
37	0.20	0.15
38	0.30	0.13
39	0.28	0.12
40	0.30	0.20
41	0.35	0.11
42	0.30	0.17
43	0.29	0.17
44	0.29	0.10
45	0.26	0.16
46	0.35	0.15
47	0.32	0.12
48	0.27	0.15
49	0.34	0.11
50	0.26	0.15
51	0.42	0.12
52	0.28	0.14
53	0.24	0.22
54	0.32	0.33
55	0.35	0.15
56	0.34	0.09
57	0.28	0.23
58	0.30	0.19
59	0.28	0.16
60	0.32	0.18
61	0.36	0.14
62	0.30	0.18

Trench number	Top soil max. depth (m)	Sub soil max. depth (m)
63	0.25	0.16
64	0.27	0.14
65	0.33	0.14
66	0.34	0.22
67	0.34	0.11
68	0.27	0.27
69	0.30	0.12
70	0.37	0.22
71	0.31	0.16
72	0.39	0.15
73	0.25	0.18
74	0.34	0.18
75	0.29	0.22

APPENDIX C FINDS REPORTS

C.1 Prehistoric pottery

By Nick Gilmour

Introduction

- C.1.1 The evaluation and mitigation yielded a total of 464 sherds of prehistoric pottery (6835g) with a high mean sherd weight (MSW) of 14.7g.
- C.1.1 The largest assemblages of pottery were recovered from pits **23** and **25** in evaluation Trench 69, along with pit **62** in Mitigation Area 3. Smaller amounts were also recovered from ditches and a pit within evaluation Trenches 1, 34, 38 and 50, along with all three Mitigation excavation areas 1-3 (Table 1).
- C.1.1 Almost all of the pottery dates from the Late Bronze Age. It includes a small number of feature sherds characteristic of Post-Deverel-Rimbury ceramics, together with fabrics typically associated with this ceramic tradition in the region. A small quantity of Middle Bronze Age pottery was also recovered, almost entirely from pit **399** in Area 2.
- C.1.1 Most of the pottery is in good condition. Although some sherds are abraded, most are quite fresh and large, as reflected by the high MSW.

Trench/Area	Context	Cut	Feature Type	Sum of No sherds	Sum of Wt (g)	Initial Spot Date
	2		subsoil	1	3	prehist
66	22	21	ditch	2	14	LBA
				2	16	prehist
69	24	23	pit	26	473	LBA
69	26	25	pit	88	1844	LBA
69	27	23	pit	40	822	LBA
69	28	25	pit	17	218	LBA
1	44	43	ditch	2	10	LBA
34	79	78	ditch	63	841	LBA
50	87	86	gully	1	3	LBA
38	101	96	pit	1	3	LBA
A1	223	221	pit	0	0	prehist
A1	229	228	pit	2	11	LBA
A1	234	233	pit	1	3	LBA
A1	246	224	ditch	1	3	LBA
A1	248	247	gully	1	1	LBA
A1	256	255	pit	13	52	LBA
A1	258	257	ditch	2	12	LBA
A1	263	261	ditch	1	6	LBA
A1	266	266	cremation	15	77	LBA
A1	278	277	posthole	1	5	LBA

Trench/Area	Context	Cut	Feature Type	Sum of No sherds	Sum of Wt (g)	Initial Spot Date
A1	286	285	pond	2	13	LBA
				18	64	MIA
A1	292	290	pit	1	2	LBA
A2	308	307	pit	15	183	LBA
A2	310	309	pit	19	170	LBA
A1	312	290	pit	9	201	LBA
A1	314	313	ditch	2	6	LBA
A1	315	313	ditch	2	17	LBA
A3	325	324	pit	5	8	LBA
A2	330	329	pit	1	8	LBA
A2	334	333	pit	2	16	LBA
A2	335	333	pit	2	18	LBA
A2	339	338	pit	6	53	LBA
A2	341	340	pit	2	63	LBA
A2	351	350	gully	3	31	LBA
A2	393	392	pit	2	4	LBA
A3	397	396	pit	62	1041	LBA
A3	398	396	pit	8	39	LBA
A2	400	399	pit	22	449	MBA
A2	404	403	posthole	1	32	MBA
Total				464	6835	

Table 1. Quantification of prehistoric pottery

Methodology

- C.1.1 All the pottery has been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (2011). After a full inspection of the assemblage, fabric groups were devised on the basis of dominant inclusion types, their density and modal size. Sherds from all contexts were counted, weighed (to the nearest whole gram) and assigned to a fabric group. Sherd type was recorded, along with evidence for surface treatment, decoration, and the presence of soot and/or residue. Rim and base forms were described using a codified system recorded in the catalogue, and were assigned vessel numbers. Where possible, rim and base diameters were measured, and surviving percentages noted. In cases where a sherd or groups of refitting sherds retained portions of the rim, shoulder and/or other diagnostic features, the vessel was categorised by ceramic tradition.
- C.1.1 All pottery was subject to sherd size analysis. Sherds less than 4cm in diameter were classified as 'small' (151 sherds); sherds measuring 4-8cm were classified as 'medium' (77 sherds), and sherds over 8cm in diameter will be classified as 'large' (15 sherds). The quantified data is presented on an Excel data sheet held with the site archive.

Prehistoric pottery fabrics

FS1: Moderate fine to medium flint and moderate sand

- FS2: Moderate medium to coarse flint and sparse sand
- FS3: Sparse fine flint and moderate sand
- FS4: Abundant fine to medium flint and sparse sand
- FS5: Common medium to coarse flint and sparse sand
- FS6: Moderate coarse flint (>6mm) and common sand
- FS7: rare very coarse flint (<12mm), rare medium flint and moderate sand (some micaceous)
- GF1: Moderate fine grog, sparse medium flint and sparse sand
- GF2: Moderate medium to very coarse grog and sparse medium flint
- SA1: moderate fine quartz sand, some micaceous

Fabric type	Sum of No sherds	Sum of Wt (g)	% fabric (by wt.)	MNV
FS1	116	1256	18.38	5
FS2	198	4084	59.75	10
FS3	24	176	2.57	0
FS4	15	77	1.13	0
FS5	5	112	1.64	0
FS6	73	769	11.25	1
FS7	4	130	1.90	0
GF1	8	79	1.16	1
GF2	2	82	1.20	0
SA1	19	70	1.02	0
Total	464	6835	100	17

Table 2. Quantification of prehistoric pottery by fabric. MNV calculated as the total number of different rims (17 rims).

Middle Bronze Age pottery

- C.1.1 A total of 23 sherds (481g) of pottery from the investigations is of Middle Bronze Age date. All of this material came from Area 2 in Zone C. All of this pottery is in flint in sand tempered fabrics FS6 and FS7, with most (19 sherds, 351g) being in fabric FS6. Although this fabric is similar to the Late Bronze Age material, the character of these sherds, as fragments of thick slab-formed vessels, is characteristic of the Deverel-Rimbury ceramic tradition.
- C.1.1 The majority of the Middle Bronze Age pottery was recovered from deposit 400 in pit **399**. This consisted of 22 sherds (449g). Much of the pottery in this feature was base sherds, which account for eight sherds (218g) of the total assemblage from pit **399**. Their similarity to each other, along with two re-fits, suggests they are from the same vessel. Given the proximity of pit **399** to several cremations related features, one of which has been dated to 1682-1526 cal BC (at 95% GU48317, 331925BP), it is possible that this feature represents a highly truncated urned cremation burial. However, this suggestion is contradicted by the presence of three body sherds (98g) of pottery in a different fabric and so presumably from a different vessel, within the same pit. Therefore, the interpretation of this feature would have to remain speculative.

Late Bronze Age pottery (evaluation)

- C.1.1 A total of 242 sherds (4244g) from the evaluation were assigned a Late Bronze Age date. The assemblage is characterised by sherds in soft flint and sand tempered fabrics FS1 and FS2, which are typical of the Late Bronze Age across East Anglia.

Trenches 1, 38, 50 and 66

- C.1.1 Only small quantities of pottery were recovered from features within these trenches. While the pottery from the features is Late Bronze Age in date, the quantities are small and so the pottery does not necessarily date the features.

Trench 34

- C.1.1 Ditch **78**, context 79 yielded 63 sherds (841g) of pottery, almost entirely in fabric FS2. These have been assigned to the Late Bronze Age on the basis of their fabric and three rim sherds. These rim sherds appear to be from the same vessel, although they do not re-fit. The rim is flat and rounded externally and on one sherd there is a deep circular impression just below the rim on the interior.

Trench 69

- C.1.1 Two pits (**23** and **25**) within Trench 69 contained significant amounts of Late Bronze Age pottery. Pit **23** contained a total of 66 sherds (1,295g) of pottery. Most of this is in flint fabrics FS1 and FS2, although a small amount is in grog and flint fabric GF1. Three different rim forms were recorded within the material from this pit. One is upright and rounded, one is upright and tapered, with the final one being everted and rounded.

- C.1.1 Pit **25** contained 105 sherds (2,062g) of pottery. This is all in flint fabrics FS1 and FS2. There are four rim forms within this group: one is upright and tapered, one hooked and one flat and lipped externally. The final rim is particularly diagnostic, it is flat and everted, with regular deep fingertip impressions along it.

Late Bronze Age pottery (Mitigation)

- C.1.1 A total of 180 sherds (2,043g) of pottery from the mitigation areas was assigned to the Late Bronze Age. This material is very similar to that from the evaluation and is characterised by sherds in flint and sand tempered fabrics FS1 and FS2.

Area 1

- C.1.1 A total of 53 sherds (409g) of pottery recovered from Area 1 was attributed to the Late Bronze Age period. Most of this material occurs as single sherds or small groups within features (Table 1). Those features which produced larger assemblages are discussed below.

- C.1.1 Pit **255** contained 13 sherds (52g) of pottery, which is all of Late Bronze Age date. These are all body sherds in fabrics FS1, FS2 and FS4, with the exception of a single rim sherd (3g) that is everted with flattened lips.

- C.1.1 Feature **266** produced 15 sherds (77g) of Late Bronze Age pottery. These are all in flint with sand fabrics and includes a single base sherd (39g) in a simple flat form.

- C.1.1 Pit **290** contained 10 sherds (203g) of Late Bronze Age pottery, within two deposits (292 and 312). Two of the sherds from fill 312 are rim sherds. One of these (30g) is particularly diagnostic, as it is flat and lipped externally, with fingernail impressed decoration on the rim top. This sherd is from a slack shouldered jar. The second rim sherd (53g) is also flat and lipped externally and from a round shouldered jar, with an upright rim.

Area 2

- C.1.1 A total of 52 sherds (546g) of Late Bronze Age pottery was retrieved from Area 2. Those features which contained more than two sherds are discussed individually below.

- C.1.1 A total of 15 sherds (183g) of Late Bronze Age pottery was recovered from pit **307**. All of these were body sherds in flint fabrics FS2 and FS4. The remains of a burnt residue survive internally on a single sherd.
- C.1.1 Pit **309** produced 19 sherds (170g) of Late Bronze Age pottery. All of these sherds are in fabrics FS1 and FS2. This material includes three rim sherds, from at least two different vessels, all of which have an upright, flat topped form.
- C.1.1 A total of six sherds (53g) of pottery was recovered from pit **338**. All of this assemblage is body sherds in fabrics FS1 and FS3.
- C.1.1 Three sherds (31g) of pottery were recovered from gully **350**; all body sherds in fabric FS1.

Area 3

- C.1.1 Area 3 produced the largest quantity of Late Bronze Age pottery from the mitigation stage, with a total of 75 sherds (1088g). This material was recovered from just two features; pit **324** and pit **396**.
- C.1.1 Pit **324** contained five sherds (8g) of pottery. These small body sherds are all in fabric FS1.
- C.1.1 The assemblage recovered from pit **396** is the most substantial for any of the features excavated during the mitigation works. It consists of 70 sherds (1080g) of pottery, some of which is highly diagnostic. A single large sherd (350g) is part of a jar with a rounded body, with an everted and rounded rim (vessel 11). A second rim sherd (30g) is probably from the same vessel.
- C.1.1 A second vessel (vessel 15) is represented by a two sherds weighing 74g. These sherds are from a small tub-shaped vessel, which has vertical wiping on the exterior. The rim on this vessel is everted, with a flattened top. Seven rim sherds (67g) from the same vessel (vessel 17) were also recovered from the pit. The rim of this vessel is upright and rounded, although little of the profile survives, it appears that these sherds form part of a small ellipsoid jar. Four re-fitting sherds (102g) from the base of a vessel are also present. This base is of a simple flat form. The remaining material consists of body sherds

Middle Iron Age

- C.1.1 A total of just 18 sherds (64g) of pottery is of Middle Iron Age date. All of this material was recovered from deposit 286 within water hole/pond **285** in Area 1. All of this pottery is in fabric SA1. A single sherd (14g) is from the base of a vessel. This base is beaded, which is a form more usual in the Middle and Late Iron Age in this region. The remaining sherds are all body sherds. However, the fabric of all of this material is as expected for Middle Iron Age ceramics in this region.

Discussion

- C.1.1 The vast majority of the prehistoric pottery assemblage dates to the Late Bronze Age. Diagnostic feature sherds are relatively rare but include fragments of Post-Deverel-Rimbury pottery and fabrics typical of the Late Bronze Age ceramic traditions of East Anglia. It is of note that there is a lack of any burnished sherds in this assemblage, as well as a lack of bowls. The absence of both of these suggests that the material may fall earlier in the Post-Deverel-Rimbury tradition. This would be further supported by the presence of the small tub-like vessel in context 397 (pit **396**), a form which is more common earlier in the Late Bronze Age.
- C.1.1 The good condition and overall character of the pottery is typical of that recovered from Late Bronze Age settlement sites.
- C.1.1 The pottery is comparable with that found on the nearby site, Land West of Southminster Road. This produced an assemblage of 168 sherds (1488g), in four flint fabrics has been dated to the Middle/Late Bronze Age (Doherty 2018, 32).

C.2 Roman pottery

By Alice Lyons

Introduction

C.2.1 A total of 166 sherds, weighing 1961g, of Late Iron Age and Early Roman pottery was recovered from two phases of work at Burnham on Crouch in Essex (Table 3).

Archaeological works	Sherd Count	Weight (g)	Weight (%)
Evaluation	55	255	13.00
Mitigation	111	1706	87.00
Total	166	1961	100.00

Table 3: The evaluation and Mitigation Romano-British pottery

C.2.2 None of the pottery was deliberately placed, rather it comprises the remains of rubbish disposal from a nearby settlement. The pottery was recovered from nine ditch segments, with the largest assemblage (79 sherds, weighing 1275g) found within ditch **251** - small amounts of pottery were also recovered from a gully and a pit (Table 4).

Feature	Sherd Count	Weight (g)	Weight (%)
Ditch	109	1670	85.16
Subsoil	28	175	8.92
Gully	22	71	3.62
Pit	7	45	2.30
Total	166	1961	100.00

Table 4: The Roman pottery from features

C.2.3 The pottery has been subject to post-depositional disturbance and as a result is fragmentary and abraded with an average sherd weight of only 11.8g.

Methodology

C.2.4 The pottery was analysed following the guidelines of the Study Group for Roman Pottery (Barclay *et al* 2016). The fabrics and forms used within this report reference those published by Biddulph *et al* 2015.

C.2.5 The total assemblage was studied and a full catalogue was prepared (available in archive; summary included as Table 8). The sherds were examined using a hand lens (x10 magnification) and were divided into fabric groups defined on the basis of inclusion types present. Vessel forms (jar, bowl) were recorded and vessel types cross-referenced and compared to other examples. The sherds were counted and weighed to the nearest whole gramme and recorded by context. Decoration, residues and abrasion were also noted.

C.2.6 OA East currently curates the pottery and archive.

Assemblage

Evaluation

C.2.7 A total of 55 sherds, weighing 255g, of Early Roman pottery was recovered from three ditches and a gully within four of the evaluation trenches (Table 5). The pottery is extremely fragmentary and severely abraded, with an average sherd weight of only 4.6g, and is typical of material that has been disturbed post-deposition and is possibly residual.

Trench	Feature type	Fabric	Form	Sherd Count	Weight (g)
5	Ditch 29	GRS	Jar/bowl	1	7
50	Ditch 82	GRS	Jar/bowl	1	1
67	Gully 11	GRS	Lid-seated jar	22	71
68	Ditch 3	STOR	Jar/bowl	3	1
	Subsoil	GRS	Jar/bowl	3	5
	Subsoil	LOND	Beaker	25	170
Total				55	255

Table 5. The evaluation Early Roman pottery assemblage

Mitigation

C.2.8 The Late Iron Age and Early Roman pottery, which totals 111 sherds, weighing 1706g, was all recovered from Area 1, with the largest assemblage (79 sherds, weighing 1275g) found within ditch **251**. Although fragmentary, this material is in a slightly better condition than that recovered during the evaluation and has an average sherd weight of 15g.

Trench	Feature type	Fabric	Form	Sherd Count	Weight (g)
A1	Ditch 203	GROGC	Storage jar	3	142
A1	Ditch 203	GRS	Jar	3	22
A1	Ditch 203	STOR	Storage jar	1	8
A1	Ditch 211	GRS	Jar	1	1
A1	Pit 215	GRS	Jar	1	4
A1	Ditch 217	GRS	Jar	11	85
A1	Ditch 251	GROG	Jar/bowl	4	103
A1	Ditch 251	GROG	Strainer	1	52
A1	Ditch 251	GROGC	Storage jar	3	395
A1	Ditch 251	GRS	Jar/bowl	37	350
A1	Ditch 251	GRS	Dish	5	113
A1	Ditch 251	GRS	Beaker	16	103

Trench	Feature type	Fabric	Form	Sherd Count	Weight (g)
A1	Ditch 251	MICW	Jar	11	98
A1	Ditch 251	SGSAM	Dish	1	4
A1	Ditch 251	VRW	Mortaria	1	57
A1	Pit 259	GROG	Jar	5	16
A1	Pit 259	GRS	Jar/bowl	1	25
A1	Ditch 261	MICW	Jar	4	76
A1	Ditch 264	GRS	Jar	1	44
A1	Ditch 264	MICW	Jar/beaker	1	8
Total				111	1706

Table 6. The Mitigation Late Iron Age and Early Roman pottery assemblage

Overview

Coarsewares

C.2.9 Although the assemblage is post-Conquest (post-AD43) in date, some conservative Iron Age-type vessels such as jar (MICW) and storage jar (GROGC) are still in use and contemporary with the Early Roman material. The storage jars are large handmade vessels with rolled rims – a vessel form also produced in the Early Roman era on the potter’s wheel (STOR). Other Late Iron Age or Early Roman wheel-made and grog tempered undiagnostic jar/bowl body sherds (GROG), also the perforated base from a strainer jar, were also recorded. The majority of the pottery, however, comprises locally produced Early Roman wheel-made coarse grey ware (GRS) jar/bowl fragments most of which are undecorated globular jar/bowl body sherds, although several fragments from one lid-seated GRS jar were found within gully **11**.

Fabric (Biddulph <i>et al</i> 2015)	Form	Sherd Count	Weight (g)	Weight (%)
Sandy grey ware: GRS	Jar, beaker, dish	103	831	42.38
Coarse grog tempered ware: GROGC	Storage jar	6	537	27.38
Miscellaneous Late Iron Age-type coarse wares: MICW	Jar	16	182	9.28
Fine grog tempered ware: GROG	Jar/bowl, strainer	10	171	8.72
Fine grey ware: LOND	Beaker	25	170	8.67
Verulamium white ware: VRW	Mortaria	1	57	2.91
Storage jar ware: STOR	Storage jar	4	9	0.46
South Gaulish samian: SGSAM	Dish	1	4	0.20
Total		166	1961	100.00

Table 7: The Roman pottery quantified by fabric

Fine wares

C.2.10 Fine wares are rare within this small group of pottery. Only a small piece of South Gaulish samian (4g) from an undiagnostic dish was found which dates from the second half of the 1st century AD (Tyers 1996, 112). Also worthy of note is the London fine ware (LOND) beaker, found unstratified within the

sub-soil, which is decorated with fine incised vertical lines and stabbed diamond motifs and may be an early product of the Hadham industry (Tyers 1986, 171, fig 213, no 10).

Specialist wares

C.2.11 No amphora was found (Tyers 1996 85-105). Only a single body-sherd fragment from a Verulamium white ware mortaria or mixing bowl was recovered, which was manufactured between AD 50-160 (Tyers 1996, 132-134).

Conclusion

C.2.12 This is a relatively small Early Roman pottery assemblage, largely comprising utilitarian coarse wares typical of domestic use in the region between the mid to late 1st century AD. Its severely abraded condition means it is not suitable for further analysis or illustration.

Retention, dispersal or display

C.2.13 This pottery is not suitable for display. If ownership is transferred by the landowner the pottery (particularly the London ware) would make a useful addition to the OA East fabric series.

Evaluation or Mitigation	Trench	Feature	Fabric	Form	Sherd count	Weight (g)
Evaluation	5	Ditch 29	GRS	Jar/bowl	1	7
Evaluation	50	Ditch 82	GRS	Jar/bowl	1	1
Evaluation	67	Gully 11	GRS	Lid-seated jar	22	71
Evaluation	68	Ditch 3	STOR	Jar/bowl	3	1
Evaluation		Subsoil	GRS	Jar/bowl	3	5
Evaluation		Subsoil	LOND	Beaker	25	170
Mitigation	A1	Ditch 203	GROGC	Storage jar	3	142
Mitigation	A1	Ditch 203	GRS	Jar	3	22
Mitigation	A1	Ditch 203	STOR	Storage jar	1	8
Mitigation	A1	Ditch 211	GRS	Jar	1	1
Mitigation	A1	Pit 215	GRS	Jar	1	4
Mitigation	A1	Ditch 217	GRS	Jar	11	85
Mitigation	A1	Ditch 251	GROG	Jar/bowl	4	103
Mitigation	A1	Ditch 251	GROG	Strainer	1	52
Mitigation	A1	Ditch 251	GROGC	Storage jar	3	395
Mitigation	A1	Ditch 251	GRS	Jar/bowl	37	350
Mitigation	A1	Ditch 251	GRS	Dish	5	113
Mitigation	A1	Ditch 251	GRS	Beaker	16	103
Mitigation	A1	Ditch 251	MICW	Jar	11	98

Evaluation or Mitigation	Trench	Feature	Fabric	Form	Sherd count	Weight (g)
Mitigation	A1	Ditch 251	SGSAM	Dish	1	4
Mitigation	A1	Ditch 251	VRW	Mortaria	1	57
Mitigation	A1	Pit 259	GROG	Jar	5	16
Mitigation	A1	Pit 259	GRS	Jar/bowl	1	25
Mitigation	A1	Ditch 261	MICW	Jar	4	76
Mitigation	A1	Ditch 264	GRS	Jar	1	44
Mitigation	A1	Ditch 264	MICW	Jar/beaker	1	8

Table 8: Details of pottery recovered in both evaluation and mitigation stages

C.3 Post-Roman pottery

By Carole Fletcher

Introduction and methodology

- C.3.1** Archaeological works produced a small assemblage of post-Roman pottery (13 sherds, 0.076kg), from two gullies and a ditch, across three trenches.
- C.3.2** The Prehistoric Ceramics Research Group (PCRG), Study Group for Roman Pottery (SGRP), and The Medieval Pottery Research Group (MPRG), 2016 *A Standard for Pottery Studies in Archaeology* and the MPRG *A guide to the classification of medieval ceramic forms* (MPRG 1998) act as standards. However, a simplified method of recording only has been undertaken, with fabric, basic description, weight and count recorded in the text, using, for fabric classification of sherds, Essex fabric types (Cotter 2000). The pottery and archive are curated by Oxford Archaeology East until formal deposition or dispersal.

Assemblage

- C.3.3** Trench 5, gully **35** produced eight moderately abraded to abraded sherds (0.035kg) from a sooted early medieval vessel, tentatively identified as Early medieval sandy ware ((Fabric 13) Cotter 2000, 39-40). Trench 10, ditch **52**, produced a more mixed assemblage of three sherds from vessels of differing periods. These are a single undiagnostic, greyware body sherd (0.006kg), tentatively identified as Medieval sandy greyware ((Fabric 20) Cotter 2000, 91-92), and an externally and internally clear glazed sherd, with slight iron mottling from a Post-medieval red earthenware ((Fabric 40) Cotter 2000 p189) jar or bowl (0.012kg). The final sherd is a small fragment from a blue transfer-printed ?Pearlware (Fabric 48P) vessel (0.001kg).
- C.3.4** Trench 67, gully **11** produced two moderately abraded sherds of pottery (0.022kg), tentatively identified as Medieval sandy greyware (Fabric 20) Cotter 2000, 91-92); the joining body sherds are from a jar or jug.
- C.3.5** The largest group of sherds was recovered from Area 1 (20 sherds, weighing 0.263kg), all from ditch **219**. The pottery the ditch produced includes the moderately abraded rim and base sherds (4 sherds, 0.176kg) from a large, sooted, Early medieval sandy ware jar (Fabric 13 Cotter 2000, 39-40), rim diameter of 340mm, type B1B (Cotter 2000, 47-49, 50 fig 27), base slightly convex and obtuse. Cotter states that 'the plain thickened rims (B1B) always seem to have been common, [but] declined a little in the second half of the 12th century'.

- C.3.6 Also present are sherds of what may be an early medieval slightly sandy shelly ware (Fabric 12B, Cotter 2000 35-36). A single rim sherd and body sherds represent at least two vessels (8 sherds, 0.024kg). The rim is moderately abraded, leached, everted, externally thickened, and too small to be sure of the diameter, while the body sherds are leached, moderately abraded and abraded, with some sooted sherds. Six undiagnostic body sherds (0.053kg) with surface colouration ranging from dull grey-brown to red brown are also likely to be early medieval sandy ware sherds, as is one of the two abraded grey sherds present. A simple everted rim sherd (too small to be certain of diameter) most likely from a jar. The final sherd, an undiagnostic body sherd, is grey, slightly harder-fired and may be Fabric 13 or Fabric 20.

Discussion

- C.3.7 The early medieval pottery recovered from ditch **219**, although not primary deposition forms a moderate assemblage of domestic pottery, representing a minimum of three early medieval vessels: two early medieval slightly sandy shelly ware vessels and a large, sooted early medieval sandy ware jar. The pottery recovered from Trenches 5, 10 and 67 is also likely to be domestic in origin, however, the sherd of medieval pottery recovered from ditch **52** is residual. The post-medieval pottery from this ditch is also reworked and recovered alongside the 18th-19th-century pottery. The sherds from gullies **11** and **35** may be the result of medieval manuring.

Retention, dispersal or display

- C.3.8 The assemblage is fragmentary and indicates a low level of medieval pottery dispersed across a limited number of areas. This report acts as a full record of the assemblage from this investigation. The early medieval pottery from ditch **219** should be retained, either for type series, educational purposes or deposition; the other pottery from the evaluation may be deselected prior to archival deposition.

C.4 Ceramic building material

By Ted Levermore

Introduction

- C.4.1 Archaeological work recovered 22 fragments, 3779g, of ceramic building material (CBM). This assemblage comprises mostly non-descript flat tile fragments which are broadly attributable to the medieval to post-medieval periods. There are several brick fragments that were given closer date ranges, but these too are medieval to post-medieval. A minor fraction of the assemblage has been assigned a Roman date (four fragments, 786g); this portion came from the mitigation Area 1. Generally, the CBM assemblage is moderately to heavily abraded but diagnostic.

Methodology

- C.4.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gram. Width, length and thickness were recorded where possible. Woodforde (1976) and McComish (2015) formed the basis of reference material for identification and dating. Ryan (1996) was consulted for Essex and East Anglian brick forms, fabric descriptions and suggested date ranges. The quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive.

Results

Fabrics

- C.4.3 A wide array of fabrics are present in this assemblage. These fabrics were found across the site and appear to represent a variety of sources for this material, as well as dates and production techniques. The fabrics recorded are all typical CBM fabrics, with preferences towards large and unsorted inclusions in the earlier forms and refined fabrics for the later post-medieval and early modern material. Full fabric descriptions can be found with the site archive.

Assemblage

- C.4.4 The ceramic building material was collected from seven trenches and Area 1. Two fragments, 4g, were collected from the subsoil. The subsoil finds will not be referred to further, the rest of the assemblage will be described by trench.

Evaluation

Trench 5

- C.4.5 Ditch 29 produced four pieces of CBM (1317g); a brick fragment (1238g) and three undiagnostic fragments (34g). The brick fragment measured 2½ by 4 inches (no remaining length) and has even to sharp arises, fairly even faces and a wiped upper bed. Its remaining header face has some creasing. It is dull orange-brown with a covering of silver-grey firing glaze (some black patches) on all faces except the basal bed. It was made in a sandy clay with common rounded fine quartz and occasional fine to coarse angular flint inclusions. The form and fabric match Ryan's (1996) type for late 17th to early 18th century bricks.

Trench 10

- C.4.6 Ditch **52** produced two severely abraded fragments of CBM (47g); an undiagnostic fragment (4g) in a silty orange fabric and a probable brick fragment (43g) made in a quartz orange fabric. It is probably post-medieval in date.

Trench 19

- C.4.7 A fragment of a brown glazed tile (49g) was retrieved from ditch **66**, part of a ½ inch tile, with a patchy glaze on the upper face. The base is less well made and finely sanded. It was made in an orange-brown sandy clay with very common rounded quartz and clay pellets and has a thin reduced-grey core. Ditch **68** produced three fragments (134g) of a post-medieval ½ inch flat tile. The fabric – dense orange silty clay with few quartz and flint inclusions – and form are very refined, suggesting a later post-medieval or perhaps early modern date.

Trench 20

- C.4.8 A severely abraded brick fragment (486g) was recovered from ditch **70**. It has no measurable form. It was made in red-brown silty clay with common fine quartz and occasional coarse flint and pebble inclusions. Although its original form is unclear, the fabric is close to Ryan's (1996) 18th to early 19th century bricks.

Trench 21

- C.4.9 Ditch **92** produced a single fragment of medieval to post-medieval tile (14g). It is a ½ inch flat tile made in a soft orange silty fabric with few to no inclusions.

Trench 22

- C.4.10 A severely abraded brick (807g) was recovered from Ditch **60**. It measures 2 ½ by 4 inches (no remaining length). It was made in a mid to dark orange sandy clay with common fine quartz, grit and calcareous flecks and rare coarse flint and stone inclusions. It is fairly evenly finished with even arises. It has a slight dip in one of its bed faces, it was either a defect in the brick or a very poorly formed frog. The form and fabric match Ryan's (1996) 18th to early 19th century bricks.

Trench 44

- C.4.11 Two tile fragments were collected from ditch **94** (135g). The first (100g), a slightly abraded ½ inch tile, was similar in form and fabric to those found in ditch **69**. The second (35g), is more abraded and made in the same soft orange clay as the tile from ditch **315**.

Mitigation Area A1

- C.4.12 This area generated the only Roman material in the assemblage. Ditch **213** produced a fragment of *imbrex* tile (104g) made in an orange-pink quartz clay with rare flint inclusions. This *imbrex* appears to be an atypical form with rough surfaces and poorly fired. An abraded fragment of a *tegula mammata* (513g) and an undiagnostic chunk (31g) were recovered from ditch **217**. The *tegula mammata* was made in a dense clay, fired to a reddish orange with brown-grey reduced faces. It was 35-40mm thick with a wide shallow nib (50x10mm). Ditch **252** produced a fragment of a more typical *imbrex* tile (138g), in a similar but better mixed and higher fired fabric as the atypical example.

Discussion

- C.4.13 Taken in sum this material is indicative of low-level medieval to post-medieval activity across the trenched area, indicative of manuring, with a concentration of Roman period activity in and around the mitigation excavation area (A1). The assemblage is heavily abraded and is likely to have been subject to post-depositional erosion processes, most likely related to more recent agricultural activity. The

building material from all periods is not indicative of construction at this site *per se*, the spread and abrasion suggest, however this should not be discounted as a possibility.

C.4.14 This material has been fully recorded and can be considered for discard prior to archive deposition.

C.5 Fired clay and briquetage

By Ted Levermore

Introduction

C.5.1 Archaeological work recovered 929 fragments, 11648g, of fired clay; 30, 613g, from the evaluation trenches and 899, 11035g, from the mitigation excavation. Generally, the assemblage is moderately abraded. The evaluation assemblage comprises mostly non-descript amorphous fragments (287g) alongside some more structural fragments – mostly pieces with exacted and flattened surfaces. There are no complete nor diagnostic forms within the assemblage. The mitigation excavation areas produced a moderate sized assemblage of saltern briquetage (822 fragments, 10315g) along with other less diagnostic fragments and amorphous pieces. The saltern fragments are significant due to their association with Bronze Age pottery as evidence of this type of technology is still relatively rare for this period.

Methodology

C.5.2 The assemblage was quantified by context, fabric and form and counted and weighed to the nearest whole gram. Fabrics were examined using a x20 hand lens and were described by main inclusions present. Fired clay collected from samples that weighed less than 1g were not assessed. The methodology for recording briquetage developed by Lane and Morris (2001) was used. The amorphous fraction of the briquetage assemblage (average weight 1g) was sorted from the diagnostic portion and weighed. It does not form part of the overall weights here and is recommended for discard.

C.5.3 Full quantified data and fabric descriptions are presented on an Excel spreadsheet held with the site archive. The catalogue can be found in Table 12.

Results

Fabrics

C.5.4 Ten fabrics were recorded in this assemblage, which were grouped into three broad families – silty clays (S1, S2, S3) and flint (F1, F2, F3), vegetable (V1, V2, V3) or grog tempered (G1) clay recipes. See table 10 for a summary of these fabrics, full fabric descriptions can be found with the site archive. Generally speaking, these fabrics will have derived from local clays which received a varying degree of preparation dependent on the intended use of the paste. Five fabrics were seen in the trench assemblage and all but the grog fabric were seen in the mitigation areas. The dominant portion of the assemblage is the briquetage which were found in F2, S2 and S3 corresponding to pan fragments, pedestals and superstructure/lining respectively. The rest of the assemblage does not possess any diagnostic objects and as such further discussion on fabric distribution is unnecessary.

Group	Matrix	Fine inclusions	Coarse inclusions
F1	Dense silt clay	common quartz/mica and angular flint	rare angular flint
F2	Friable Silty Clay	Occ. to common sub-rounded to sub-angular quartzite grit and occ. to common sub-angular crushed flint grit	Occ. to common sub-rounded to sub-angular quartzite grit and occ to common sub-angular crushed flint grit, rare to occ. Organic material (?chaff/dung related?)
F3	Sandy clay	common rounded brown quartz, common crushed angular flint, occ. ferrous pellets	Occ. rounded brown quartz, common crushed angular flint, occ. ferrous pellets; rare stone/pebble inclusion

Group	Matrix	Fine inclusions	Coarse inclusions
G1	Dense silt clay	Occ. grit and rounded clay/grog pellets	Occ. angular flint and rounded grog
S1	Fine silt clay	common very fine quartz and mica	few to no visible
S2	Fine silt clay	rare rounded gritty material - ferrous and quartzitic. Rare rounded voids.	few to none; rare organic material. Rare rounded voids.
S3	Fine silt clay	Rare ferrous and calcareous pellets; occ. rounded voids	few to none; rare organic material; occ. rounded voids
V1	Dense silt clay	common elongate calcareous (shell?), rounded calcareous pellets, quartz grains	very common rounded, sub-rounded and elongate organic impressions/voids
V2	Fine silt clay	common very fine quartz and mica, rounded and elongate voids	Occ. sub-angular flint, occ. organic impressions/voids
V3	Fine silt clay	Occ. rounded voids, organic material/voids and mica flecks	very common rounded, sub-rounded and elongate organic impressions/voids

Table 10: Fired clay fabric descriptions

Assemblage

C.5.5 The assemblage was recovered from two phases of works in two distinct areas: the evaluation trenching and the mitigation excavation. As such, the following descriptions will follow according to this division.

Trench 1

C.5.6 Ditch 43 produced a single amorphous fragment of untempered fired clay (S1; 8g).

Trench 18

C.5.7 A small fragment of a tapered clay object was collected from pit **64**. This fragment is from a thin (15mm), probably triangular, clay object. It has exacted edges and sides. Its narrow edges taper inwards (from 50mm to 35mm); both ends are broken so the original form is lost. It is made in V2 and is a dark orange colour. It may be a piece of briquetage perhaps an end of a fire bar (*cf.* Fawn *et al* 1990, 13; fig. 12).

Trench 66

C.5.8 Ten fragments of fired clay were collected from ditch **21**. These are all undiagnostic; one is entirely amorphous and the rest had at least one exacted or smoothed surface. The flattened fragments were made in V2. Severe abrasion prevents any further conclusions to be drawn about this material.

Trench 69

C.5.9 Ten fragments (373g) of amorphous and structural fired clay were collected from pits **23** and **25**. Pit **23** produced the majority of this material. It contained five amorphous but refitting fragments (S1; 214g) that formed a clay block with no distinct shape and a similar fragment but with a flattened edge and perpendicular groove or rod impressions (D:15mm; 46g). It also produced a possible body fragment of a briquetage pan or a plate (15mm thick; 43g). It was made in the vegetable tempered fabric (V1) and is highly fired with an oxidized core and brown-orange surfaces. The pit also produced two fragments of a more porous version of the same vegetable tempered clay (20g); one of which has a curved lip and had internal creases or incisions. It may be briquetage or a mould fragment. The fragments are small and abraded and therefore any conclusions are tentative at best. Pit **25** generated a severely abraded amorphous fragment (V2; 50g), seven fragments of a flattened clay object with smooth surfaces

(10mm; G1; 101g) and a rounded semi-cylindrical fragment of clay with poorly mixed flint inclusions (23g). None of these could be assigned to a diagnostic object or form.

Mitigation Excavation

C.5.10 This portion of the fired clay was recovered from Areas 1, 2 and 3. The greatest concentration of material was that collected from pit **290**, Area 1, which contained an assemblage of briquetage.

Amorphous Fired Clay

C.5.11 Nine contexts produced amorphous fragments of fired clay (37 fragments, 227g). These fragments cannot be characterised beyond their weight and fabric. Some fabrics (V2, F3, S1) were represented and several fragments originated from contexts with structural pieces. There is little more to be said about these fragments other than that this material will have derived from the same objects and/or structures as the structural group.

Structural Fragments

C.5.12 Ten contexts produced fragments with discernible features (39 fragments, 447g) which included flattened and smoothed surfaces and evidence of hand-forming (i.e. digital impressions and rounded corners). These fragments were not diagnostic and no original form could be identified due to the level of abrasion and fragmentary nature of the assemblage. Nevertheless, many of the fragments (11, 146g) were reminiscent of platy objects and four fragments (84g) may have derived from a pedestal-type object one might encounter in relation to potting kilns or saltern sites. The structural material was made in all fabrics (except G1) recorded on site, demonstrating the variety of original forms and the broadness of the distribution of this material.

Briquetage

C.5.13 The diagnostic forms recorded in this assemblage are the most significant portion of the fired clay. Although moderately to severely abraded and fragmentary, a large portion of the assemblage was identifiable as briquetage (823 fragments, 10361g). During the assessment of this material, 6.7kg of amorphous fired clay was separated out from the diagnostic fragments. These amorphous pieces were wholly uninformative beyond their bulk and as such are only mentioned here; they are likely to have derived from lining for the hearth/oven.

Class	Form	Fabric	Count	Weight (g)
Container	Body	F2	525	4574
	Body/Pan End	F2	25	533
	Rim	F2	3	68
			553	5175
Support	Pedestal	S2	204	3875
	Prop/Spacer	F2	4	53
	<i>Perforated Plate</i>	F3	11	126
			219	4054
Superstructure	Lining	S3	50	1086
Unstrat. Object	Pedestal	V2	1	46
Total			823	10361

Table 11: Summary of briquetage forms and fabrics

C.5.14 Briquetage is defined as ‘the ceramic equipment ... [and] ... the fragmented debris of hearths/ovens, used in the processing of sea salt’ (Lane 2001, 8). A full briquetage assemblage would comprise containers (pans/troughs), supports (pedestals), *ad hoc* clips and spacers and oven/hearth lining (*ibid.*). No complete forms were apparent in this assemblage, however container and support fragments were predominant with a minor fraction of hearth lining recorded (see Table 11). This assemblage was recovered from contexts within pit **290**; in the three main fills of this feature and many fragments were bound to each other by a silty clay in such a way as to suggest the broken assemblage was discarded into a slurry within the pit. It is very likely that pit **290** was a settling tank, as it was lined with a blue-grey clay – (291) – and is associated with the briquetage (cf. Settling Tanks in Fawn *et al* 1990, 8).

Containers

C.5.15 Flattened fragments of clay made in the friable flint and vegetable tempered fabric (F2) formed the majority of the briquetage. These fragments were classified as ‘body’ fragments deriving from a trough or pan. It is unclear if the assemblage constituted more than one container or even the original form they possessed. They were on average 8 to 11 mm thick with pink-orange and dark grey surfaces with some variation in the distribution of these colours. Many were slightly curved but the majority were flat and even. A small portion (25 fragments, 533g) were 15mm thick, these may have formed part of the end plates of a trough/pan or are a different and less well represented container. Three fragments of rim were recorded possessing a pinched and rounded rim tapering to around 10mm thick.

Supports

C.5.16 Fragments of ‘supports’ consisting of pedestals, probable spacers or clips and a perforated plate were identified. As with the container fragments, the level of abrasion is high and there were no complete objects present. Nevertheless, the majority of these fragments appear to have derived from pedestals (204, 3875g). The uniformity of the fabric and the combined weight suggests that they may derive from one or two objects. The larger fragments suggest that the pedestal(s) had a flared base (c.100mm diameter) and a cylindrical body; the upper portion was not discernible. These fragments were light red-pink with buff to green-grey surfaces. The latter colours indicate salt bleaching which is common to see on briquetage assemblages. It is interesting to note that the container fragments did not have this colouration, suggesting a longer period of use for the pedestals. A fragment of flared pedestal (46g) was also recovered, however it was unstratified and may relate to the evaluation trenching area.

C.5.17 A small collection of more *ad hoc* clay objects was present in the assemblage; all were classed as props or spacers. They included two thin fragments of clay with an s-shape profiles and a prop. The most notable (19g) had a smooth inner face and an outer face with three digital impressions suggesting it was applied to another form, perhaps the outside of a container. The prop fragment (10g) had a small raised lip on a smoothed face with an irregular reverse, similar to props/spacers seen by Lane and Morris (2001).

Perforated Plate

C.5.18 Eleven flat, part-refitting fragments (126g) were collected from pit **356** and appear not to be directly related to the salt-making equipment. They comprise several fragments of a rectangular plate-like object with flattened surfaces, at least one remnant perforation (18mm diameter), and a raised lip around the circumference of the upper face. The fragments were made in a sandy clay with well sorted fine to coarse crushed flint inclusions (F3). The object, though fragmentary, has parallels with the lipped perforated slabs found in the Late Bronze Age South Rings at Mucking (Evans *et al* 2016, fig. 3.34 nos. 17-22). Barford (2016, 197) notes that the function for these plates is unclear however but, most significantly, where they have been found they were in close association with briquetage; notably at other Essex sites such as the North Rings, Lofts Farm and excavations at Ardleigh. These fragments have

been classed here under the 'Supports' category owing to their similarity to kiln plates and hearth flooring.

Superstructure

- C.5.19** A small fraction of the assemblage is made up of several blocky fragments of clay fired to a bright orange (1086g). Many have a remnant smoothed or flattened face but due to the silty nature of the fabric (S3) they have not survived well. The material separated out from the briquetage assemblage is very similar to these blocky fragments, however they are much smaller in size and more numerous. It is likely that all this material constituted the broken up lining of the saltern oven/hearth, considering the bright oxidized colour of the clay.

Discussion

- C.5.20** The presence of a large container, pedestal supports and hearth lining are indicative of salt making in the Late Bronze Age that made use of the brackish water of the nearby marsh. The briquetage technology present, albeit fragmentary, is not dissimilar to the types of Iron Age and Roman salt making equipment excavated in the Lincolnshire Fens and in Essex (see Lane and Morris 2001 and Fawn *et al*, 1990). The significance of this assemblage lies in its Bronze Age date. Saltern sites and briquetage assemblages dating to this period are rare on a national scale (Lane 2001, 8) and Essex examples of this kind of site appear to be rarer still, owing to the erosion of the marshland coastline (Wilkinson and Murphy 1995, 1). The association with prehistoric pottery at this site and the parallels with Mucking suggest a similar date is very likely. As such, this assemblage is part of a small but significant body of Bronze Age salt making sites (*cf.* Lane 2001, 8).
- C.5.21** The rest of the material is largely uninformative. The presence of fragmentary objects is interesting but somewhat limited in terms of the archaeological conclusions offered. It may be that the wedge shaped and platy objects form part of a salt making assemblage. However, due to the limited scope of archaeological evaluation trenching, these conclusions cannot be taken any further.

Conclusion

- C.5.22** The briquetage assemblage is part of a small but significant body of Bronze Age salt making sites. However, the rest of the fired clay assemblage is largely uninformative due to the nature of evaluations. The material has been fully recorded. The amorphous portion of the assemblage is recommended for discard prior to archival deposition.

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)		
Eval	1	44	43	Ditch	S1	a					yellow-orange surface and d grey reduced core	moderate								1			1	8		
Eval	18	65	64	Pit	V2	s	obj ect	Briq/ KF?		Bar/ Supp ort	Higher fired F2. Fragment of a thin probably triangular clay object. Thin clay form, with exacted edges and sides. Thinnest edges taper inwards. Both ends are broken. Possibly a briquetage support or bar	slight			15			50				1		1	53	
Eval	66	22	21	Ditch	S1	a						severe								1			1	15		
Eval	66	22	21	Ditch	V2	s	fs					severe								9			9	40		
Eval	69	27	23	Pit	S1	a					refitting fragments of a baked clay block	severe								4		1	5	214		
Eval	69	27	23	Pit	S1	s	fs/ w				fragment comprising a flattened face and perpendicular rod impression (15mm)	severe								1			1	46		
Eval	69	24	23	Pit	V1	s	obj ect	Briq/K F?		?pan/ ?plat e	poss body fragment of a briquetage pan or kiln plate; vegetable tempered	slight			15							1		1	43	
Eval	69	27	23	Pit	V2	s	obj ect			?mou ld	fragments of porous clay, one fragment has curving lip/rim and internal creases/incisions. A mould fragment?	mod								2			2	20		
Eval	69/ A2	26	25	Pit	F1	s	fs/ c				Semi-circular in section fragment of fired clay; Half cylinder. No clear function. From larger object	slight											1		1	23
Eval	69/ A2	26	25	Pit	G1	s	fs				Fragments of flattened and smoothed fired clay. Probably all from the same object.	slight											7		7	101

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)	
Eval	69/A2	26	25	Pit	V2	a						severe									1		1	50	
Mitigation	A1	292	290	Pit	F2	object		Briquetage	C	Body	Fragments of container body, with orange-pink colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod to Severe	Pink-Orange	Light Red-Pink	8 - 11					2	2	4		26	324
Mitigation	A1	292	290	Pit	F2	object		Briquetage	C	Body	Fragments of container body, with orange-pink and dark grey colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod to Severe	Pink-Orange/Dark Grey Black	Pink-Orange/Dark Grey Black	8 - 11					3	2	2		34	320
Mitigation	A1	292	290	Pit	F2	object		Briquetage	C	Rim	Frag of container rim with pinkish orange colouration. Pinched and thin	Mod			6					1			1	7	
Mitigation	A1	292	290	Pit	S2	object		Briquetage	S	Pedestal	Fragments of a cylindrical pedestal. Probably the same one as that found in 311 with the same colouration and fabric.	Mod to Severe	Buff/Grey/Green	Purple/Pink and Buff/Grey						2	6	2	10	670	
Mitigation	A1	292	290	Pit	S2	object		Briquetage	S	Pedestal	Fragments of a cylindrical pedestal. Probably the same one as that found in 311 with the same colouration and fabric.	Mod to Severe	light red pink with buff	Light Red-Pink						4	4	2	10	598	
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Body	Fragments of container body, with orange-pink colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod	Pink-Orange	Light Red-Pink	8 - 11					2	4	7		31	481

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Body	Fragments of container body, with orange-pink and dark grey colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod	Pink-Orange/Dark Grey Black	Pink-Orange/Dark Grey Black	8-11					58	5		63	848
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Body	Small fragments of container body	Mod to Severe	Pink-Orange/Dark Grey Black	Pink-Orange/Dark Grey Black	8-11					218			218	1211
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Body/Pan End	Fragments of thick pan fragments, are these the pan ends or a separate container	Mod to Severe	Pink-Orange/Dark Grey Black	Pink-Orange/Dark Grey Black	15					10	10		20	445
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Rim	Two frags of body with pinched/rounded rim	Mod to Severe	Pink-Orange	Light Red-Pink	10						2		2	61
Mitigation	A1	311	290	Pit	F2	object		Briquetage	C	Body	Large lumps of soil/clay with pan body fragments inside. Appears to be soil sticking broken pan frags together. Ignore total weight.										10	4	14	868
Mitigation	A1	311	290	Pit	F2	object		Briquetage	S	Prop/Spacer	Thin fragment of fired clay with an s-shape profile, inner face is smoothed. Outer face has three digital impressions. Suggests this is a prop or spacer - blob of clay applied to the outside of a container perhaps	Mod	Pink-Orange	Light Red-Pink	5							1	1	19

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)
Mitigation	A1	311	290	Pit	F2	object		Briquetage	S	Prop/Spacer	Fragment of fired clay with an s-shaped profile. Inner is smoothed and outer is irregular. Suggests this is a prop or spacer - blob of clay applied to the outside of a container perhaps	Mod	Pink-Orange	Light Red-Pink	10 - 15						1		1	24
Mitigation	A1	311	290	Pit	F2	object		Briquetage	S	Prop/Spacer	Fragments with a small raised lip on a smoothed face - prop/spacer?	Severe	Pink-Orange	Light Red-Pink	8						2		2	10
Mitigation	A1	311	290	Pit	S2	object		Briquetage	S	Pedestal	Fragments of a cylindrical pedestal, with slightly splayed rounded base. Fragmentary each fragment has a smoothed and rounded (concave or convex) surface. No clear idea of how many pedestals present.	Mod to Severe	Buff/Grey/Green	Purple/Pink and Buff/Grey		~100		~70		37	5	1	43	984
Mitigation	A1	311	290	Pit	S2	object		Briquetage	S	Pedestal	Fragments of pedestal body (amorphous)	Mod to Severe	Purple/Pink and Buff/Grey/Green	Purple/Pink and Buff/Grey/Green						120	4	1	125	1278
Mitigation	A1	311	290	Pit	S2	object		Briquetage	S	Pedestal	Fragments of a pedestal; unclear is separate to other one. But is orange with red rather than pinkish grey	Severe	light red pink with buff	Light Red-Pink							16		16	345
Mitigation	A1	311	290	Pit	S3	object		Briquetage	S	Lining?	Amorphous fragments of baked clay, lining? Some have smoothed/flattened surfaces	Severe	Light Orange	Light Orange							50		50	1086

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)
Mitigation	A1	312	290	Pit	F2	object		Briquettage	C	Body	Fragments of container body, with orange-pink colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod to Severe	Pink-Orange	Light Red-Pink	8 - 11					20	1		21	162
Mitigation	A1	312	290	Pit	F2	object		Briquettage	C	Body	Fragments of container body, with orange-pink colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod to Severe	Pink-Orange	Light Red-Pink	5					2			2	15
Mitigation	A1	312	290	Pit	F2	object		Briquettage	C	Body/Pan End	Fragments of thick pan fragments, are these the pan ends or a separate container	Mod to Severe	Pink-Orange	Light Red-Pink	15					4	1		5	88
Mitigation	A1	312	290	Pit	F2	object		Briquettage	C	Body	Fragments of container body, with orange-pink and dark grey colouration. Some with vegetable impressions, but largely smoothed. Friable fabric. Some frags show curving.	Mod to Severe	Pink-Orange/Dark Grey Black	Pink-Orange/Dark Grey Black	8 - 11					108			116	345
Mitigation	A1	204	203	Ditch	V1	s	fs			Plate ?	Thin fragment of fired clay				6						1		1	16
Mitigation	A1	204	203	Ditch	V1	s	fs			Plate ?	Thicker fragment but same colouration and fabric				15						1		1	37
Mitigation	A1	218	217	Ditch	V3	s	fs			Plate ?	Fragment of organic tempered/impression platy object	mod	Orange Brown	Orange Brown							1		1	32
Mitigation	A1	218	217	Ditch	V2	a						Severe								9			9	41

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)
Mitigation	A1	220	219	Ditch	S1	s	fs			Plate ?	Fragment of flattened clay	slight	Reddish-Orange	Grey						1			1	10
Mitigation	A1	252	251	Ditch	S1	s	fs			Plate ?	Fragment of flattened clay	slight	Reddish-Orange	Grey	20					1			1	11
Mitigation	A1	252	251	Ditch	V3	s	fs			Plate	Fragments of a platy object with large organic impressions and voids (grasses and seeds; chaff?)	slight	Reddish-Orange	Reddish-Orange	10					5			5	24
Mitigation	A1	252	251	Ditch	S3	s	fs			Plate ?	Fragment of flattened clay	mod	brown-orange	buff-green/grey	20					1			1	16
Mitigation	A1	258	257	Ditch	V2	s	fs/c			Pedestal?	Refitting fragments of a circular object with exacted and flattened base. Possibly the base of a pedestal?	mod	Orange Brown	Orange Brown						3	1		4	84
Mitigation	A1	265	264	Ditch	F3	a														1			1	4
Mitigation	A1	267	266	Crem Pit	V3	s	fs				refitting fragments of a platy object	severe	orange	orange with dark streaks						5			5	22
Mitigation	A1	280	279	Posthole		a														2			2	1
Mitigation	A1	286	285	Pond		a														4			4	3
Mitigation	A1	288	285	Pond		a														3			3	5
Mitigation	A1	289	285	Pond	S1	a						Severe								3			3	14

Dig Phase	Trench/Area	Context	Cut	Feature Type	Fabric group	Fragment type	Structural type	Object Class	Fragment Class	Fragment Form	Notes	Abrasion	Surface Colour	Interior Colour	Thickness (mm)	Diameter (mm)	Length	Width (mm)	Height (mm)	Small <4cm	Medium 4-8cm	Large >8cm	No. Fragments	Weight (g)
Mitigation	A1	289	285	Pond	F1	s	hf				Fragments of hand formed object - no clear form	mod	Orange Brown and buff	dull brown grey						4	1		5	84
Mitigation	A1	302	301	Posthole		a														2			2	3
Mitigation	A1	314	313	Ditch	S1	a														4			4	13
Mitigation	A2	343	342	Pit	S2	s	fs				Fragments with a surface in a dark F7	mod	mid buff-brown	dark reddish-brown grey						10			10	51
Mitigation	A2	357	356	Pit	F3	object		Briquetage	S	Perforated Plate	Fragments of a perforated slab, very similar to those found in Mucking (BA South Rings). With a raised lip and large perforations (p diam 18mm). Form incomplete. (Evans et al. 2016, 193; fig 3.34 no.18-22) [text page 197]	slight	Orange Brown	Orange Brown	30					7	3	1	11	126
Mitigation	A2	400	399	Pit	F2	s	fs				Fragments of clay with carbonised organic temper (chaff?). Smoothed outer faces	Severe	Orange Brown and buff	dull brown grey						3			3	34
Mitigation	A3	321	320	Ditch	S1	s	fs				Fragment with exacted flattened surface	slight								1			1	26
Mitigation		99999			S1	a					Amorphous blocky frags	Severe								7	2		9	143
Mitigation		99999			V2	object				Pedestal	Fragment of pedestal shaft, part of flaring for the base remains	slight	Reddish-Orange	reddish-pink						1			1	46

Table 12 Fired Clay Catalogue

C.6 Non-building stone

By Carole Fletcher

Introduction and Methodology

- C.6.1 A total of 0.163kg of stone was recovered from ditch **21** and pit **25** in Trenches 66 and 69 respectively. A further 0.280kg of unworked burnt stone (quartzite and sandstone cobbles) recovered from pit **24** in Trench 69 was discarded at quantification stage. Simplified recording only has been undertaken, with material type, basic description and weight recorded in the text.

Assemblage

- C.6.2 Trench 66, ditch **21** produced a small fragment of quartzite (0.088kg) that may have been roughly shaped on one side, although it is possible that this was a natural fracture. Whether or not the shaping was intentional, the small amount of polishing on that side probably was deliberate. The irregular, yet smooth, area suggests this was a case of expedient technology, used once or twice and discarded. Colour is difficult to determine, as the fragment is burned, but was probably originally pale to mid grey.
- C.6.3 Trench 69/Area 2 pit **25** produced two different stones. Firstly, four burnt fragments of a pale grey very fine-grained sandstone that has subsequently begun to disintegrate into its component sand (0.039kg), once examined the material was discarded. Secondly, a broken, ?burnt piece of dark grey basaltic lava (0.027kg) that may have formed part of a quern or rubbing stone. The lava is denser than most examples of Niedermendig or Mayen origin and less obviously vesicular and may not be continental lava.

Discussion

- C.6.4 The stone recovered is not closely datable, however both features produced Late Bronze Age pottery. The quartzite fragment from ditch **21** indicates the usage of available materials on an *ad hoc* basis while the lava fragment may be intrusive material from later reworking of the feature, as both Roman and medieval material were recovered from other trenches.

Retention, dispersal or display

- C.6.5 The assemblage has been fully recorded and the stone may be considered for dispersal prior to archive deposition.

C.7 Fuel and fuel by-products

By Carole Fletcher

Introduction and Methodology

- C.7.1** A total of 0.008kg of bituminous coal was recovered from the site. Simplified recording only has been undertaken, with material type, basic description and weight recorded in the text.

Assemblage and Discussion

- C.7.2** Ditch **52** in Trench 10, produced a sub-rectangular, laminar fragment of unburnt black bituminous coal (0.008kg). The coal cannot be closely dated, however, it was recovered alongside mid 16th-18th and 19th century pottery.

Overview, retention, dispersal or display

- C.7.3** The coal would have been used as a fuel. Although it can be burnt as a domestic fuel, it may have been used in industrial processes, however, if this was the case, more of the material should have been recovered.
- C.7.4** The fragment alone is of little significance and this statement acts as a full record. It may be deselected prior to archival deposition.

C.8 Flint

By Lawrence Billington

Introduction

- C.8.1 A total of 29 worked flints and over 7kg of unworked burnt flint were hand recovered during the evaluation and mitigation phases of fieldwork (Table 13; this total excludes the flint recovered from Pleistocene deposits reported on elsewhere (see Bishop in Collie 2018). In addition to this, a large quantity (11.9kg) of unworked burnt flint was recovered from wet sieving of bulk soil samples taken from two features; this material has been briefly scanned and is quantified by weight in Table 14.

Worked flint

- C.8.2 With the exception a single piece collected as an unstratified find, the twenty-nine worked flints recovered from the site were derived from the fills of cut features. The flint was very thinly distributed, coming from fourteen individual contexts, none of which produced in excess of four worked flints. Given these low densities it is likely that the majority of the assemblage is likely to represent residual material inadvertently caught up in the fills of later features.
- C.8.3 The worked flint is dominated by unretouched removals, with no cores and few retouched forms. A single large secondary flake is moderately rolled and mineral stained – closely comparable in condition and technology to the material recovered from Pleistocene deposits on the site (Bishop in Collie 2018) and hence probably of equivalent Lower Palaeolithic date.
- C.8.4 There is also some evidence for Mesolithic or Earlier Neolithic activity in the form of balde-based/narrow-flake removals, notably an unstratified blade-like flake and a small assemblage of two secondary flakes and the proximal portion of fine blade from pit/tree throw **117**, which are all consistent with a Mesolithic, or more likely, earlier Neolithic date.
- C.8.5 The remainder of the assemblage is dominated by simple hard-hammer struck flake based material, with two expediently produced tools - a piercer and a retouched natural flake. There is one flake, from pit **209**, which appears to have been struck from a levallois-like core or bifacial core tool and is likely to be Neolithic, but much of the remainder of the assemblage could date to anytime between the later Neolithic and later Bronze Age/Iron Age.

Burnt flint

- C.8.6 Several features produced substantial quantities of unworked burnt flint, mostly pits (**23, 24, 25, 91, 307, 333, 340, 392**), but also from ditches **21** and **257** (Tables 13 and 4). In these cases, the quantities of burnt flint strongly suggest that this material was deliberately deposited and broadly contemporary with the features from which it derived rather than representing residual material.
- C.8.7 A larger number of features, including pits, ditches and postholes produced smaller quantities of worked flint, typically between one and three fragments weighing up to 100g. Much of this material was probably incidentally incorporated into the fills of these features, but its widespread distribution hints at quite extensive surface spreads/scatters of burnt flints.
- C.8.8 The burnt flint from the different features is all broadly comparable, consisting of heavily burnt reddened or calcined heat-crazed and shattered fragments. Burnt flint accumulations such as this are generally interpreted as the residues for some kind of craft or processing activity involving the heating of water with heated stones.

Trench/ Area	Cut	Context	Type	Irregular waste	Primary flake	Secondary flake	Tertiary flake	Tertiary blade-like flake	Secondary bladelet	Piercer	Retouched natural piece	Total worked	Burnt unworked flint count	Burnt unworked flint weight (g)
38	117	118	Pit			2			1			3		
66	21	22	Ditch			2						2	86	2140
69	23	27	Pit										8	332
69	23	24	Pit	1								1	61	2380
69/A2	25	26	Pit										11	658
A1	209	210	Pit			1	1					2		
A1	211	212	Ditch			1					1	2	2	30.8
A1	213	214	Ditch			3						3		
A1	217	218	Ditch			2						2		
A1	219	220	Ditch	1		1						2		
A1	228	229	Pit	2		2						4		
A1	245	246	Gully										1	10
A1	242	243	Pit			1						1		
A1	233	234	Pit		1							1		
A1	247	248	Gully										1	3.2
A1	251	252	Ditch	1			1					2		
A1	257	258	Ditch										4	188
A1	259	260	Pit										1	15.4
A1	285	289	Pond										2	68.6
A1	293	294	Gully										1	51
A1	303	304	Posthole										7	6.7
A1	313	314	Ditch										1	3.3
A2	307	308	Pit										20	581
A2	327	328	Pit										3	56.5
A2	331	332	Pit										2	73.1
A2	333	334	Pit										6	97
A2		335	Pit										1	9
A2	338	339	Pit										2	39
A2	340	341	Pit										5	250
A2	342	343	Pit			1						1	3	71
A2	344	345	Pit				1			1		2	2	14.4
A2	346	347	Pit										1	12.5
A2	392	393	Pit										8	148
A2			Unstrat					1				1		
Grand Total				5	1	16	3	1	1	1	1	29	239	7239

Table 13. Basic quantification of hand-collected flint assemblage.

Trench	Context	Cut	Context type	Sample	Weight (g)
69/A2	26	25	Pit	71	10420

20	90	91	Pit	4	1500
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Table 14. Basic quantification of the burnt flint recovered from environmental samples.

Summary and discussion

- C.8.9** The small worked flint assemblage adds another putatively Lower Palaeolithic artefact to those recovered from the Pleistocene deposits on the site and some (slight) evidence for activity at the site during the Mesolithic or earlier Neolithic, notably a small but coherent assemblage of material from pit/tree throw **117**. The majority of the remainder of the worked flint is likely to represent residual material of later Neolithic and Early Bronze Age date, but it is possible that a proportion relates to flintworking/use during the Late Bronze Age phase of the site’s use.
- C.8.10** The large accumulations of burnt flint from several features can be paralleled on prehistoric sites of various periods in the region and probably relate to some kind of processing activity involving the heating of water. The large assemblages of burnt flint from some features, together with the wider distribution of small quantities from a large number of features, suggests this activity may have been relatively intensive.

APPENDIX D ENVIRONMENTAL REPORTS

D.1 Faunal Remains

By Zoe Ui Choileain

Introduction

D.1.1 Four contexts from the site fills of a pit and ditches, contained faunal remains: 22, 27, 30 and 69. A total of 12 fragments weighing 34g was recorded, of which only one was identifiable to taxon. Context 69, ditch **68**, contained a single sheep/goat metapodial.

Assemblage

D.1.2 All bone is highly fragmented and surface condition measured a 3 on the scale devised by McKinley (McKinley, 2004, 16 figure 6). A full catalogue is recorded in the table below:

cut	context	Trench	feature	element	taxon	weight	count
21	22	66	ditch	rib	medium mammal	1	1
23	27	69	pit	long bone	medium mammal	2	1
23	27	69	pit	long bone	medium mammal	1	1
29	30	5	ditch	mandible	medium mammal	6	1
68	69	19	ditch	metapodial	sheep/goat	6	1
68	69	19	ditch	long bone	medium mammal	18	7
TOTALS						34	12

Table 15: A Catalogue of the Faunal Remains

Overview

D.1.3 The surface condition of the bone is poor and it is badly fragmented. This assemblage is too small and fragmentary to provide any further information. Due to the potential early date of the site it is recommended that the bone be retained for the permanent record.

D.2 Mollusca

By Carole Fletcher

Introduction

- D.2.1 A total of 0.010kg of shells were collected by hand during the evaluation. The shells recovered are edible examples of oyster *Ostrea edulis*, from estuarine and shallow coastal waters. The shell is relatively well preserved and has not been deliberately broken or crushed.

Methodology

- D.2.2 The shells were weighed and recorded by species, with complete or near-complete right and left valves noted, where identification could be made, using Winder (2011) as a guide.

Assemblage and Discussion

- D.2.3 The shells were recovered from ditch **52** in Trench 10, where they probably became incorporated into the fills as general rubbish deposition. The shells consist of a near-complete and a partial right valve, both small to moderate in size.
- D.2.4 No context produced enough mollusca shells to indicate a single meal of, for example, oysters alone, however, they may have been combined with other foods. No shells show any evidence of shucking, in the form of small 'V' or 'U' -shaped hole on the outer edge.
- D.2.5 The shells represent general discarded food waste and, although not closely datable in themselves, may be dated by their association with pottery or other material also recovered from the feature. Ditch **52** produced a single medieval Greyware sherd and mid 16th-18th and 19th century pottery.

Retention, dispersal and display

- D.2.6 The evaluation indicates moderate to low levels of shell deposition.
- D.2.7 This catalogue acts as a full record and the shell may be dispersed or deselected prior to archive deposition.

D.3 Environmental remains from soil samples

By Rachel Fosberry

Introduction

- D.3.1 Ten bulk samples were taken from features within the evaluated area at land at Maldon Road, Burnham West, Burnham-on-Crouch, Essex in order to assess the quality of preservation of plant remains on the site. Samples were taken from features encountered within Trenches 20, 38, 41, 49, 59, 60 and 69.
- D.3.2 Sixty-one samples were taken during the mitigation phase of work; 20 bulk samples were taken from three open areas of excavation and 41 samples were taken primarily for geotechnical analysis with the remaining soil processed as bulk samples.

Methodology

- D.3.3 The samples were processed by tank flotation using modified Siraff-type equipment for the recovery of preserved plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. The geotechnical samples had a heavy clay content and were soaked in sodium carbonate prior to processing.
- D.3.4 The dried flots were scanned using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Tables 16 and 17. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers et al. 2006) and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

- D.3.5 For the purpose of this initial assessment, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories:
- # = 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens
- D.3.6 Items that cannot be easily quantified such as charcoal and molluscs have been scored for abundance
- + = rare, ++ = moderate, +++ = abundant

Key to tables:

U=untransformed

Results

- D.3.7 Preservation of plant remains is poor, probably due to the sand content of the soil; many of the flots contain rootlets which may have caused movement of material between contexts. Mollusc shells are not preserved.
- D.3.8 The geotechnical samples did not contain any preserved remains in either the flot or the residues (Table 17).
- D.3.9 Preserved plant remains are present mainly as charcoal with only occasional charred cereal grains and seeds. Untransformed seeds of duckweed (*Lemna* sp.) were recovered from the upper fill (26) of pit 25 in Trench 69 but are absent from the lower fill (27) of this feature. This suggests that the duckweed was not actually growing within the pit but has a different origin. Neither fills were waterlogged.

D.3.10 Charcoal volumes are generally low but pits **96** (Trench 38) and **23** (Trench 69) and postholes **123** (Trench 49), **139** (trench 59) and **129** (Trench 60) all contain wood charcoal as evidence of burning. Other charred plant remains are scarce and are limited to single poorly-preserved indeterminate grain and a brome (*Bromus* sp.) seed in pit **23** and a single indeterminate grain and a charred barley (*Hordeum vulgare*) grain in pit **25** (both from Trench 69). Pit **131** (Trench 41) contains a charred grass (Poaceae) seed and a fragment of hazelnut (*Corylus avellana*) was recovered from the sample residue from pit **96** (Trench 38). Cremations **275** and **390** (A2) both contain charred tubers of onion-couch grass (*Arrhenatherum elatius* subspecies *bulbosus*). Onion-couch grass forms bulbous tubers (basal internodes) just below the soil surface. The burnt tubers are commonly found in cremation deposits and are thought to represent de-turfing around the pyre-site to create a fire break (Stevens 1998) or may simply have become carbonised due to proximity to the pyre.

Trench / area no.	Context No.	Cut No.	Sample No.	Feature type	Volume processed (L)	Flot Volume (ml)	Cereals	Weed Seeds	Estimated Charcoal Volume (ml)	Pottery	Hardened clay	Burnt flint
20	91	90	4	pit	3	1	0	0	1	0	0	##
38	99	96	5	pit	20	20	0	#	100	0	0	
41	132	131	8	pit	2	1	0	0	1	0	0	0
41	134	133	9	pit	4	25	0	0	1	0	0	0
49	124	123	6	posthole	3	60	0	0	100	0	0	0
59	140	139	10	posthole	4	20	0	0	100	0	0	0
60	130	129	7	posthole	4	30	0	0	45	0	0	0
69	24	23	1	pit	18	50	#	##	100	##	0	#
69	27	23	3	pit	20	20	0	#	5	##+	0	0
69	26	25	2	pit	18	10	#	#	3	#	0	#
A1	225/226	224	52	Cremation	9	1	0	0	0	0	0	0
A1	227	224	53	Cremation	6	<1	0	0	0	0	0	0
A1	225	224	54	Cremation	4	1	0	0	0	0	0	0
A1	226	224	55	Cremation	9	1	0	0	0	0	0	0
A1	258	257	56	ditch	17	10	0	0	1	0	0	0
A1	260	259	57	Pit	18	1	0	0	20	#	0	0
A1	269	268	59	Pit	8	55	0	0	3	0	#	0

Trench /area no.	Context No.	Cut No.	Sample No.	Feature type	Volume processed (L)	Flot Volume (ml)	Cereals	Weed Seeds	Estimated Charcoal volume (ml)	Pottery	Hardened clay	Burnt flint
A1	289	285	63	Pond/W.hole	8	1	0	0	0	0	0	0
A1	292	290	64	oven/kiln	16	15	0	0	1	#+	###	0
A2	26	25	71	Pit	20	50	0	0	5	##	0	##
A2	267	266	58	cremation	67	60	0	0	0	0	0	0
A2	272	271	60	cremation	18	15	0	0	0	0	0	0
A2	274	273	61	cremation	8	5	0	#	0	0	0	0
A2	276	275	62	cremation	60	90	0	#	0	0	0	0
A2	391	390	65	Posthole	8	5	0	0	0	0	0	0
A2	393	392	66	pit	16	10	0	0	20	0	0	#
A3	395	394	67	Pit	12	5	0	0	0	0	0	0
A3	397	396	68	Pit	30	5	#	0	0	0	0	0
A3	398	396	69	Pit	8	1	0	0	5	##	0	#
A3	402	401	70	pit	16	100	0	0	0	0	0	0

Table 16: Environmental bulk samples

Sample No.	Context No.	Trench /area no.	Volume processed (L)
11	144	22	4
12	145	22	3
13	148	21	3
14	149	21	4
15	150	18	3
16	151	20	4
17	152	20	4
18	153	25	4
19	157	25	4
20	158	19	4

Sample No.	Context No.	Trench /area no.	Volume processed (L)
21	159	19	4
22	160	8	2
23	161	11	4
24	162	30	4
25	163	30	4
26	166	34	3
27	167	34	4
28	168	34	4
29	169	TP8 35	4
30	170	TP8 35	3
31	171	TP8 35	3
32	172	TP8 35	4
33	173	TP9 39	4
34	174	TP9 39	4
35	175	TP9 39	4
36	176	TP10 40	3
37	179	TP10 40	4
38	180	TP10 40	3
39	181	TP11 41	4
40	182	TP11 41	4
41	183	TP12 42	4
42	185	TP12 42	6
43	186	TP13 63	8
44	192	TP13 63	4
45	193	TP14 55	5
46	194	TP14 55	4
47	195	TP14 55	4
48	196	TP15 67	4
49	197	TP15 67	4
50	198	TP15 67	4
51	199	TP15 67	6

Table 17: Geotechnical samples

Discussion

- D.3.11** The recovery of occasional charred grain, chaff, weed seeds and charcoal indicates that there is some potential for the preservation of plant remains in archaeological deposits at this site although the low density and diversity of the plant remains suggests that this was probably not an area of human occupation. The geotechnical samples do not have any potential for the recovery of preserved plant macrofossils or molluscs.

D.4 Radiocarbon dating and cremated remains

By Natasha Dodwell

Introduction

- D.4.1** Cremated human bone (or ? human bone) was recovered from six features across the site (Areas 1, 2 and 3) in the mitigation phase of the excavation. Bone from one of these, **275** was selected for radio carbon dating and produced an early Middle Bronze Age data (SUERC 1666-1526 BC; see App. G).

Provenance of the material and nature of the assemblage

- D.4.2** Cuts **224** in Area 1 and **394** in Area 3 were both at the very edges of the excavation area and c.125m apart. The four features in Area 2, **266**, **271**, **273** and **275** were clustered together between two undated, parallel ditches/gullies, **293** and **295**. The bone from **275** is recorded as being concentrated in the SE of the feature which suggests that this an unurned burial where the bone would have been contained in an organic container such as a basket or a bag. As well as very small quantities of very fragmentary calcined bone, all of the features contained a small quantity of burnt flint with a heavily charcoal stained matrix. It is likely that these are cremation or pyre related features.

Methodology

- D.4.3** On site, all of the features that contained cremated bone were 100% sampled and the soil was then wet sieved and the residues passed through a series of stacked sieves (10mm, 5mm and 2mm). Bone and any finds were separated from the residues. Where the quantity of 2-5mm residue was large, in line with Oxford Archaeology's Osteoarchaeology Policy and Guidelines a proportion (in this case a third) was sorted and a total bone weight extrapolated (annotated in Table 18 with *).
- D.4.4** Recording of cremated bone followed the guidelines laid out by McKinley (2004). Because of the degree of fragmentation and the small quantities of bone recovered bone from several of the deposits could not be positively identified as human and where it was, age was attributed by the size and robustness of the fragments.

Results

- D.4.5** Osteological data and details pertaining to weight and the degree of fragmentation are presented in table 1. Of the six features that contained calcined bone, one was immature (**271**), two were subadult/adult (**224** and **394**), one was adult (**226**) and one could not be positively identified as either animal or human (**273**).
- D.4.6** With the exception of cut **275** all of the features analysed had very small bone quantities of bone; whilst 434g of bone was recovered from the fill of **275** the other features contained between 1-45g of calcined bone. These low weights cannot be attributed to truncation alone.
- D.4.7** The fragment size is small in all of the features with the largest fragment recorded ranging from only 7.36mm-49.64mm. There is a high degree of bone fragmentation with the majority of the bone from

all features being between 5-10mm. McKinley (1994) has argued convincingly that bone fragment size is dependent on factors such as the efficiency of the pyre, the depositional environment and methods the excavation and post-excavation processing. It might also be that the bone was broken deliberately. Similar degrees of bone fragmentation are recorded in other Middle Bronze Age cremation burials e.g. at Papworth Everard, Cambs (Gilmour *et al* 2010) and Blackborough End (Gilmour 2017)

D.4.8 All of the bone fragments recovered were a creamy, buff-white colour, indicative of high pyre temperatures and full oxidation. Many of the fragments had a weathered, chalky appearance.

Area	cut	fill	Age	Depth (m)	Largest fragment	Bone Weight g			
						>10mm	5-10mm	<5mm	total
1	224	225-7	Subadult/ adult	0.12	13.17mm	7	7	1	15
2	266	267	adult	0.24	17.59mm	11	21	13	45
	271	272	immature	0.19	10.97mm	<1	1	0	1
	273	274	Subadult/ adult/animal	0.14	7.36mm	0	<1	0	<1
	275	276	adult	0.26	49.64mm	152	162	120 *	434*
3	394	395	Subadult/ adult	0.17 m	15.29mm	1	2	0	3

Table 18: Summary of cremated bone showing weights and fragmentation

Discussion

D.4.9 Only one of the features that contained cremated bone (**275**) can be confidently described as a cremation burial. This has been dated to the early part of the Middle Bronze Age and it is likely that the other features containing calcined bone, at least those in Area 2 are broadly contemporary. The other five features, all with tiny quantities of very small calcined fragments and rare small burnt flints in a charcoal rich/stained matrix, are best classified as cremation- or pyre-related deposits. The pits nearby which contain large quantities of burnt flint, e.g. **392** and those with (early) post-Deverel-Rimbury pottery, (**400** and **404**) often associated with Middle Bronze Age cremation burials may relate to the feature analysed here, although appear to be slightly later (early in Late Bronze Age, see App. C.1).

D.4.10 Without archaeological investigations beyond the Mitigation Area it is difficult to interpret these features beyond stating that there is Middle to Late Bronze Age mortuary activity on the site.

D.5 Geo-archaeological test pit investigations

By Barry Bishop and Steve Boreham

Introduction

D.5.1 The report describes the geo-archaeological investigations undertaken at land off of Maldon Road, Burnham on Crouch in Essex (centred on NGR 593760 196640. The site lies in an area of Pleistocene deposits (Area 228) that have been marked as of having ‘High Palaeolithic Potential’ (O’Connor 2015,

fig 24)¹. As part of the archaeological mitigation prompted by the proposed development of the site, a programme designed to characterise the Pleistocene deposits and assess their potential for preserving Palaeolithic artefactual and biogenic remains was formulated (Macaulay 2018). A total of 17 dedicated geo-archaeological Test Pits were excavated, all of which revealed Pleistocene deposits although at widely varying heights and depths across the site. A small quantity of derived struck flints was also recovered from the deposits.

Palaeolithic background

- D.5.2 Burnham on Crouch lies on the Dengie Peninsula, a block of land lying between the rivers Blackwater and Crouch, close to the north bank of the latter. The BGS maps a series of Pleistocene deposits in the vicinity that are part of an intermittent series of fluvial sediments that form a southwest – northeast trending line that begins in the Southend area of the lower Thames and exit into what is now the North Sea coast in the vicinity of Clacton-on-Sea.
- D.5.3 The Pleistocene deposits of eastern Essex can be considered of international importance as they have produced high quality archaeological and palaeo-geographical evidence relating to the fluvial history of the rivers Thames and Medway and provide important links between the Quaternary sequences of the Thames basin and East Anglia (O'Connor 2015; Wenban-Smith 2007).
- D.5.4 The fluvial deposits in the Burnham on Crouch area have been divided into two main facies (Bridgland 1988; 1999). The earliest are the 'High-level East Essex Gravel' deposits that lay above the c. 30m OD contour and which are believed to have been laid down by the river Medway. Prior to the Anglian diversion of the 'Kesgrave' Thames, the river Medway continued its course unimpeded by the Thames to flow through eastern Essex. To the east of these, the 'Low-level East Essex Gravel' deposits lie within the c. 0 – 30m OD contours and comprise a series of terrace deposits and deeply incised channel infills that are thought to represent a post-diversionary Thames / Medway river. Following the Anglian diversion of the Thames into its current position, it confluenced with the Medway in the Southend area and flowed northwards, following a broadly similar route as the pre-diversionary river Medway (Bridgland 1988; 1999; O'Connor 2015; Wenban-Smith 2007). Subsequently, the Thames-Medway gradually migrated eastwards and southwards, forming terrace features now submerged by the North Sea, before finally assuming its present course through what is now the Thames' estuary (Bridgland et al. 1993). The Low-level East Essex Gravels therefore continue the sequences observed in the Lower Thames. The Hoxnian (MIS 11) Boyn Hill / Orsett Heath Gravels is represented on the Dengie peninsula by the Asheldham Gravels and the later Lynch Hill Terrace / Corbet's Tay Gravel by the Dammer Wick Gravel.
- D.5.5 The site itself is located on Pleistocene sediments mapped by the British Geological Survey as the "3rd River Terrace Deposits", which in the southern part of the site are described as "clay and silt" and in the north as "sand and gravel" (BGS 2007). These are approximately demarcated by two contemporary fields, referred to below as the 'north field' and the 'south field'.

¹ HIGH PALAEOLOGIC POTENTIAL = High likelihood of Pleistocene deposits with lithic or palaeoenvironmental remains. Undisturbed occupation surfaces or minimally disturbed concentrations; abundant remains from deposits of good stratigraphic and chronological integrity, biological associations; deposits with important lithostratigraphic sequences and relationships

Archaeology

- D.5.6 The significance of the east Essex gravels extends beyond understandings of the palaeo-geography of the Pleistocene as they have produced important artefactual and environmental indicators relating to early human activity along the river. Most notably are the lithic and wooden artefacts, fossil mammalian remains and other palaeo-environmental evidence recorded in the Jaywick / Clacton area associated with the early Hoxnian MIS 11 Clacton Channel. The importance of this site has resulted in it becoming the type-site for the Clactonian flint industry. Few finds of Palaeolithic date have been recorded in the vicinity of Burnham on Crouch however, this possibly reflecting a relative lack of investigation in this area. Most of the evidence comprises isolated or small quantities of struck flints, either as stray finds or from the Asheldham gravel deposits (O'Connor 2015; Wenban-Smith *et al.* 2007; Wessex Archaeology 1997; Wymer 1999). Most of the finds comprise handaxes attributable to Acheulean industries. Nevertheless, the possible correlation of the Asheldham Gravels with the prolific sites at both Swanscombe and Clacton suggests a high potential for significant archaeological sites to exist within the Low-Level East Essex Gravels.
- D.5.7 Wenban-Smith *et al.* (2007; map CROUCH 1) records four Palaeolithic handaxes that were recovered from the gravel deposits in the Burnham area, including *in situ* handaxes from a gravel pit section at Goldsands Road near Southminster. Closer to the site, handaxes have been recorded to Creeksea Place, immediately to the south, and from Eves corner, c. 500m to the north. Somewhat larger quantities of struck flint including flakes and a 'chopper' described as Clactonian were recovered from gravels to the west of Burnham (Warren 1933).

Methodology

- D.5.8 The fieldwork reported here follows the methodologies developed by *Medway Palaeolithic Project* and the *Managing the Essex Pleistocene Project* (O'Connor 2015; Wenban-Smith *et al.* 2007) and is detailed in the Written Scheme of Investigation (Macaulay 2018). Its aims are to assess the nature and significance of the Pleistocene deposits and Palaeolithic remains present at the site, establish their distribution and depth across the site and to assess the archaeological significance of any deposits.
- D.5.9 In order to achieve these aims, a total of 17 dedicated geo-archaeological Test Pits were excavated in the ends of selected Archaeological Evaluation trenches located across the site. The Test Pits were located in order to provide broad east-west transects across the site; one in the north field (Test Pits 01, 02, 03, 04, 05 and 06) and one in the south field (Test Pits 07, 08, 09, 10, 11, and 13). Additional Test Pits were excavated in the most northerly and southerly parts of the site with further Test Pits being located to complement these to provide an approximate north – south transect (Test Pits 16, 17, 14 and 15) (see Fig.7).
- D.5.10 The Test Pits measured approximately 2 x 2m and were excavated under the supervision of the Palaeolithic specialist until either pre-Quaternary geology was exposed or to the maximum reach of the mechanical excavator (c. 4m). Sediment was removed by the mechanical excavator using a 1.8m wide toothless ditching bucket in spits up to 250mm thick, but followed the interfaces between sedimentary units wherever possible. Each sedimentary unit was numbered separately. Where safe to enter (the upper c. 1m of the Test Pits) the sides of the Test Pits were cleaned, photographed and drawn. The deeper parts of each Test Pit were photographed and drawn from the side. Samples (100 litres) from each significant geological unit was shaken through a 10mm mesh on site to order retrieve artefacts and coarse ecofacts and 10 litre bulk samples taken for off-site analysis. A column sample was taken through the upper fine grained deposits in Test Pit 08 for laboratory analysis.

Results

Overview (Fig. 14)

- D.5.11** Quaternary deposits were recorded in all of the dedicated geo-archaeological Test Pits excavated at the site. They comprise a complex array of Pleistocene fluvial sands and gravels present immediately beneath top-soils and subsoils but which were encountered at widely varying heights above OD. The surface of the highest surviving deposits were recorded towards the northern boundary of the site at 22.37m OD in Test Pit 16 and lowest recorded were at 13.20m OD in Test Pit 14, located in the central southern part of the site, although these continued below the maximum reach of the mechanical excavator and their full depths remain unknown. Test Pit 13, located further to the south, revealed Pleistocene deposits at 13.80m OD but the base of these were not reached due to rapid ingress of water into the excavation.
- D.5.12** The Test Pits revealed complex sequences of alternating fine-grained (silt-clays, fine sands) and coarser-grained (cobbles, pebbles, gravels and coarse sands) dominated deposits. Whilst some broad trends might be apparent, the sequences in the Test Pits were rarely easily comparable and direct co-relation of the deposits between the pits is difficult.
- D.5.13** Broadly, the site can be divided into two areas that these are conveniently demarcated by the approximate position of modern fields; the north field and the south field. In the north field Pleistocene deposits were relatively shallow with their total thickness ranging between a maximum of 2.16m in Test Pit 01 to only 0.75m in Test Pit 05. Bedrock London Clay was reached in all of the Test Pits in the north field with heights OD on its surface indicating a undulating surface but with a general slope downwards from 21.00m OD in the north (Test Pit 16) to 18.96m OD in the southern part of the north field (Test Pit 17) and also from west to east, with a downward slope from 21.06m OD in Test Pit 06 to 18.43m OD in Test Pit 01. The undulating nature of the surface of the London Clay bedrock is also indicated by the presence of a shallow channel edge seen in Test Pit 05 and is complicated by cryoturbation including ice-wedging, such as seen in Test Pit 03.
- D.5.14** In the southern field Pleistocene deposits were much thicker and London Clay bedrock was only reached in two of the nine Test Pits excavated in that area. In Test Pit 07 it was encountered at a height of 15.24m OD and in Test Pit 12 at 14.77m OD. This would also suggest that the surface of the London Clay undulated as Test Pits 13 (14.21m OD), 14 (13.20m OD) and 15 (13.80m OD) all revealed Pleistocene deposits that extended below the 14.77m OD recorded in Test Pit 12. The sedimentary sequence as revealed in the south field Test Pits was complex and correlation is problematic due to the bedrock having only been reached in two. In Test Pit 07 London Clay was overlain by sandy or gravelly silt-clays whilst in Test Pit 12 the lowest deposits comprised sandy gravels that were overlain by silty sands. Fine sands and silt-clays are the predominant deposit types in the south field but Test Pits 09, 10, 12, 13, 14 and 15 also revealed coarse sand and gravels deposits, although these were usually relatively thin compared to the finer-grained deposits. Observations in the field suggest that all of the pebble- and cobble-sized clasts within the gravel deposits have a high Tertiary flint component with significant proportions of Quaternary flint and Greensand chert also present. Small numbers of quartzite and quartz sandstone clasts were also noted. The pebbles and cobbles are rounded to sub-angular with the majority being very smooth and spherical or oval in shape. The vast majority of clasts are small, measuring less than 50mm in maximum direction, but with occasional pieces that measure in excess of this but rarely greater than 100mm.
- D.5.15** Across the site bedding was generally poorly developed but where it could be observed it was mostly horizontal but occasionally dipped down towards the east and indicated southwest – northeast flow (e.g. Test Pits 07 and 11). Three channel edges were recorded, all of which were aligned southwest –

northeast. That in Test Pit 05 ‘cut’ into London Clay whilst those in Test Pits 07 and 13 were all ‘cut’ into thick fine-grained Pleistocene deposits.

Archaeological evidence

D.5.16 Each major sedimentary unit was sieved on-site through a 10mm mesh with a minimum of 100 litres per unit being processed. In total, c. 5500 litres of sediment were examined. No macro environmental indicators were found but eight struck flints were recovered. Four of the eight pieces came from Test Pit 14, with Test Pits 4, 12, 21 and 22 each producing single pieces. Two of the pieces have been retouched, these comprising an end-scraper from Test Pit 4 and a (non-Clactonian) notched flake from Test Pit 14. The flake from Test Pit 12 is thin and has a curved profile, similar to biface thinning flakes, although its proximal end is missing making identification as such tentative. None of the pieces are truly chronologically diagnostic although all would comfortably fit into Palaeolithic technologies, a date which is supported by their mineral staining and rolled or abraded condition. All came from coarse sands or gravels and have been residually deposited, although the lack of any intensive rolling would suggest possibly not from far.

Context	Test Pit	Trench	Deposit Type	Condition	Description
145	1	22	Gravels	Moderately rolled, mineral stained	Proximal end of flake with natural (?cortical) striking platform. 25x26x9mm.
146	2	21	Silty clay and fine sand	Lightly rolled, corticated opaque white	Thick flake with cortical striking platform. 35x33x12mm.
152	4	20	Gravels	Moderately rolled, mineral stained	Thick flake with possible steep, straight scalar retouch along snapped distal end. 32x38x11mm
185	12	42	Sandy gravels	Lightly rolled	Thin, narrow flake with proximal end missing. Possible biface thinning flake. >56x38x7mm
193	14	55	Sandy gravels	Lightly rolled, mineral stained	Wide thick flake, proximal end missing. 27x55x10mm
194	14	55	Coarse sand	Lightly rolled, mineral stained	Thick flake with wide cortical striking platform. 48x36x15mm
194	14	55	Coarse sand	Lightly rolled, mineral stained	Thick core modification struck from a multi-platformed core. 70x66x30mm
194	14	55	Coarse sand	Lightly rolled, mineral stained	Thick core modification struck from a multi-platformed core with what appears to be a notch inversely cut using scalar retouch on left ventral face. 64x40x22mm

Table 19: Description of the Struck flints

Test Pit descriptions (Fig. 14)

Test Pit 01

D.5.17 Pleistocene deposits consisting of fluvial fine sands underlain by gravels with a combined thickness of 2.55m were recorded at 0.40m below top- and subsoils. London Clay was encountered at 18.43m OD (See Fig. 14, section for Test pit 01). The proximal end of a single struck flake with a natural striking platform was recovered during sieving from the gravel deposit 145.

Test Pit 01 Trench 22			
Context	Surface Height m OD	Base Height m OD	Description
	20.98	20.68	Agricultural topsoil
	20.68	20.58	Sub-soil
144	20.58	18.88	SILTY FINE SAND: Moderately compacted, blocky, mottled orange-brown / light grey massive fine sand with some silt-clay. Gravel, pebbles and small cobbles <50mm appear from 19.30m OD with increasing frequency with depth. Bulk Sample <11> taken at 20.00m OD
145	18.88	18.43	GRAVELS. Loosely compacted, orange brown rounded to sub-rounded gravel, pebbles and small cobbles <50mm in a silt-clay matrix. Massive, unclear boundary with [144]. Bulk Sample <12> taken at 18.60m OD
	18.43		LONDON CLAY. Firm, light brown / grey silt-clay.
	18.05		No Further Excavation. Water Ingress

Table 20: Description of the Sedimentary Sequence Recorded in Test Pit 01

Test Pit 02

D.5.18 Pleistocene deposits were encountered below 0.60m of top- and subsoils. They consisted of fluvial gravelly coarse sands overlain by a series of fine sands and silt-clays. London Clay was encountered at 19.26m OD and the Pleistocene deposits were a maximum of 1.57m thick (See Fig. 14, section for Test pit 02). A single struck flake with a cortical striking platform was recovered during sieving from deposit 146.

Test Pit 02 Trench 21			
Context	Surface Height m OD	Base Height m OD	Description
	21.36	19.96	Agricultural topsoil
	20.96	20.71	Sub-soil
146	20.78	20.20	SILT-CLAY AND FINE SAND: Firmly compacted, blocky, mottled orange-brown / light grey massive silt-clay and fine sand Occasional gravel, pebbles and small cobbles <10mm. Grades into sub-soil above. Bulk Sample <13> taken at 20.46m OD
147	20.32	19.96	SILTY FINE SAND Firmly compacted, blocky, mottled orange-brown / light grey massive fine sand with some silt-clay. Diffuse and irregular, probably cryoturbated, contact with [146].
148	19.96	19.41	SILTY FINE SAND Loosely compacted, orange brown massive silty fine sand. Diffuse boundary with [147].
149	19.46	19.21	GRAVELLY COARSE SAND Loosely compacted orange brown gravel, pebbles and small cobbles <50mm and coarse sand (30:70). Some mineral stained (?Mn) stained lenses. Sharp contact with [147] above. Bulk sample <14> taken at 19.40m OD
	19.26		LONDON CLAY. Firm, light brown / grey silt-clay.
	18.31		No Further Excavation. Water Ingress

Table 21: Description of the Sedimentary Sequence Recorded in Test Pit 02

Test Pit 03

D.5.19 Pleistocene deposits were encountered at 0.40m beneath top- and subsoils and comprised a thin band (c. 200mm thick) of gravelly silt-clay that has been cryoturbated and formed an ‘ice-wedge’ feature cutting c.1m into the underlying London Clay. The upper surface of the London Clay was recorded at c. 21.20m OD (See Fig. 14, section for Test pit 03).

Test Pit 03 Trench 18			
Context	Surface Height m OD	Base Height m OD	Description
	21.80	21.50	Agricultural topsoil
	21.52	21.32	Sub-soil
150	21.42	20.28	GRAVELLY SILT-CLAY: ‘Stiff’ firmly compacted, blocky, mid brown sandy silt-clay and gravel, pebbles and small cobbles <10mm (80 -:20). CRYOTURBATED ice wedges. Grades into sub-soil above. Bulk Sample <15> taken at 21.10m OD
	21.22		LONDON CLAY. Firm, light brown / grey silt-clay.
	18.75		No Further Excavation.

Table 22: Description of the Sedimentary Sequence Recorded in Test Pit 03

Test Pit 04

D.5.20 Pleistocene deposits consisting of fluvial fine sands underlain by gravels with a combined thickness of 1.45m were recorded at 0.40m below top- and subsoils. London Clay was encountered at 19.85m OD (See Fig. 14, section for Test pit 04). A single struck flake with a steeply retouched distal end was recovered during sieving from the lower gravel deposit 152.

Test Pit 04 Trench 20			
Context	Surface Height m OD	Base Height m OD	Description
	21.90	21.60	Agricultural topsoil
	21.62	21.42	Sub-soil
151	21.30	20.35	SILTY FINE SAND Moderately compacted, blocky, mottled orange-brown / light grey massive fine sand with some silt-clay. Grades into sub-soil above. Bulk sample <16> taken at 20.65m OD
152	20.65	19.70	GRAVELS: Firmly compacted mid orange brown massive gravel, pebbles and small cobbles <50mm in a sandy silt-clay matrix. Clear but irregular cryoturbated boundary with [151] above. Bulk sample <17> taken at 20.10m OD
	19.85		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp, undulating contact with [152] including erosion hollows
	18.85		No Further Excavation.

Table 23: Description of the Sedimentary Sequence Recorded in Test Pit 04

Test Pit 05

D.5.21 Test Pit 05 revealed the edge of a shallow channel aligned approximately southwest – northeast that cut into the London Clay bedrock. It was filled with a series of inclined sandy and silty-clay gravels which were overlain by a horizontally bedded fine sandy silt-clay. London Clay was encountered at a maximum

height of 21.15m OD with the channel cutting a further 0.50m into it. The maximum thickness of the Pleistocene deposits was 0.75m (See Fig. 14, section for Test pit 05).

Test Pit 05 Trench 25			
Context	Surface Height m OD	Base Height m OD	Description
	22.00	21.60	Agricultural topsoil
	21.66	21.27	Sub-soil
153	21.34	20.94	SANDY SILT-CLAY: Firmly comped orange-brown sandy silt-clay and gravel, pebbles and small cobbles <50mm (50:50). Diffuse contact with sub-soil above. Bulk sample <18> taken at 21.25m OD
154	20.94	20.60	SILT-CLAY GRAVELS Inclined moderately compacted mid brown sandy silt-clay and gravel, pebbles and small cobbles <50mm (40:60). Sharp contact with [153] above.
155	21.04	20.60	GRAVELLY SAND: Inclined moderately compacted mid brown coarse sand and gravel, pebbles and small cobbles <50mm (80:20). Sharp contact with [154] above.
156	21.09	20.60	SILT-CLAY GRAVELS Inclined moderately compacted mid brown sandy silt-clay and gravel, pebbles and small cobbles <50mm (40:60). Sharp contact with [155] above.
157	21.08	20.59	GRAVELLY SAND: Inclined moderately compacted mid brown coarse sand and gravel, pebbles and small cobbles <50mm (80:20). Sharp contact with [156] above. Bulk sample <19> taken at 20.65m OD
	21.15		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp, erosion contact with deposits above including erosion hollows on base
	19.50		No Further Excavation.

Table 24: Description of the Sedimentary Sequence Recorded in Test Pit 05

Test Pit 06

D.5.22 Pleistocene deposits consisting of fluvial sands and gravels underlain by coarse sands with a combined thickness of 0.82m were recorded at 0.60m below top- and subsoils. A small channel or erosion hollow was noted cutting into the top of the lower deposit. London Clay was encountered at 21.06m OD (See Fig. 14, section for Test pit 06).

Test Pit 06 Trench 19			
Context	Surface Height m OD	Base Height m OD	Description
	22.44	20.02	Agricultural topsoil
	22.10	21.84	Sub-soil
158	21.88	21.49	SAND AND GRAVELS Moderately compacted mid brown massive silty fine sand and gravel, pebbles and small cobbles <50mm (50:50). Diffuse contact with sub-soil above. Bulk sample <20> taken at 21.65m OD
159	21.54	21.05	COARSE SAND Loosely compacted mottled light / dark brown silty coarse sand and gravel. Diffuse boundary with [158] above. Vague linear erosion hollows aligned SW-NE in surface. Sample <21> taken at 21.20m OD
	21.06		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp contact with [159] above
	20.30		No Further Excavation.

Table 25: Description of the Sedimentary Sequence Recorded in Test Pit 06

Test Pit 07

D.5.23 Pleistocene deposits were encountered at 0.70m below top- and subsoils. They comprised a 1.90m deposit of sandy silt-clay overlain by a 0.70m thick deposit of gravelly silt-clay. Cutting through this was a channel at least 0.90m deep and filled with a series of inclined gravels, sands and silt-clays. The channel was aligned on a southwest to northeast alignment whilst the bedding of the underlying deposits and the surface of the London Clay bedrock showed a similar dipping and alignment (See Fig. 14, section for Test Pit 07). London Clay was encountered at a maximum of 15.80m OD and sloped down to 15.40m OD in the northeast, with the Pleistocene deposits attaining a maximum thickness of 2.90m.

Test Pit 07 Trench 34			
Context	Surface Height m OD	Base Height m OD	Description
	18.99	18.49	Agricultural topsoil
	18.50	18.27	Sub-soil
164	18.30	17.89	SANDY SILT-CLAY: Firmly comped mottled orange-brown / light grey massive sandy silt-clay. Diffuse contact with sub-soil above. Dips sharply to NNE
165	18.30	17.49	SANDY GRAVELS Firmly compacted light grey sandy silt-clay and gravel, pebbles and small cobbles <50mm (30:70). Sharp contact with [164] above. Dips sharply to NNW
166	18.26	17.39	SAND: Loosely compacted reddish brown coarse sand with occasional gravel and pebbles <10mm. Sharp contact with [165] above. Dips sharply to NNW. Bulk sample <26> taken at 17.70m OD
167	18.30	17.29	GRAVELLY SILT-CLAY: Firmly compacted light grey sandy silty clay and gravel, pebbles and small cobbles <50mm (80:20). Sharp contact with [166] above. Bulk sample <27> taken at 17.80m OD
168	17.60	15.39	SANDY SILT-CLAY Moderately compacted mottled mid brown / light grey finely laminated sandy silt-clay with regular c.50mm thick lenses of sand every c.200mmph. Diffuse contact with [167] above. Dips sharply to NNW. Bulk sample <28> taken at 16.70m OD
	15.80		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp, contact with [168] above. Slopes down to NE from 15.80m OD to 15.40m OD
	15.24		No Further Excavation.

Table 26: Description of the Sedimentary Sequence Recorded in Test Pit 07

Test Pit 08

D.5.24 Test Pit 08 revealed a sequence of horizontally bedded Pleistocene deposits 0.50m below top- and subsoils. They comprised a series of laminated sandy silt-clays interspersed with a sandy gravel deposit. The Pleistocene deposits were at least 3.74m thick but continued below the level that the mechanical excavator could reach at 15.00m OD, and no bedrock was observed (See Fig. 14, section for Test pit 08). A column sample was taken through the upper two sandy silt-clay deposits.

Test Pit 08 Trench 35			
Context	Surface Height m OD	Base Height m OD	Description

	19.18	18.88	Agricultural topsoil
	18.98	18.68	Sub-soil
169	18.74	18.23	SANDY SILT-CLAY: Firmly comped light to mid brown laminated sandy silt-clay. Diffuse contact with sub-soil above. Bulk sample <29> taken at 18.50m OD. Column sample taken through deposit
170	18.22	17.58	SANDY SILT-CLAY: As [169] above but becoming increasingly sandier. Diffuse contact with [169] above. Bulk sample <30> taken at 17.90m OD. Column sample taken through deposit
171	17.58	16.87	SANDY GRAVELS Moderately compacted mid yellowish brown horizontally bedded gravel, pebbles and small cobbles <50mm in a coarse sand matrix with occasional sub-angular cobbles <100mm. Sharp contact with [170] above. Bulk sample <31> taken at 17.30m OD
172	16.90	?	SANDY SILT-CLAY Moderately compacted mottled mid brown / light grey finely horizontally laminated sandy silt-clay with frequent lenses of sand. Diffuse contact with [167] above. Bulk sample <32> taken at 15.80m OD
	15.00		No Further Excavation. Machine limit

Table 27: Description of the Sedimentary Sequence Recorded in Test Pit 08

Test Pit 09

D.5.25 Test Pit 09 revealed a sequence of horizontally bedded Pleistocene deposits 0.40m below top- and subsoils. They comprised a series of laminated sandy silt-clays interspersed with a sandy gravel deposit. The Pleistocene deposits were at least 3.20m thick and continued below the level that the mechanical excavator could reach at 15.35m OD with no bedrock being observed (See Fig. 14, section for Test pit 09).

Test Pit 09 Trench 39			
Context	Surface Height m OD	Base Height m OD	Description
	18.95	18.65	Agricultural topsoil
	18.65	18.55	Sub-soil
173	18.55	17.99	SANDY SILT-CLAY: Firmly comped orange brown finely laminated sandy silt-clay. Diffuse contact with sub-soil above. Bulk sample <33> taken at 18.25m OD.
174	18.02	17.25	SANDY GRAVELS Moderately compacted mid yellowish brown horizontally laminated gravel, pebbles and small cobbles <50mm in a silty coarse sand matrix. Sharp contact with [170] above. Bulk sample <34> taken at 17.65m OD
175	17.28	?	SANDY SILT-CLAY Firmly compacted orange brown finely horizontally laminated sandy silt-clay with frequent thin (<5mm) lenses of sand. Diffuse contact with [167] above. Bulk sample <35> taken at 16.35m OD
	15.35		No Further Excavation. Machine limit

Table 28: Description of the Sedimentary Sequence Recorded in Test Pit 09

Test Pit 10

D.5.26 Test Pit 10 revealed a sequence of horizontally bedded Pleistocene deposits 0.70m below top- and subsoils. The earliest recorded deposits comprise horizontally bedded shallow coarse sands and gravels interspersed with a deposit of sandy silt-clay, which were overlain by thicker deposits of sandy silt-clays. The Pleistocene deposits were at least 3.70m thick but continued below the reach of the mechanical excavator at 14.77m OD and no bedrock was observed (See Fig. 14, section for Test pit 10).

Test Pit 10 Trench 40			
Context	Surface Height m OD	Base Height m OD	Description
	19.17	18.76	Agricultural topsoil
	18.77	18.45	Sub-soil
176	18.49	17.57	SANDY SILT-CLAY: Moderately comped mottled mid brown / light grey massive sandy silt-clay with occasional sand and gravel lenses. Involute - cryoturbated on surface but weak current ripples seen towards base suggesting a S-N flow direction. Diffuse contact with sub-soil above. Bulk sample <36> taken at 18.30m OD
177	17.59	15.53	SANDY SILT-CLAY Firmly compacted light greyish brown horizontally bedded sandy silt-clay with frequent thin (<5mm) lenses of sand. Diffuse contact with [176] above.
178	15.53	15.22	COARSE SAND Loosely compacted mid brown coarse sand. Sharp contact with [177] above. Bulk sample <37> taken at 15.40m OD
179	15.20	14.92	SANDY CLAY-SILT Firmly compacted light greyish finely laminated sandy silt-clay with frequent sand lenses. Some mineral / organic staining. Sharp contact with [178] above. Bulk sample <38> taken at 15.10m OD
180	14.97		SANDY GRAVELS Loosely compacted mid grey gravels, pebbles and small cobble <50mm in a coarse sand matrix. Sharp contact with [179] above.
	14.77		No Further Excavation. Machine limit

Table 29: Description of the Sedimentary Sequence Recorded in Test Pit 10

Test Pit 11

D.5.27 Pleistocene deposits consisting of fluvial silty coarse sand underlain by silty fine sands were recorded at 0.40m below top- and subsoils. The upper deposit contained finely interdigitated lenses of silt-clay contained with a matrix of coarse sand which were inclined downwards to the northeast. The lower deposits were finely laminated and contained frequent silt-clay lenses, and also dipped to the northeast. The Pleistocene deposits attained a thickness of at least 3.05m but at 15.80m OD rapid water ingress caused the Test Pit's sides to collapse and no further excavation was possible (See Fig. 14, section for Test pit 11).

Test Pit 11 Trench 41			
Context	Surface Height m OD	Base Height m OD	Description
	19.25	18.95	Agricultural topsoil
	19.00	18.75	Sub-soil
181	18.75	15.77	SILTY SAND Moderately compacted orange brown / yellowish brown silty coarse sand containing lenses of light grey gravel and pebbles in a silt-clay matrix aligned SE-NW and dipping to NE. Diffuse boundary with sub-soil above. Bulk sample <39> taken at 17.45m OD
182	17.25		SILTY FINE SAND Moderately compacted light 'bluish' grey silt fine sand with occasional silt-clay lenses. Dipping sharply to NE. Bulk sample <40> taken at 16.15m OD
	15.70		No Further Excavation. Machine limit

Table 30: Description of the Sedimentary Sequence Recorded in Test Pit 11

Test Pit 12

D.5.28 Test Pit 12 revealed a thick series of silty sands that overlay a thin deposit of sandy gravels. The Pleistocene deposits were encountered 0.60m below top- and subsoils and were at least 3.85m thick. The deposits were bedded or finely laminated and dipped to the northeast. A very stiff deposit of grey-brown silt-clay with a maximum height of 14.72m OD was seen in the base of the Test Pit; this has the same structure and consistency as the London Clay observed in some of the other Test Pits (See Fig. 14, section for Test pit 12).A single possible biface thinning flake was recovered from the lower gravels [185].

Test Pit 12 Trench 42			
Context	Surface Height m OD	Base Height m OD	Description
	19.14	18.79	Agricultural topsoil
	18.79	18.59	Sub-soil
183	18.56	17.72	SILTY SAND Loosely compacted light brown massive silty coarse sand with occasional gravel and pebbles, gradually becomes siltier with depth in a silt-clay matrix. Aligned SE-NW and dipping to NE. Diffuse boundary with sub-soil above. Bulk sample <41> taken at 15.15m OD
184	17.74	15.07	SILTY FINE SAND Moderately compacted mottled mid brown / light 'bluish' grey laminated silty fine sand with occasional gravels and pebble lenses. Fe panning throughout. Diffuse contact with [183] above. Dipping to NE.
185	15.27	14.70	SANDY GRAVELS: Loosely compacted gravels, pebbles and small cobbles <50mm in a coarse sand matrix. Mineral coated. Sharp contact with [184] above. Dipping to NE. Bulk sample <42> taken at 16.00m OD
	14.77		?LONDON CLAY Stiff brown silt-clay with sharp contact with [185] above.
	14.40		No Further Excavation. Machine limit

Table 31: Description of the Sedimentary Sequence Recorded in Test Pit 12

Test Pit 13

D.5.29 Pleistocene deposits were encountered at 0.60m below top- and subsoils. They comprised a complex sequence of sandy gravels, coarse sands and sandy silt-clays. Cutting through these was a shallow southwest – northeast aligned channel 0.50m deep that was filled with inclined coarse sands and sandy gravels that dipped to the east. The Pleistocene deposits were at least 3.40m thick but continued beyond the reach of the mechanical excavator at 14.21m OD (See Fig. 14, section for Test pit 13).

Test Pit 13 Trench 64			
Context	Surface Height m OD	Base Height m OD	Description
	18.21	17.81	Agricultural topsoil
	17.81	17.61	Sub-soil
186	17.61	17.31	SANDY GRAVELS: Moderately compacted light grey to mid brown gravels, pebbles and small cobbles <10mm in a silty sand matrix. Diffuse contact with sub-soil above. Dipping to E. Bulk sample <43> taken at 17.50m OD
187	17.61	17.16	COARSE SAND Moderately compacted reddish brown coarse sand. Dips to E. Sharp contact with [186] above.

188	17.61	16.21	SAND AND SILT-CLAY Firmly compacted 'stiff' mottled mid brown / light grey horizontally laminated silt-clay and fine sand. Sharp contact with [187] above.
189	16.21	14.71	SILTY FINE SAND As above but becomes more sandy. Horizontally laminated and occasionally weakly cross bedded (flow to NE?) Diffuse contact with [188] above
190	14.76	14.56	SANDY GRAVELS: Loosely compacted mid brown gravels, pebbles and small cobbles <50mm in a coarse sand matrix. Sharp contact with [189] above.
191	14.59	14.36	SANDY SILT-CLAY Firmly compacted 'stiff' sandy silt-clay. Sharp contact with [190] above.
192	14.41		SANDY GRAVELS: Loosely compacted mid brown gravels, pebbles and small cobbles <50mm in a coarse sand matrix. Sharp contact with [191] above. Bulk sample <44> taken at 14.30m OD
	14.21		No Further Excavation. Machine limit

Table 32: Description of the Sedimentary Sequence Recorded in Test Pit 13

Test Pit 14

D.5.30 Pleistocene deposits in Test Pit 14 were encountered at 0.45m beneath top- and subsoils. They comprised a thick deposit of silty fine sand overlain by a thin deposit of coarse sand and a thicker deposit of cryoturbated sandy gravels. The Pleistocene deposits were at least 4.15m thick but continued beyond the reach of the mechanical excavator at 13.20m OD (See Fig. 14, section for Test pit 14). Three struck flints including a notched flake were recovered from the coarse sand layer [194] and a further flake was recovered from the overlying sandy gravels [193] during sieving.

Test Pit 14 Trench 55			
Context	Surface Height m OD	Base Height m OD	Description
	17.80	17.40	Agricultural topsoil
	17.45	17.30	Sub-soil
193	17.35	16.45	SANDY GRAVELS: Loosely compacted dark reddish brown massive gravels, pebbles and small cobbles <50mm in a silty sand matrix. Distorted, cryoturbated. Diffuse contact with sub-soil above. Bulk sample <45> taken at 17.00m OD
194	16.50	16.20	COARSE SAND Moderately compacted reddish brown massive coarse sand. Ice wedge in SW corner of Test Pit. Sharp contact with [193] above. Bulk sample <46> taken at 16.40m OD
195	16.30		SILTY FINE SAND Moderately compacted 'stiff' light brownish grey horizontally laminated silty fine sand. Sharp contact with [194] above. Bulk sample <47> taken at 14.90m OD
	13.20		No Further Excavation. Machine limit

Table 33: Description of the Sedimentary Sequence Recorded in Test Pit 14

Test Pit 15

D.5.31 Pleistocene deposits in Test Pit 15, the most southerly excavated at the site, were encountered at 0.50m beneath top- and subsoils. They comprised a complex series of gravels, overlain by coarse sands and sandy silt-clays. They were at least 3.80m thick but rapid water ingress at 13.80m OD prevented any further excavation in the Test Pit (See Fig. 14, section for Test pit 15).

Test Pit 15 Trench 67			
Context	Surface Height m OD	Base Height m OD	Description
	17.60	17.30	Agricultural topsoil
	17.30	17.10	Sub-soil
196	17.15	15.55	SANDY SILT-CLAY: Firmly compacted 'stiff' light brown blocky sandy silt-clay with occasional sand 'pockets', gravels and rare pebbles <50mm. Diffuse contact with sub-soil above. Bulk sample <48> taken at 16.70m OD
197	15.55	14.90	SAND AND SILT-CLAY: Similar to [196] above but more sandy. Diffuse contact with [196] above. Bulk sample <49> taken at 15.25m OD
198	14.90	14.25	SILTY COARSE SAND: Firmly compacted 'stiff' light 'bluish' grey massive silty coarse sand. Diffuse contact with [197] above. Bulk sample <50> taken at 14.60m OD
199	14.35		SANDY GRAVELS: Loosely compacted grey-brown massive? gravels, pebbles and cobbles <50mm in a coarse sand matrix. Sharp contact with [198] above. Bulk sample <51> taken at 14.10m OD
	13.80		No Further Excavation. Water ingress

Table 34: Description of the Sedimentary Sequence Recorded in Test Pit 15

Test Pit 16

D.5.32 Test Pit 16, the most northerly at the site, revealed horizontally bedded gravels and coarse sands beneath 0.60m of top- and subsoils (See Fig. 14, section for Test pit 16). London Clay was encountered at 21.00m OD and the Pleistocene deposits survived to a maximum of 1.50m thick.

Test Pit 16 Trench 08			
Context	Surface Height m OD	Base Height m OD	Description
	22.95	22.55	Agricultural topsoil
	22.57	22.35	Sub-soil
160	22.37	21.75	SAND AND GRAVELS: Loosely compacted orange-brown massive gravels, pebbles and cobbles <50mm and coarse sand (50:50). Diffuse contact with sub-soil above. Bulk sample <22> taken at 22.00m OD
161	21.77	20.87	GRAVELLY SAND: Similar to above and with a diffuse contact but coarse sand content increases with depth to about 90% at base. Bulk sample <23> taken at 21.35m OD
	21.00		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp, erosion contact with deposits above including erosion hollows on base
	20.65		No Further Excavation.

Table 35: Description of the Sedimentary Sequence Recorded in Test Pit 16

Test Pit 17

D.5.33 Pleistocene deposits were encountered in Test Pit 17 at 0.60m beneath top- and subsoils. They comprised sand and gravels overlain by silty coarse sand. London Clay was encountered at 18.96m OD

and dipped down slightly to the west. The Pleistocene deposits were a maximum of 1.60m thick. (See Fig. 14, section for Test pit 17).

Test Pit 17 Trench 30			
Context	Surface Height m OD	Base Height m OD	Description
	21.06	20.81	Agricultural topsoil
	20.86	20.44	Sub-soil
162	20.48	19.26	SILTY COARSE SAND: Moderately compacted mottled orange-brown / light grey weakly horizontally bedded silty coarse sand with occasional gravel and pebbles <30mm. Becomes more gravelly with depth. Diffuse contact with sub-soil above. Bulk sample <24> taken at 20.20m OD
163	19.28	18.86	SAND AND GRAVELS: Moderately compacted orange-brown massive gravels, pebbles and cobbles <50mm and coarse sand (50:50). Diffuse contact with [162] above. Bulk sample <25> taken at 19.10m OD
	18.96		LONDON CLAY. Firm, light brown / grey silt-clay. Sharp, erosion contact with deposits above. Slight dipping to NW
	18.21		No Further Excavation.

Table 36: Description of the Sedimentary Sequence Recorded in Test Pit 17

Clast Lithology

- D.5.34** The pollen sub-samples were prepared using the standard hydrofluoric acid technique, and counted for pollen using a high-power stereo microscope at x400 magnification.
- D.5.35** Unfortunately, the four pollen sub-samples investigated in this study proved to be barren. Three of these (9-10 cm, 15-16 cm, 26-27 cm) were from grey silt bands, and one (43-44cm) was from a unit of brown silt. All of these were contexts assessed as having medium-poor preservation potential, and as such this is not an unexpected result. This strongly suggests that water tables at the site have fluctuated over time exposing the sediments to oxidative processes. Since chemical redox processes are reversible once water tables rise again, evidence for this oxidation is not always apparent, even though bacterial degradation of palynomorphs has taken place. It is for this reason that visual inspection of sediments for preservation potential can result in a 'moderate' assessment, even though the pollen samples themselves prove to be barren.

Discussion

- D.5.36** The Palaeolithic evaluation at the site has produced valuable evidence relating to the location and composition of the Pleistocene deposits in the area. Pleistocene deposits were recorded in all Trenches immediately beneath top- and subsoils and consisted of a complex sequence of fluvial gravels, sands and silt-clays. They were present at widely varying heights above OD and extended to markedly different depths, thinning out significantly from south to north and, at least in the north field, from east to west. The highest deposits were present in the north of the site and survived to just over 21.00m OD. Their surface sloped down to the south, following contemporary ground level, with the lowest recorded levels on their surface being 17.15m at the site's southern extent. Similarly, the base of the Pleistocene deposits was at its highest in the north at 21.00m OD but in the south they continued below the maximum limits of excavation; extending below 13.20m OD. This suggests that the deposits represent the left bank of a wide channel flowing to the northeast and is consistent with the BGS mapping which indicates that the site lies towards the western edge of a series of Pleistocene deposits.

- D.5.37 The location of the Pleistocene deposits combined with preliminary observations of the lithology and their altitudinal position indicate that they equate to the Southchurch / Asheldham gravels, the highest of the 'Low Level East Essex Gravels' which equate to the Thames Boyn Hill / Orsett Heath Gravels (Bridgland 1988; O'Connor 2015; Roe and Preece 2011; Wenban-Smith *et al.* 2007). Detailed clast lithological analysis should confirm that they were laid down by the post-Anglian Thames-Medway river as it crossed eastern Essex during the late Anglian / early Hoxnian (MIS 11).
- D.5.38 Despite intensive sieving of the deposits, only eight struck flints of Palaeolithic date and no biogenic indicators were recovered. The condition of the struck flints indicates they are derived, although not necessarily from far, and were residually incorporated within coarser-grained sediments laid down by relatively fast flowing water. No stabilized land surfaces were identified. The struck flints are not closely dateable but would be consistent with either Clactonian or Acheulean industries and cannot contribute to the debate concerning the possible succession of these industries or their relationship to the Asheldham Gravels.

Conclusions

- D.5.39 The investigations have demonstrated the presence of a complex array of Pleistocene deposits at the site along with evidence of human activity in the form of derived struck flints. The proposed development of the site is only likely to have a very limited impact on the survival or integrity of the deposits.

APPENDIX E EHER ASSETS DESCRIPTION

SMR NO.	GRID REF	DESCRIPTION	DATE
11211	TQ 94 96	Six Bronze Age loopless palstaves, five the same form, unsharpened, founders hoard found in Burnham parish in or before 1911 and acquired the same year by the British Museum.	Bronze Age - 2000 BC to 701 BC
11214	TQ 94 96	Evidence of Clactonian industry in gravels at Burnham-on-Crouch. Finds include flakes and Swanscombe style chopper weighing 87oz.	Lower Palaeolithic to Late Bronze Age -500000 BC to 701 BC
11230	TQ 9458 9676	Traces of a ditch visible before the houses were built. Nothing visible on Aps. Map in SMR shows apparent length of ditch as being under pavement in front of 112-116 Maldon Road at TQ 94769678C, but no source is given.	none
11231	TQ 9459 9670	Fragments of Iron Age pottery found in 1936 on a housing estate, c.600 yards SW of the church. Triangular loomweight (?Saxon, see 11232) and a fragment of Roman flue tile also found.	Iron Age - 700 BC to 42 AD
11232	TQ 9459 9670	Saxon? loomweight found on a housing estate SW of the church in 1936.	Early Medieval - 410 AD to 1065 AD
11233	TQ 9459 9670	Roman material found in 1936 on a housing estate SW of the church; piece of flue tile.	Roman - 43 AD to 409 AD
11234	TQ 9475 9672	Sestertius of Antonius Pius found in 1945 in the garden of Miss.I.M.P. Fletcher at Burnham. Grid Ref approximate only.	Roman - 130 AD to 161 AD
11235	TQ 9454 9632	Iron Age burials, including pottery, found in 1930. Site of burials mapped on OS map of Iron Age Britain. Several Iron Age vessels from one or more graves found in 1930 at a point just S of the railway on the S side of the path and 350 yards west of the railway station. They comprise a butt-beaker of dark brown ware, a large jug of red ware, white coated; a pedestalled urn of brown ware and a gallo-belgic platter of grey ware.	Iron Age - 700 BC to 42 AD

SMR NO.	GRID REF	DESCRIPTION	DATE
11236	TQ 9365 9611	Iron Age urnfield found in 1925 near "the Groves"; there are other cropmarks in the same field. The OScard notes, at TQ 93609587, an Iron Age ("La Tenell") urnfield found during gravel digging on the estate of Capt. Jackson. The pottery consists of 3 pedestal vases, 2 pedestal bowls, 2 brown bowls with incurved sides and a globular bowl. Site shown on OS map of Britain in the Iron Age.	Iron Age - 700 BC to 42 AD
11237	TQ 9366 9611	In the same area as the urnfield (11236) aerial photographs show cropmarks of a single ring ditch, an oval enclosure and other linear features. The GoogleEarth photograph of the 7/9/2013 show a further two ring-ditches located adjacent to the railway line	cropmark
11242	TQ 946 969	Cropmarks north of Burnham-on-Crouch. Cropmark plot and AP show 2 parallel linear features to the N of the B1010 which turn in a right angle to the W.	cropmark
11282	TQ 9357 9563	Red hill, briquetage. Also "piece of dagger from red hill". OScard states that briquetage and 'sagger', found; the dagger mentioned in source 1 is probably an incorrect transcription from another source.	none
11295	TQ 931 970	Site of D.M.V.?" Possible deserted Medieval village.	Medieval - 1066 AD to 1539 AD
11296	TQ 931 969	Creeksea Hall C18 red brick house incorporating the wing of an earlier C16 timber framed and plastered house on the north side.	Medieval to Post Medieval - 1500 AD to 1799
11302	TQ 947 967	Roman coin". Possibly the same find as PRN 11234.	Roman - 43 AD to 409 AD

SMR NO.	GRID REF	DESCRIPTION	DATE
11309	TQ 9430 9731	Brickworks at Green Lane; all the buildings have now been destroyed. Two adjacent fields on the south side, one owned by Croxton, and the other by Pitchers, provided bricks for local use and ceased working in the C20. The clay pits area is still visible although overgrown. Pitchers closed in the 1930's and Croxtons in 1935. Information from Mr Blowers, Burnham on Crouch: going from Eves Corner Croxtons was on the left and Pitchers on the right, the former probably open for just over 80 years. Clay was dug in the winter to make bricks in the summer. The kiln held 15,000 bricks. Most of the bricks were used locally but in later years were also sent further afield to building sites in Gidea Park and Romford. Ornamental bricks were also made for Creeksea Place when it was being restored or extended. Site Assessment = The buildings have been demolished; the clay pits are still visible but overgrown. Although buildings have been erected on part of the site below ground deposits may survive. Field visit in first instance with follow on intrusive works if necessary.	Post Medieval - 1540 AD to 1900 AD
11309	TQ 945 972	Core flints found near the Chase.	Lower Palaeolithic to Late Bronze Age - 500000 BC to 701 BC
11317	TQ 935 961	Hand axe found at entrance to a rabbit hole in the grounds of Creeksea Place in 1959. The axe is approximately 5" long and 3" broad; possibly Palaeolithic twisted ovate hand axe. Photo in SMR.	Palaeolithic - 500000 BC to 10001 BC
11318	TQ 942 968	Semi leaf shaped flint tool found on the Cherry Garden site, Burnham. 3cms long and 2 cms wide. One smooth side showing percussion bulb, the other side has 3 faces.	Lower Palaeolithic to Late Bronze Age - 500000 BC to 701 BC
11329	TQ 920 969	Large collection of flint finds made over several years (1974-1985), largely by Mr A Hammond. Some pottery also found dating to the Iron Age	Mesolithic - 10000 BC to 4001 BC; Neolithic - 4000 BC to 2001 BC; Post Medieval - 1540 AD to 1900 AD
11332	TQ 938 964	Iron Age and Romano-British settlement. Excavations undertaken in the 1970's by Burnham Arch Soc under the direction of M Tildersly and Mrs B Porren - "no written information available to date" - i.e. in 1975.	Iron Age - 700 BC to 42 AD
11333	TQ 938 964	Iron Age and Romano-British settlement. Excavations undertaken in the 1970's by Burnham Arch Soc under the direction of M Tildersly and Mrs B Porren - "no written information available to date".	Roman - 43 AD to 409 AD

SMR NO.	GRID REF	DESCRIPTION	DATE
11338	TQ 942 964	Cropmarks: rectilinear enclosures, linear features and a single ring ditch. Site Assessment = "Destroyed by housing, 1974".	none
11341	TQ 943 961	Faint cropmarks centred on the above Grid Ref, including an enclosure containing two small rectangular enclosures. The cropmark plot shows other linear features and ?two small ring ditches.	none
11342	TQ 9425 9625	Worked flint, including a core fragment.	Lower Palaeolithic to Late Bronze Age - 500000 BC to 701 BC
11350	TQ 945 972	Finds of palaeolithic worked flint; one core, one unretouched flake and one miscellaneous worked fragment.	Palaeolithic - 500000 BC to 10001 BC
11365	TQ 940 962	One flint flake with edge damage.	Lower Palaeolithic to Late Bronze Age - 500000 BC to 701 BC
15291	TQ 9480 9643	Mildmay Ironworks, Booth and Brookes Ltd, founded 1899 as Palmer and Booth. It made a range of implements, including precision internal parts for pianos. Founded in 1899 as Palmer and Booth the works stood on the edge of the town beside the railway. Brick-built complex comprising foundry, machine shop, pattern shop, offices and engine house; the latter being located on the south side of the foundry/machine shop containing a 50 hp gas engine and 100 hp oil engine. The foundry has been demolished and a modern industrial estate now occupies the site.	Post Medieval to Modern - 1899 AD to 2050 AD
15291	TQ 928 960	A group of seventeen, possibly more, oyster pits and the timber post-defined remains of two probably related short piers. While the oyster pits appear on the OS 1st ed, only one of the piers appears.	Post Medieval - 1540 AD to 1900 AD
16110	TQ 927 952	A complex system of oyster pits on both the west and east banks of Lion Creek, at its junction with the River Crouch. While more of the pits appear on the OS 1st ed 6", they appear very similar to the sites at Althorne Creek (PRN 16107;16106) and Tideway (PRN 16108). Many of the pits have interconnecting channels and associated banks. In addition, the remains of three probable piers are visible on 1953 APs; it is likely that it is related to the site.	undetermined

SMR NO.	GRID REF	DESCRIPTION	DATE
16110	TQ 933 956	Two isolated oyster beds which do not appear on the OS 1st ed 6" series.	undetermined
16132	TQ 943 964	Site excavated by Mr Tiltlesley of Passmore Edwards Museum. Finds (mainly Roman pottery) returned to Burnham-on-Crouch museum in 1994, archive appears to have been lost. Apparently it was a C1 Roman farmstead, based on a linear field pattern, some buildings represented by postholes. Photographs in Burnham museum suggest deposits buried to a depth of up to a metre (under alluvial silts?).	Roman - 43 AD to 409 AD
21279	TQ 9476 9706	Contemporary records state, 'Spigot Mortar. Opposite Water Works. Map ref. 393154.' (Mil. Ed.) The Water Works stood on the W side of Southminster Road, on a bend, on a hill. On the E side was Newmans Farm Dairies, per a 1:2500 map dated 1970. A spigot mortar, on the verge here, would be a natural position for such a gun, covering the incline and the road down to the road barrier at 'Pannell's Bridge' (SMR 21280). There is no sign of the emplacement now and the NGR above is thought to be the most likely position.	Modern - 1939 AD to 1945 AD
21280	TQ 9473 9719	Contemporary records state, 'Road Barrier. Road No. B.1021, Pannells Bridge: Near The Hall. Map ref.394152.' (Mil. Ed.) Pannell's Bridge is, in fact, somewhat north of this MGR at 392155. It is a small bridge across Southminster Road. Nothing remains of the road barrier now.	Modern - 1939 AD to 1945 AD
21281	TQ 9335 9627	TRAINING BASE WWII: HMS 'St Mathew' was a Combined Operations training base at Creeksea Place, west of Burnham-on-Crouch.	Modern - 1939 AD to 1945 AD
38770	TQ 9305 9689	Parish church, C14, entirely rebuilt in 1878.	Post Medieval - 1800 AD to 1899 AD
38772	TQ 9345 9616	Part of large brick house dating to 1569, S wing destroyed 1740, E wing rebuilt in C19.	Medieval to Post Medieval - 1500 AD to 1599 AD
38776	TQ 9370 9756	C18 timber framed house.	Post Medieval - 1700 AD to 1799 AD
38777	TQ 9371 9723	C17 timber framed house.	Post Medieval - 1600 AD to 1699 AD
38778	TQ 9415 9692	C17 red brick house.	Post Medieval - 1600 AD to 1699 AD

SMR NO.	GRID REF	DESCRIPTION	DATE
40967	TQ 933 965	Bridge - takes the line on a high embankment over Ferry Road. Bridge of girder construction on blue engineering brick abutments.	Modern - 1901 AD to 2050 AD
41062	TQ 9330 9645	Bridge - takes the line on a high embankment over Ferry Road. Bridge of girder construction on blue engineering brick abutments.	Modern - 1901 AD to 2050 AD
46872	TQ 9351 9618	Five-bayed, weather-boarded barn and a later outshot, possibly indicating the Victorian High Farming era. It is connected to an older barn through the tie beams but stud walls have been removed. The later part of the barn is likely to have been constructed for intensified grain production during the Napoleonic war and is notably narrower than the older barn. It forms part of the Creaksea farmyard, the house is listed and the barn is shown on 1775 Chapman and Andre and the 1844 Tithe map.	Post Medieval to Modern - 1540 AD to 2050 AD
47026	TQ 9475 9672	2 groups of late pre-Roman iron Age pottery and briquetage found in garden of Maple Lodge. Retrieved from a hole left after removal of a tree. No features were present. Pre-Belgic pottery representing 16 vessels were discovered. The bulk of pottery was Belgic. The largest briquetage fragment is the rim of an evaporation vessel. Although close to the modern coast, it is too high to have been the site of a red hill. The author suggests that inland briquetage finds may represent salt drying inland, with the return of salt workers in the autumn and perhaps provide a hint to the location of communities that had interest in the salt marshes.	Lower Palaeolithic to Roman - 500000 BC to 409 AD
47415	TQ 933 962	Creeksea Place is on Ferry Road, off the 81010, immediately south of the Southminster railway line. The land falls away to the river and the house, on higher ground, would have had spectacular views over the water (now lost through tree encroachment). The original garden, park and farm covered about 16 hectares but the farm is now in separate ownership.	Post Medieval - 1540 AD to 1900 AD
48260	TQ 9435 9746	Brickworks at Green Lane; all the buildings have now been destroyed. Two adjacent fields on the south side, one owned by Croxton, and the other by Pitchers, provided bricks for local use and ceased working in the C20. The clay pits area is still visible although overgrown.	Post Medieval - 1540 AD to 1900 AD

SMR NO.	GRID REF	DESCRIPTION	DATE
49137	TQ 9434 9722	<p>Land west of Southminster Road, Burnham-on-Crouch: 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. 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 postmedieval/ 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.</p>	<p>Late Bronze Age - 1000 BC to 701 BC; Middle Iron Age - 400 BC to 101 BC; Medieval - 1066 AD to 1539 AD; Post Medieval - 1540 AD to 1900 AD</p>

SMR no	Grid ref	Description	Associated with:
EEX33021	TQ 938 964	Archaeological intervention/excavation by Burnham Arch Soc,	11332 North east of Creekeea (Monument 11332)
EEX33025	TQ 938 964	Archaeological intervention/excavation by Burnham Arch Soc,	11333 North east of Creekeea (Monument 11333)
EEX33116	TQ 940 962	Field survey/field observation (visual assessment)	11365 Prehistoric flint from Burnham Country Park (Find Spot 11365)
EEX40811	TQ 943 964	PART EXCAV by Tiltesley, 1970's	16132 Burnham-on-Crouch - Springfield Industrial Estate (Monument 16132)
EEX55570	TQ 935 961	Description and analysis of a timber-framed barn at Creekeea Place Farm.	46872 Timber-framed barn at Creekeea Place Farm, Burnham-on-Crouch (Building 46872)
EEX58848	TQ 9436 9738	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58850	TQ 9458 9693	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58853	TQ 9458 9676	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58855	TQ 9423 9644	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58856	TQ 9481 9643	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58858	TQ 9431 9617	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX58859	TQ 9454 9632	EHCR site in Burnham - Archaeological Intervention	none recorded
EEX59177	TQ 9433 9722	Land west of Southminster Road, Burnham-on-Crouch - Archaeological Intervention by ASE	49137 Land west of Southminster Road, Burnham-on-Crouch (Monument 49137)
EEX56882	TQ 9345 9757	Archaeological evaluation, The old Booster Station, Ostend, Burnham-on-Crouch- Archaeological Intervention by ASE	48694 The Old Booster Station, Burnham-on-Crouch (No finds or features 48694)
EEX55530	TQ 933 962	WWII Defences of Maldon-Fred Nash visits May 2009 - field survey	21281 HMS 'St Mathew', Combined Operations Training Base, Creekeea Place (Monument 21281)

APPENDIX F BIBLIOGRAPHY

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APPENDIX G RADIOCARBON DATING CERTIFICATE



RADIOCARBON DATING CERTIFICATE 20 July 2018

Laboratory Code	SUERC-80845 (GU48317)
Submitter	Zoe Ui Choileain Oxford Archaeology East 15 Trafalgar Way Bar Hill Cambridgeshire CB23 8SQ
Site Reference	XEX WBU18
Context Reference	276
Sample Reference	62
Material	Cremated bone : hsr
δ¹³C relative to VPDB	-25.0 ‰ assumed

Radiocarbon Age BP 3319 ± 25

N.B. The above ¹⁴C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

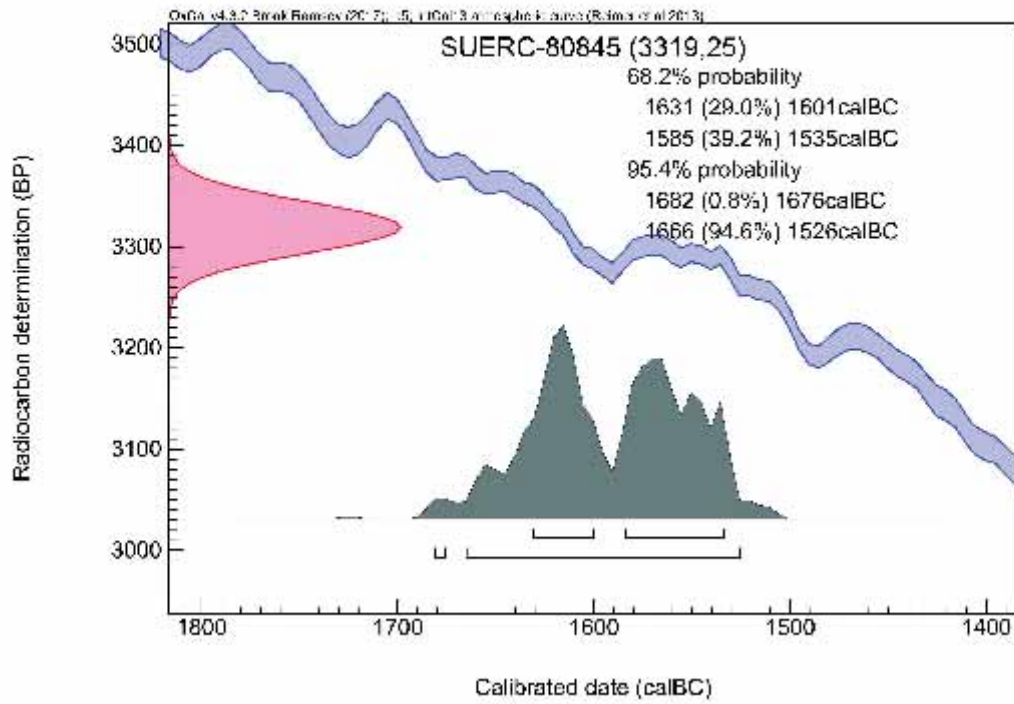
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : *E. Dunbar*

Checked and signed off by : *P. Nayant*



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2013) *Radiocarbon* 55(4) pp.1869-87

APPENDIX H OASIS REPORT FORM

Project Details

OASIS Number	oxfordar3-326157		
Project Name	Land at off Maldon Road, Burnham West, Burnham-on-Crouch, Essex		
Start of Fieldwork	16.04.18	End of Fieldwork	22.05.18
Previous Work	none	Future Work	unknown

Project Reference Codes

Site Code	BCWB18	Planning App. No.	MAL/0356/14
HER Number		Related Numbers	
Prompt	Direction from local Planning Authority		
Development Type	Residential and business		
Place in Planning Process	After outline determination (eg. A a reserved matter)		

Techniques used (tick all that apply)

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

Monument	Period	Object	Period
Pit	Bronze Age (- 2500 to - 700)	Pottery	Bronze Age (- 2500 to - 700)
Ditch	Roman (43 to 410)	Pottery	Roman (43 to 410)
Ditch	Post Medieval (1540 to 1901)	Pottery	Medieval (1066 to 1540)
Cremation	Bronze Age (- 2500 to - 700)	Tile	Post-medieval (1540 – 1901)
Ditch	Modern (1901 to present)	Lithic implement	Palaeolithic (- 500 000 to - 10 000)

Project Location

County	Essex	Address (including Postcode) Land off Maldon Road, Burnham West, Burnham-on-Crouch, Essex, CMO 8NR
District	Maldon	
Parish	Burnham-on-Crouch	
HER office	Essex	
Size of Study Area	21.17 ha	
National Grid Ref	TQ 93762 96641	

Project Originators

Organisation	Oxford Archaeology East
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Project Brief Originator	Richard von Kalinowski-Meager, CGMS
Project Design Originator	Stephen Macaulay
Project Manager	Stephen Macaulay
Project Supervisor	Tom Collie

Project Archives

	Location	ID
Physical Archive (Finds)	Colchester and Ipswich museums	BCWB18
Digital Archive	OA East	BCWB18
Paper Archive	Colchester and Ipswich museums	BCWB18

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ceramics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Remains	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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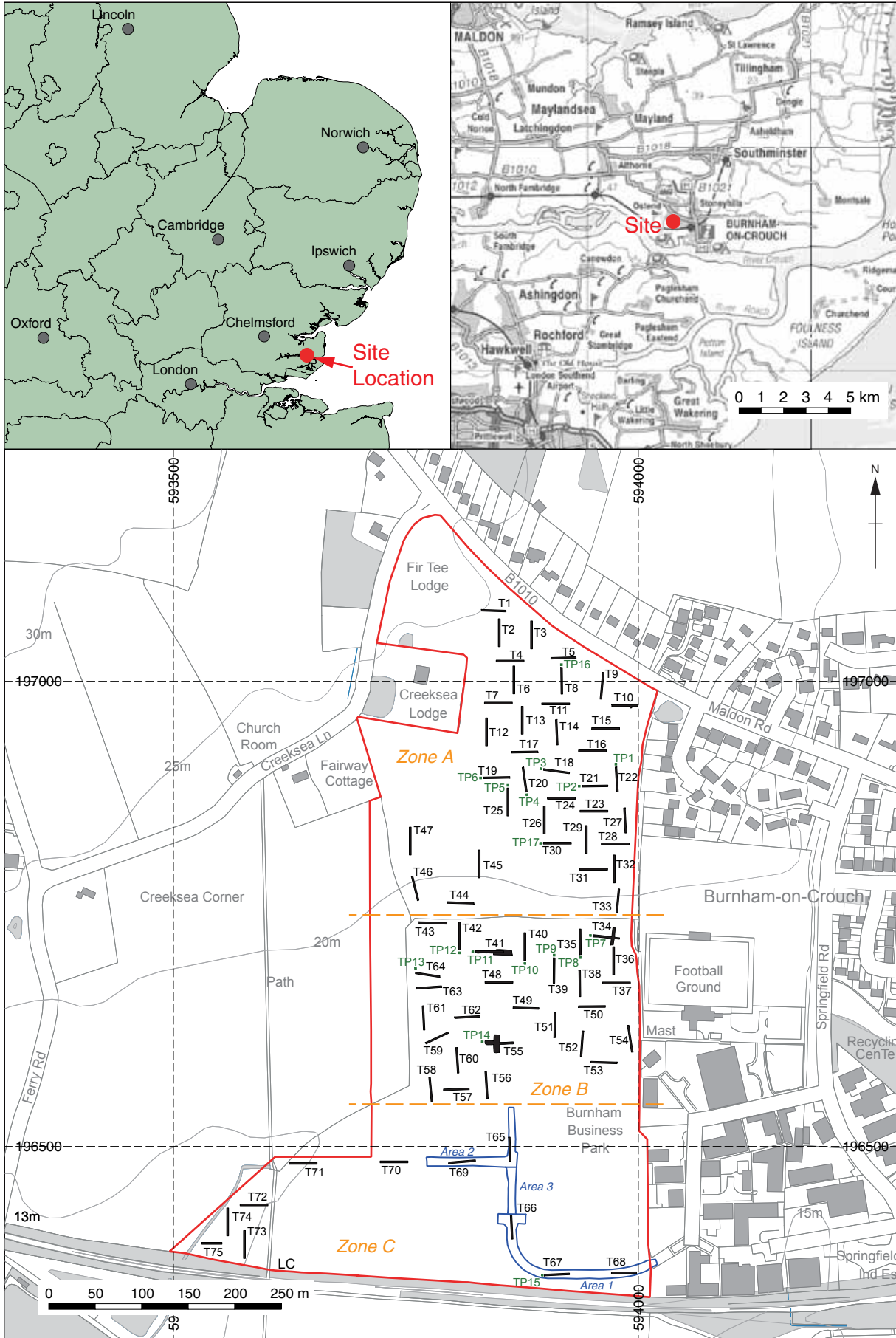
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Moving Image	<input type="checkbox"/>
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Survey	<input checked="" type="checkbox"/>
Text	<input checked="" type="checkbox"/>
Virtual Reality	<input type="checkbox"/>

Paper Media

Aerial Photos	<input type="checkbox"/>
Context Sheets	<input checked="" type="checkbox"/>
Correspondence	<input checked="" type="checkbox"/>
Diary	<input type="checkbox"/>
Drawing	<input type="checkbox"/>
Manuscript	<input type="checkbox"/>
Map	<input checked="" type="checkbox"/>
Matrices	<input type="checkbox"/>
Microfiche	<input type="checkbox"/>
Miscellaneous	<input type="checkbox"/>
Research/Notes	<input type="checkbox"/>
Photos (negatives/prints/slides)	<input type="checkbox"/>
Plans	<input checked="" type="checkbox"/>
Report	<input checked="" type="checkbox"/>
Sections	<input checked="" type="checkbox"/>
Survey	<input checked="" type="checkbox"/>

Further Comments



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Figure 1: Site location showing archaeological trenches (black), geoaerchaeological trenches (green) and mitigation area (blue) in development area (red)

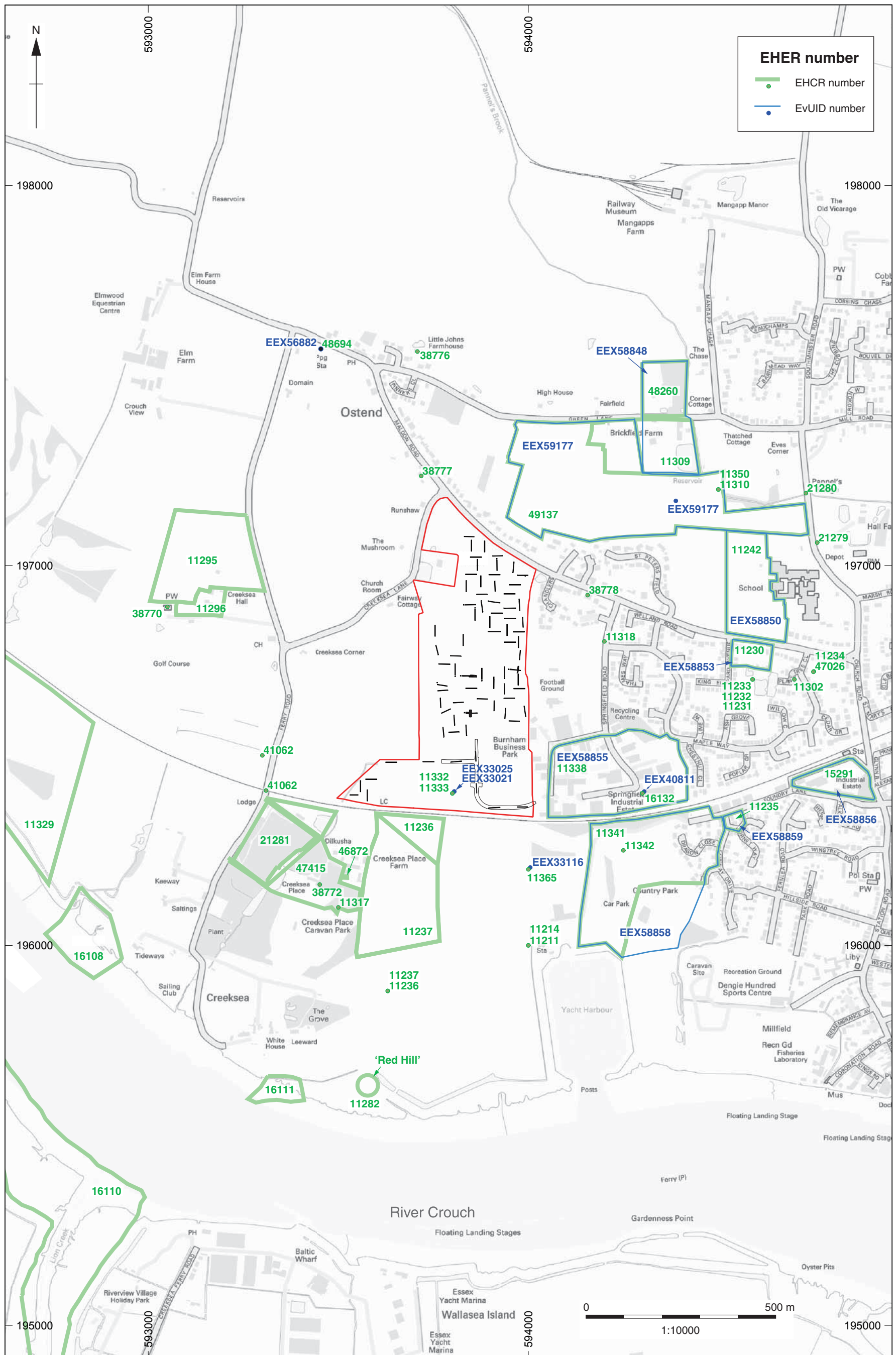


Figure 2: HER results

Contains Ordnance Survey data © Crown copyright and database right 2018

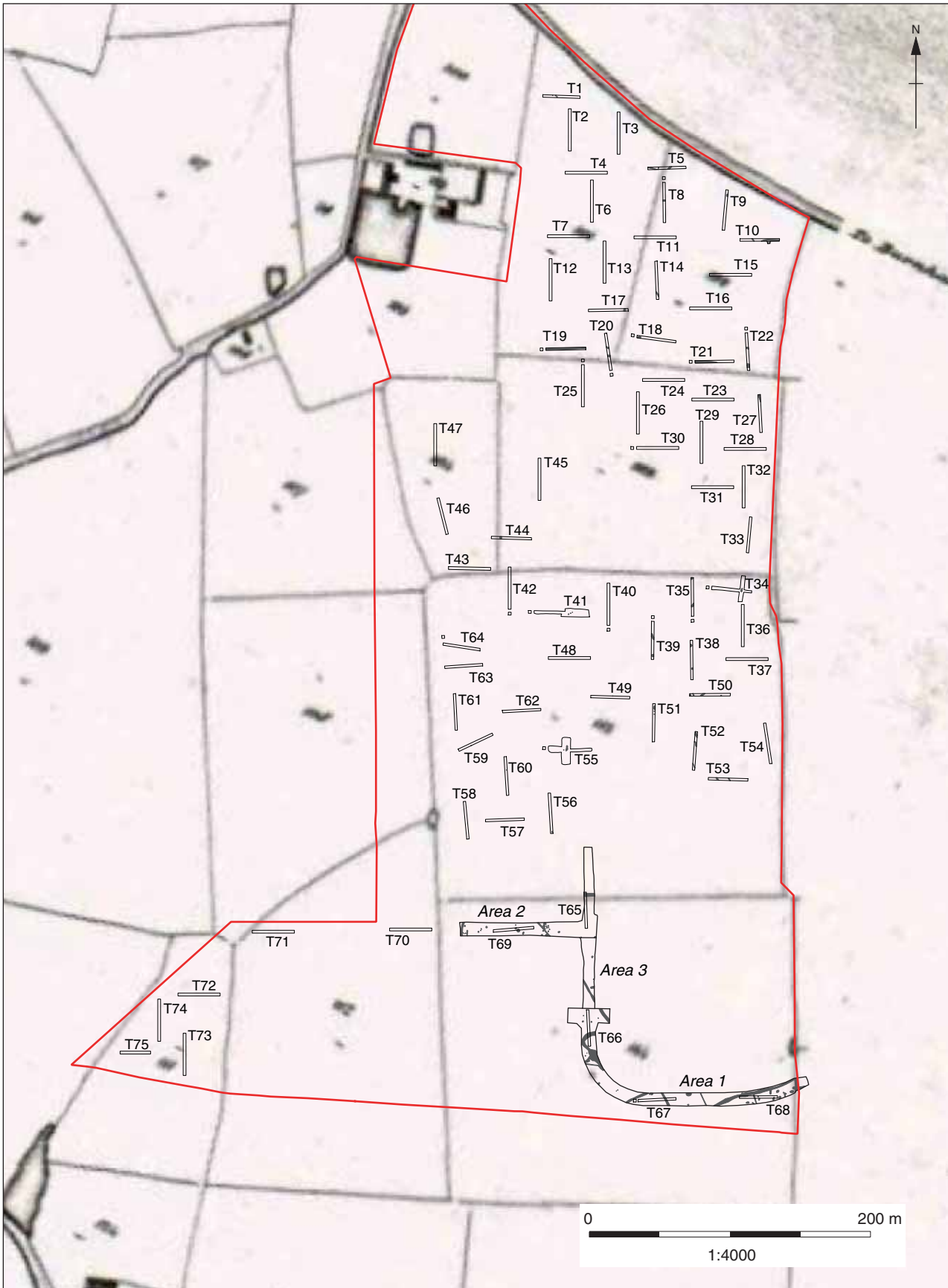


Figure 3: Plan of Creeksea Parish Tithe map, 1844

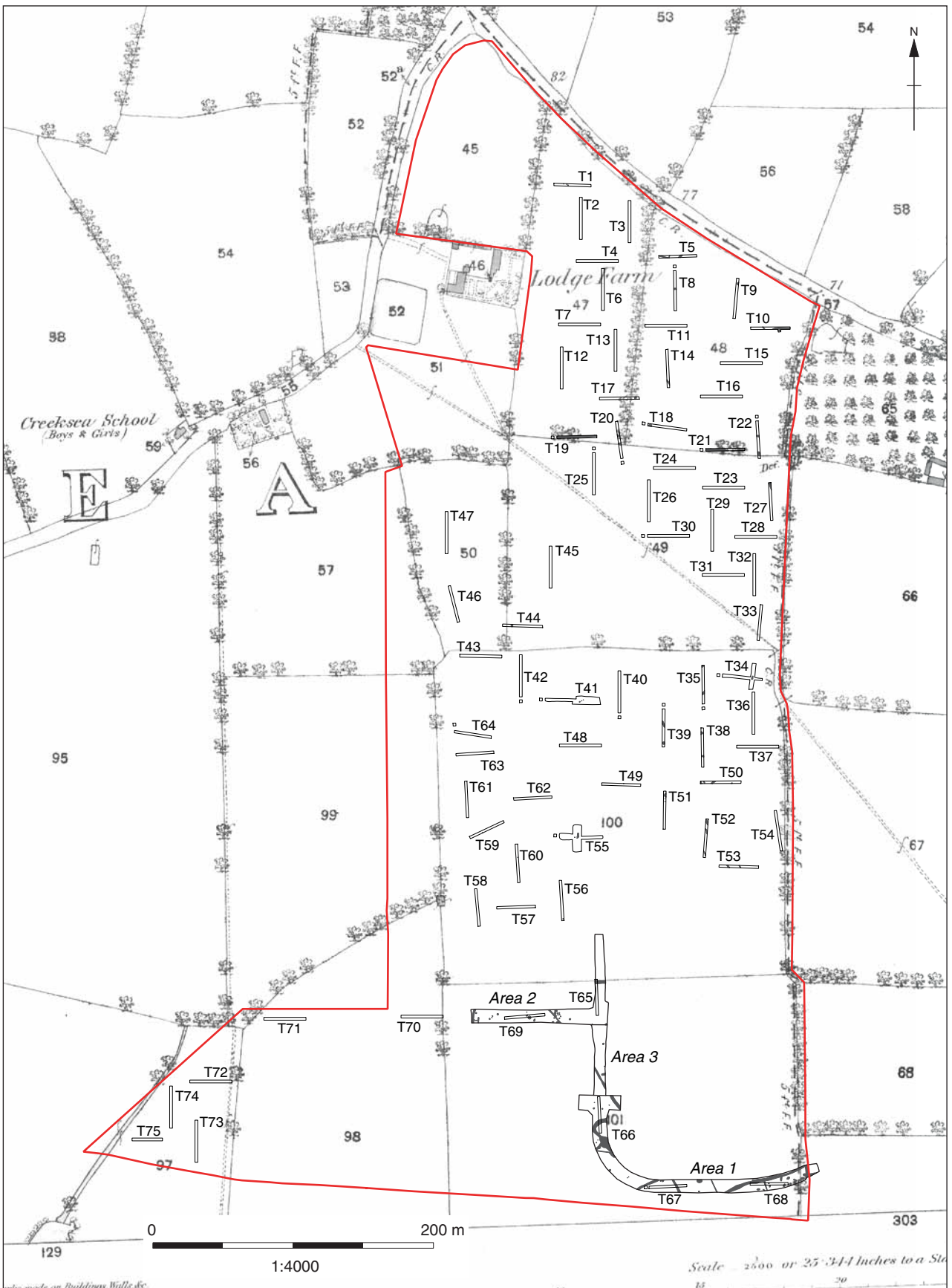


Figure 4: Plan of 1st edition OS map, 1883

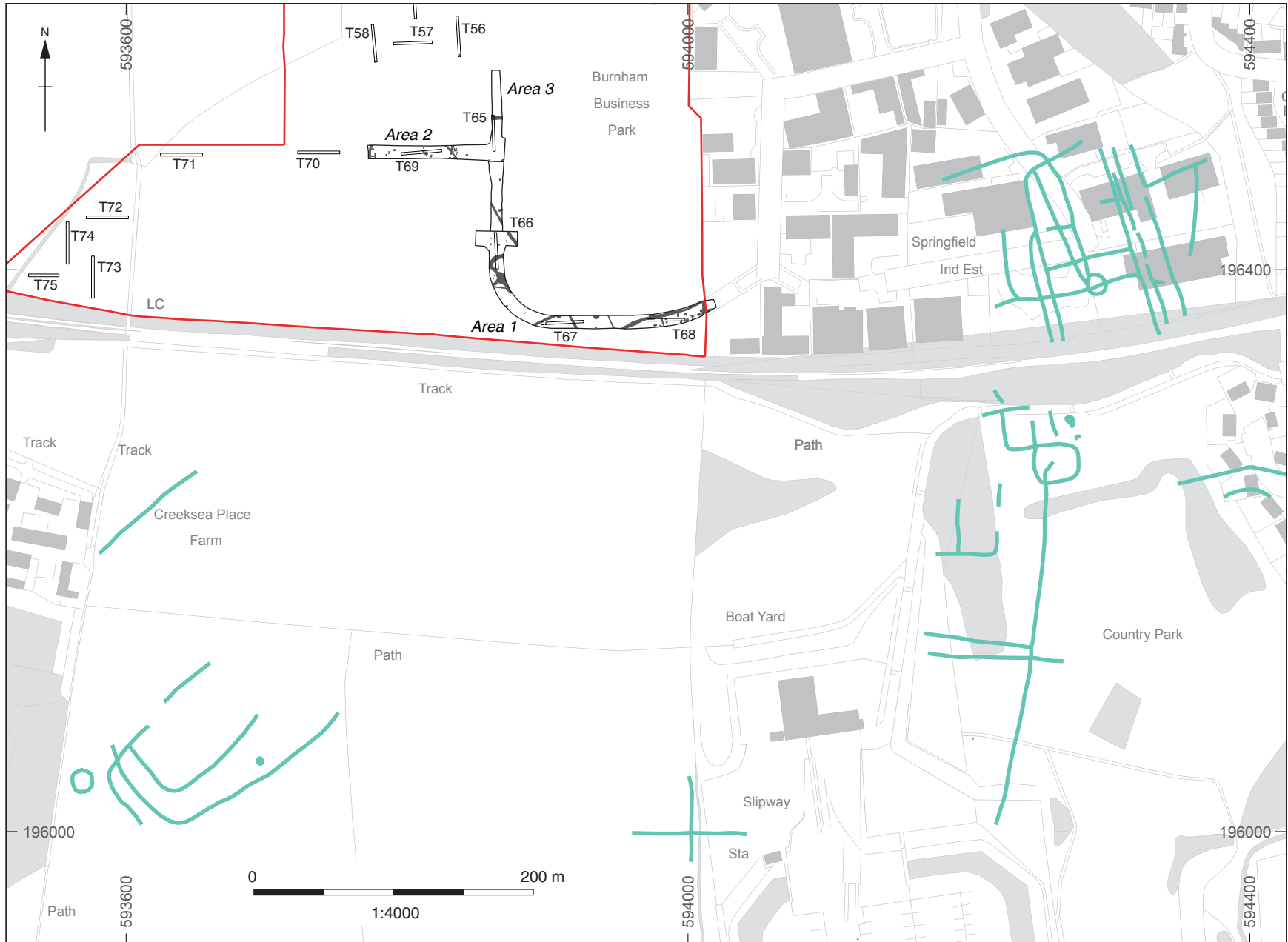


Figure 5: Cropmarks (green) located to the east and west of the site

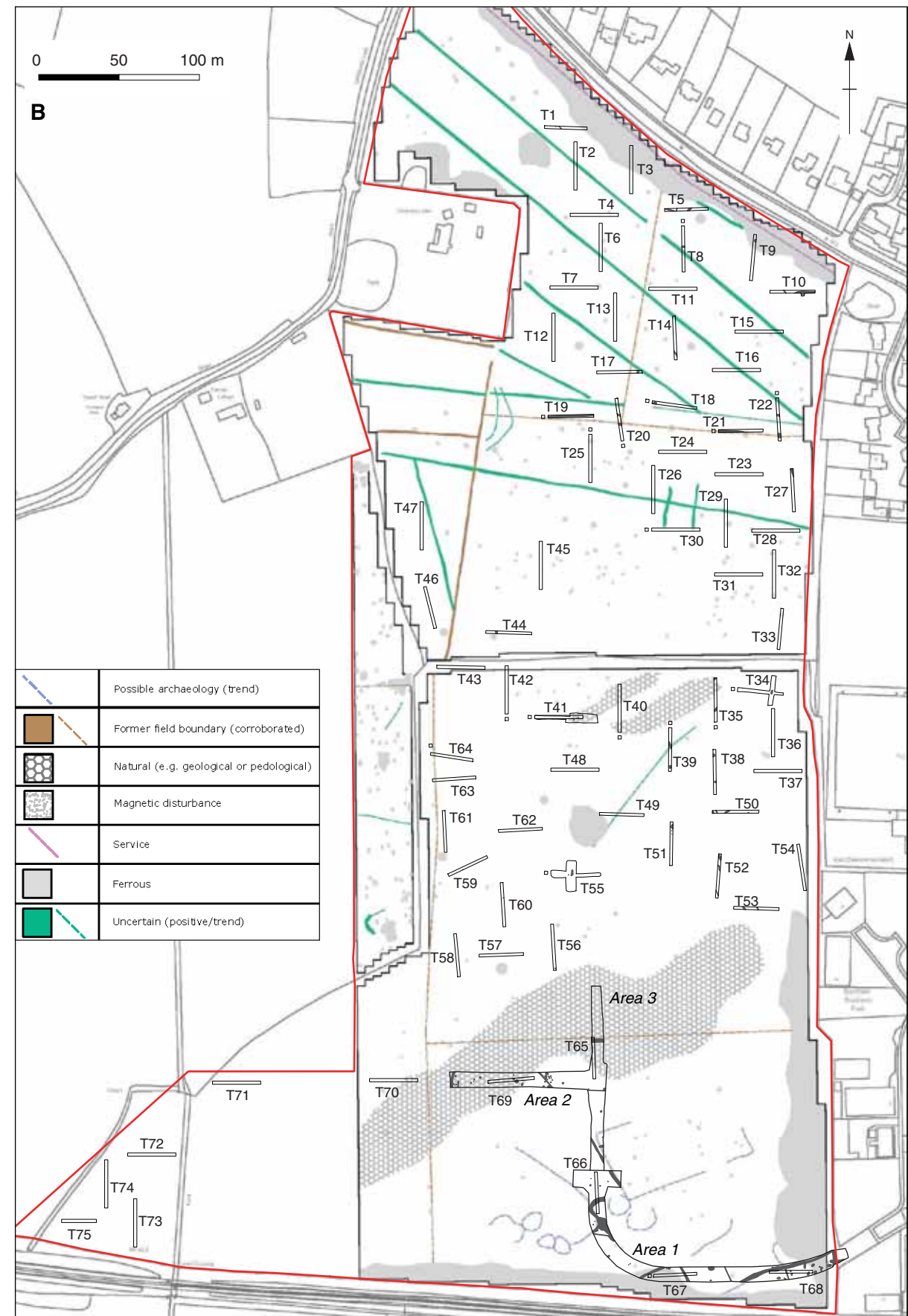
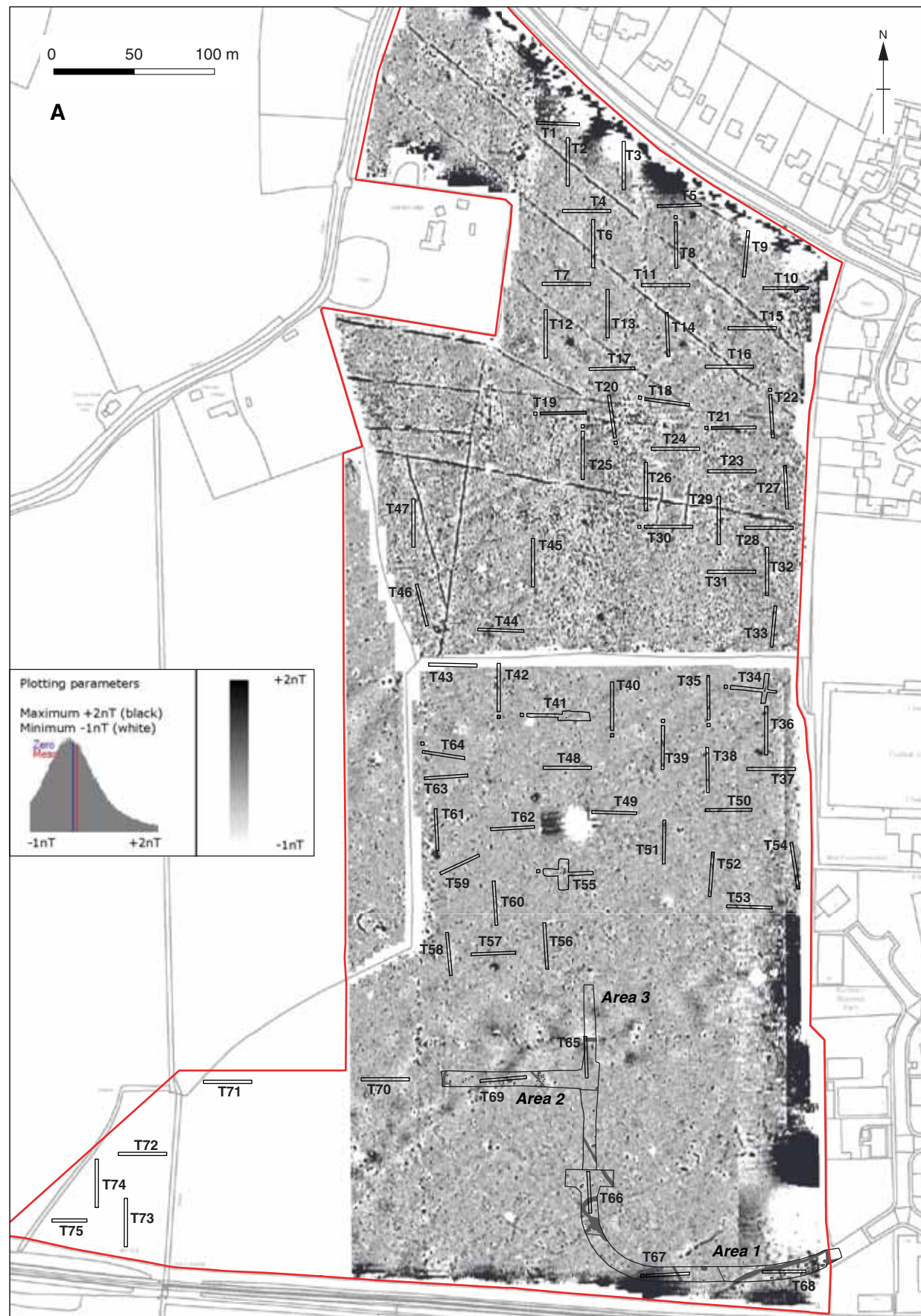
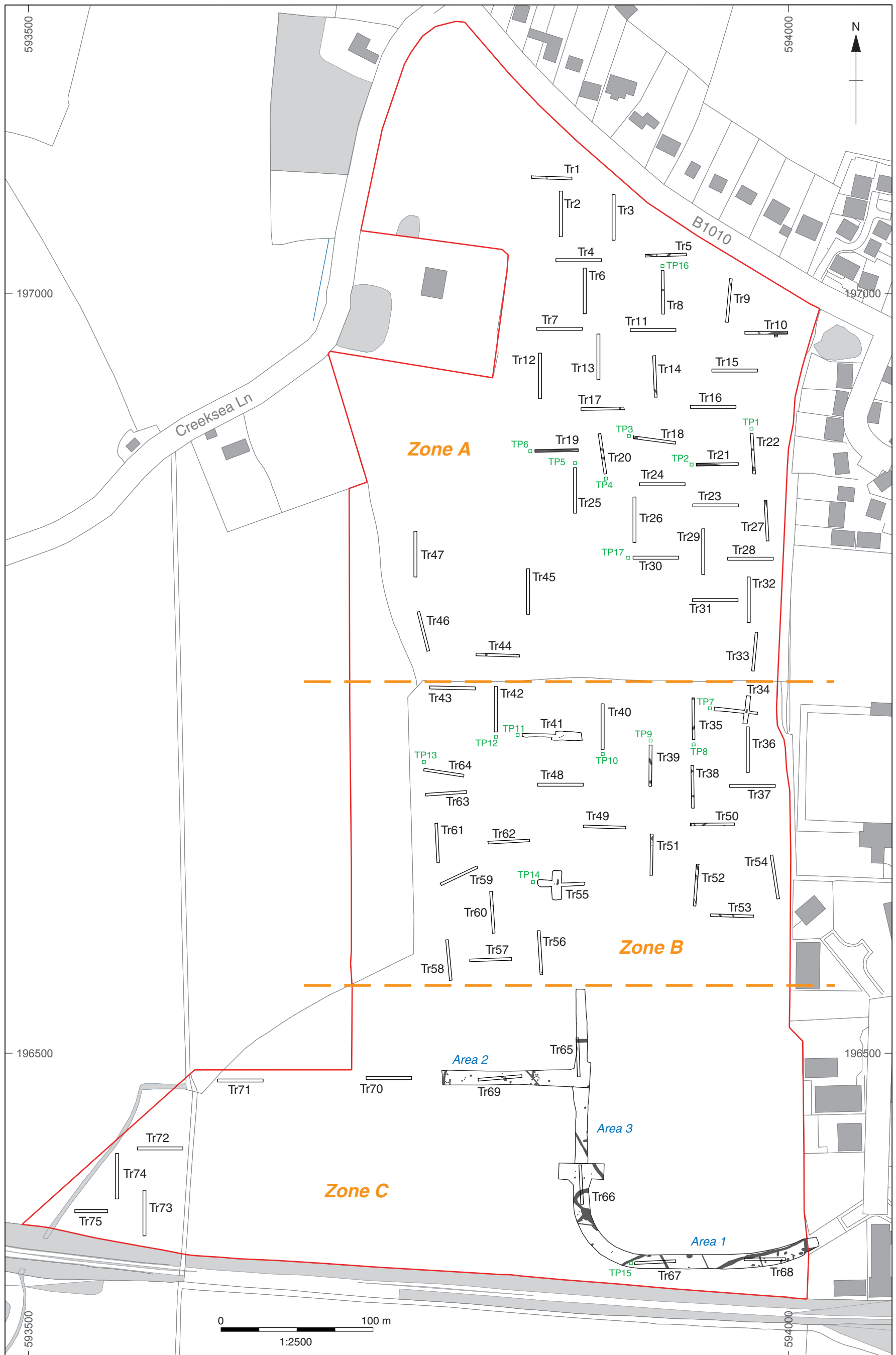


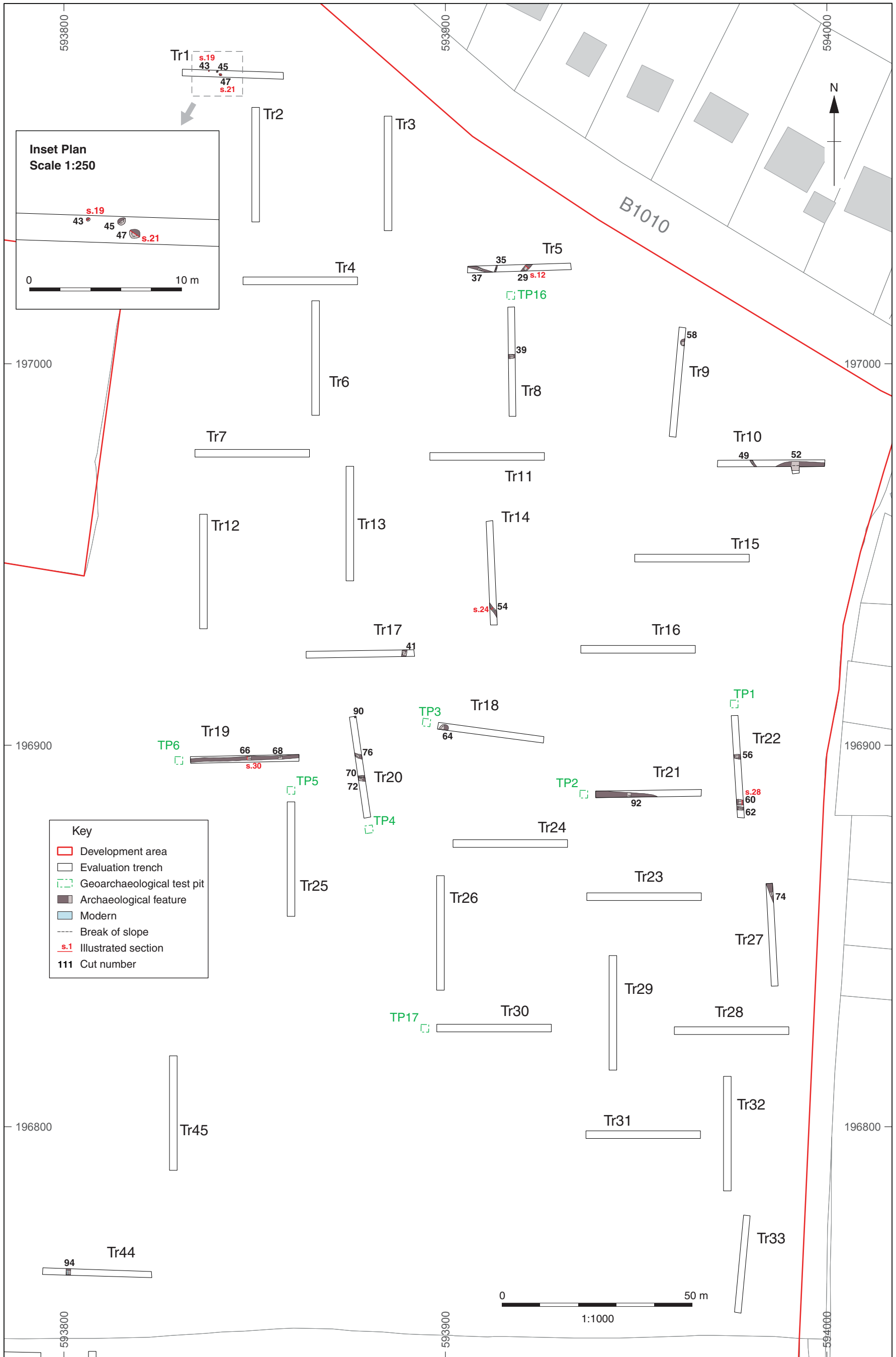
Figure 6: Geophysical survey results. Scale 1:3500 (A= greyscale plot; B= interpretation). After Vickers 2017, fig. 2; SUMO

Data provided by the client



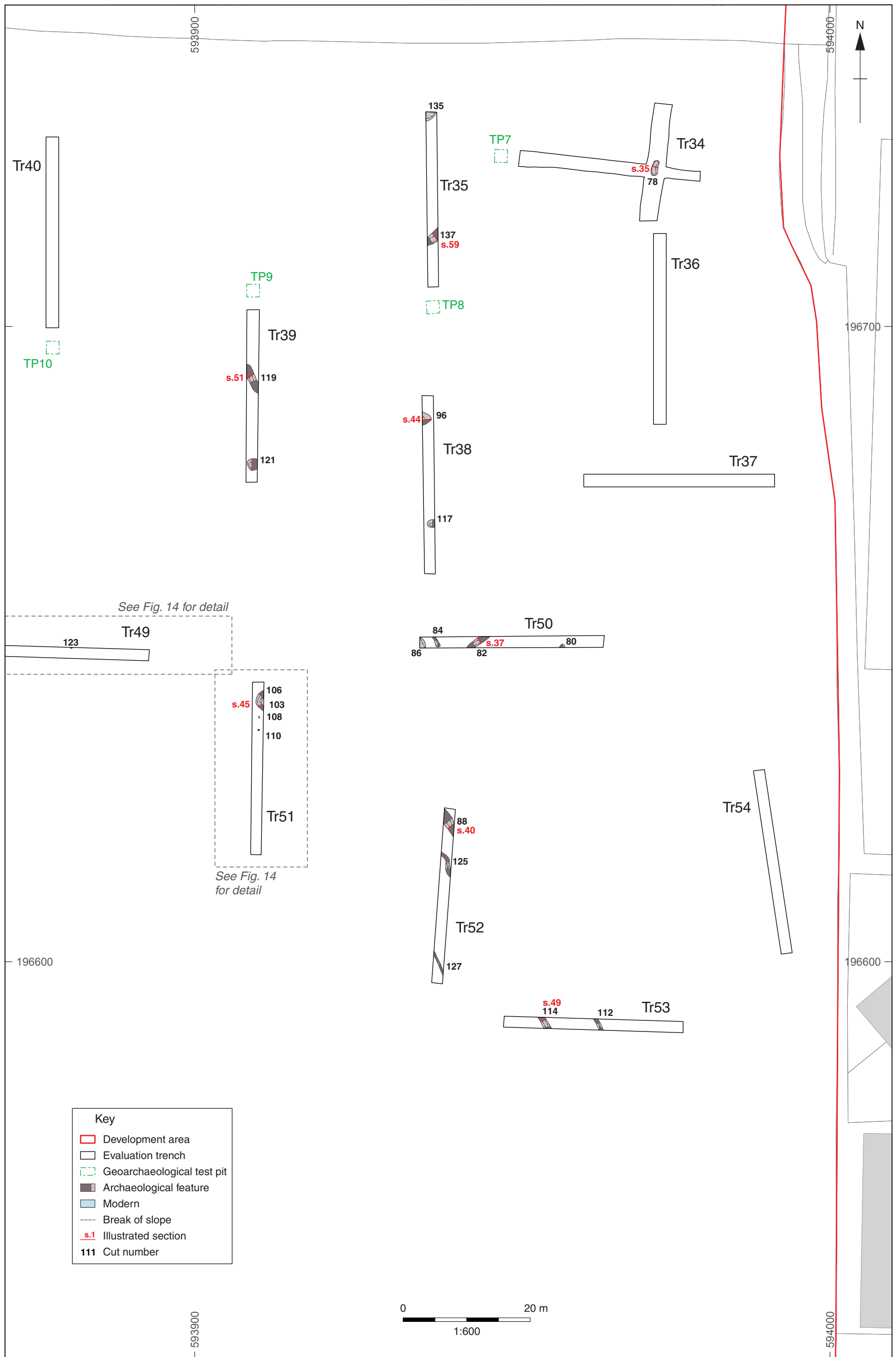
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Figure 7: Trench layout including geoarchaeological test pit locations and excavation mitigation areas



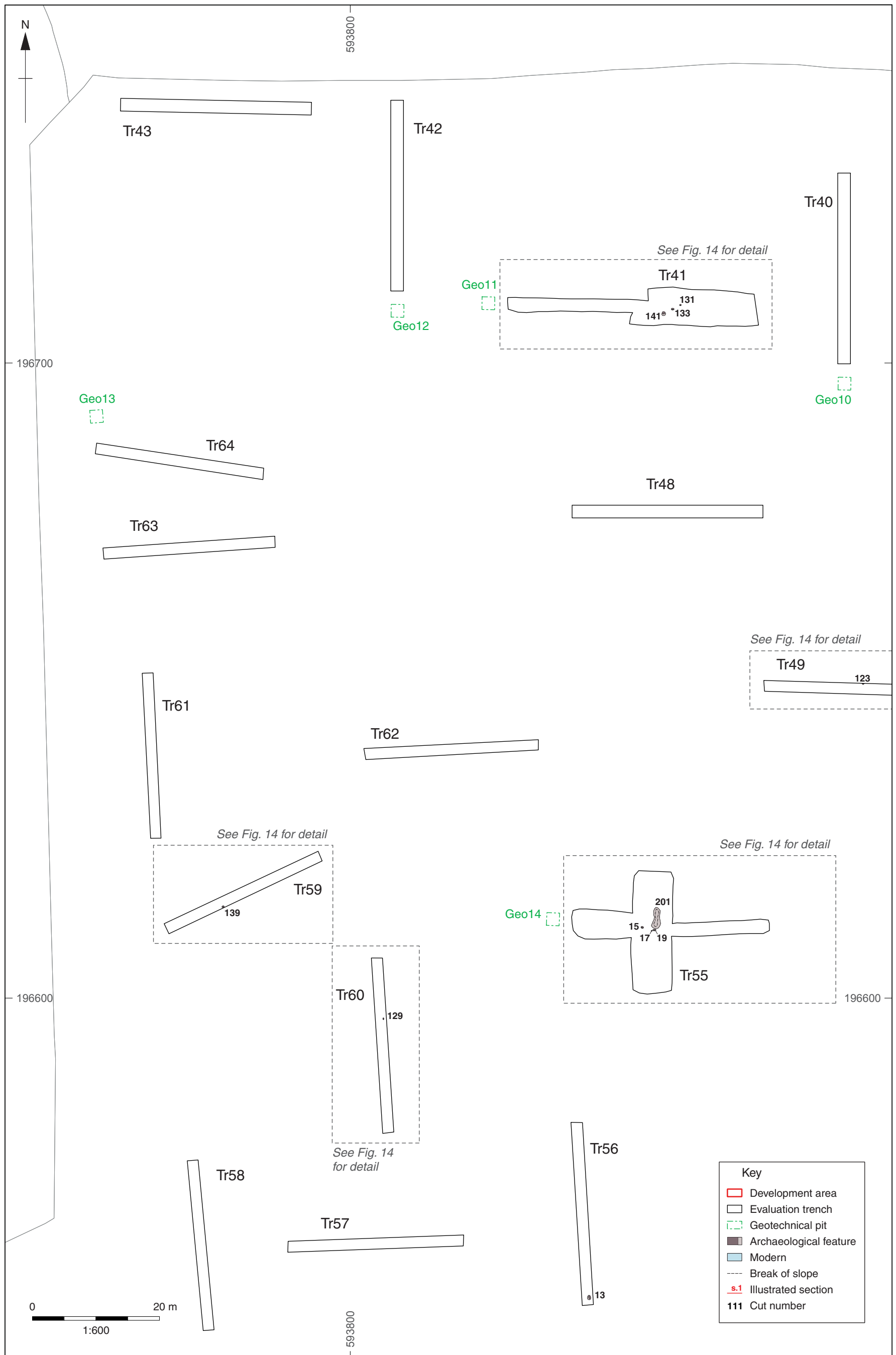
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Figure 8: Zone A, Trenches 1-33 and 44-45



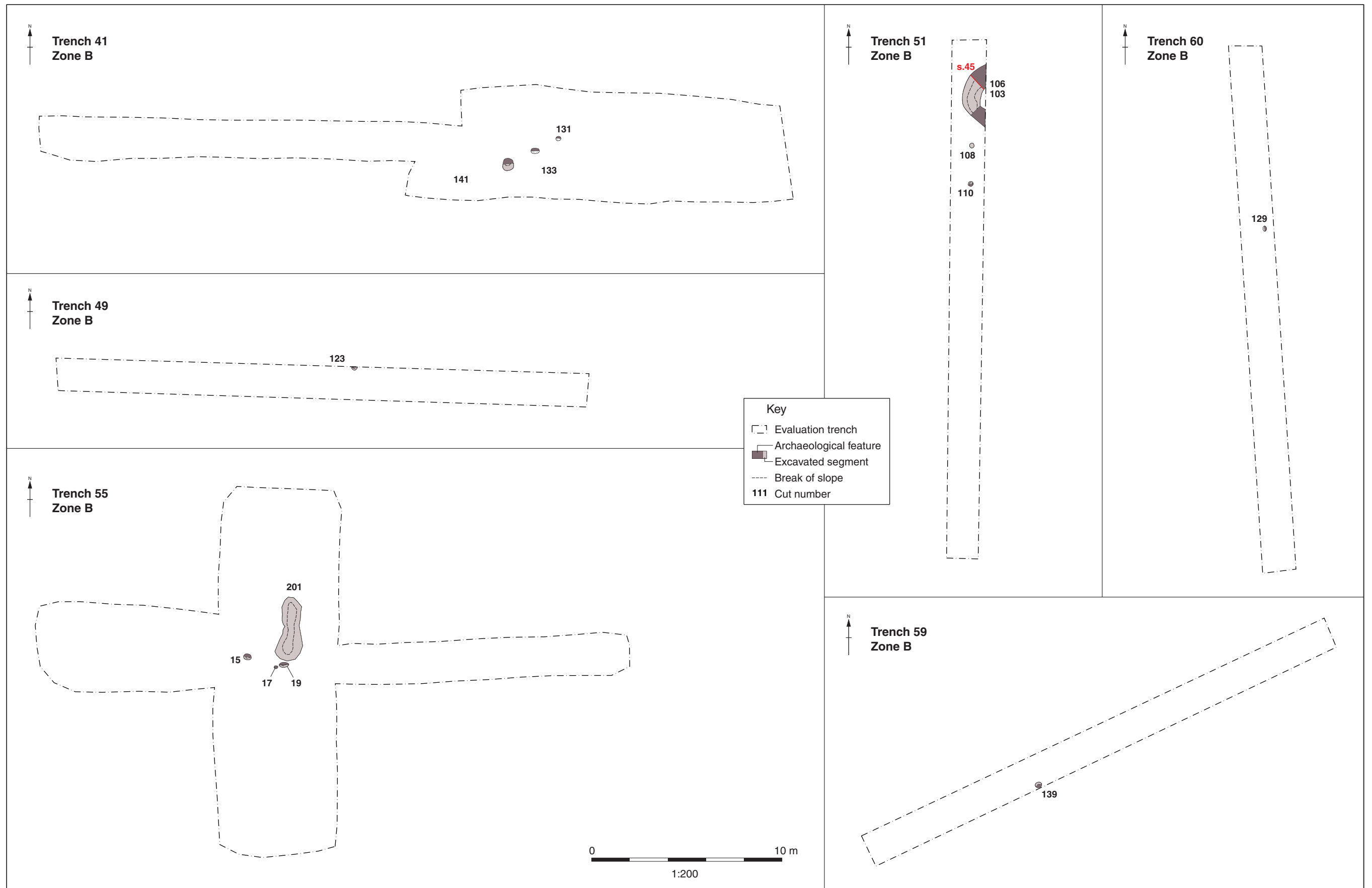
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Figure 9a: Zone B: East Trenches 34-40, and 49-54



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Figure 9b: Zone B: West Trenches 40-43, 48-49 and 55-64



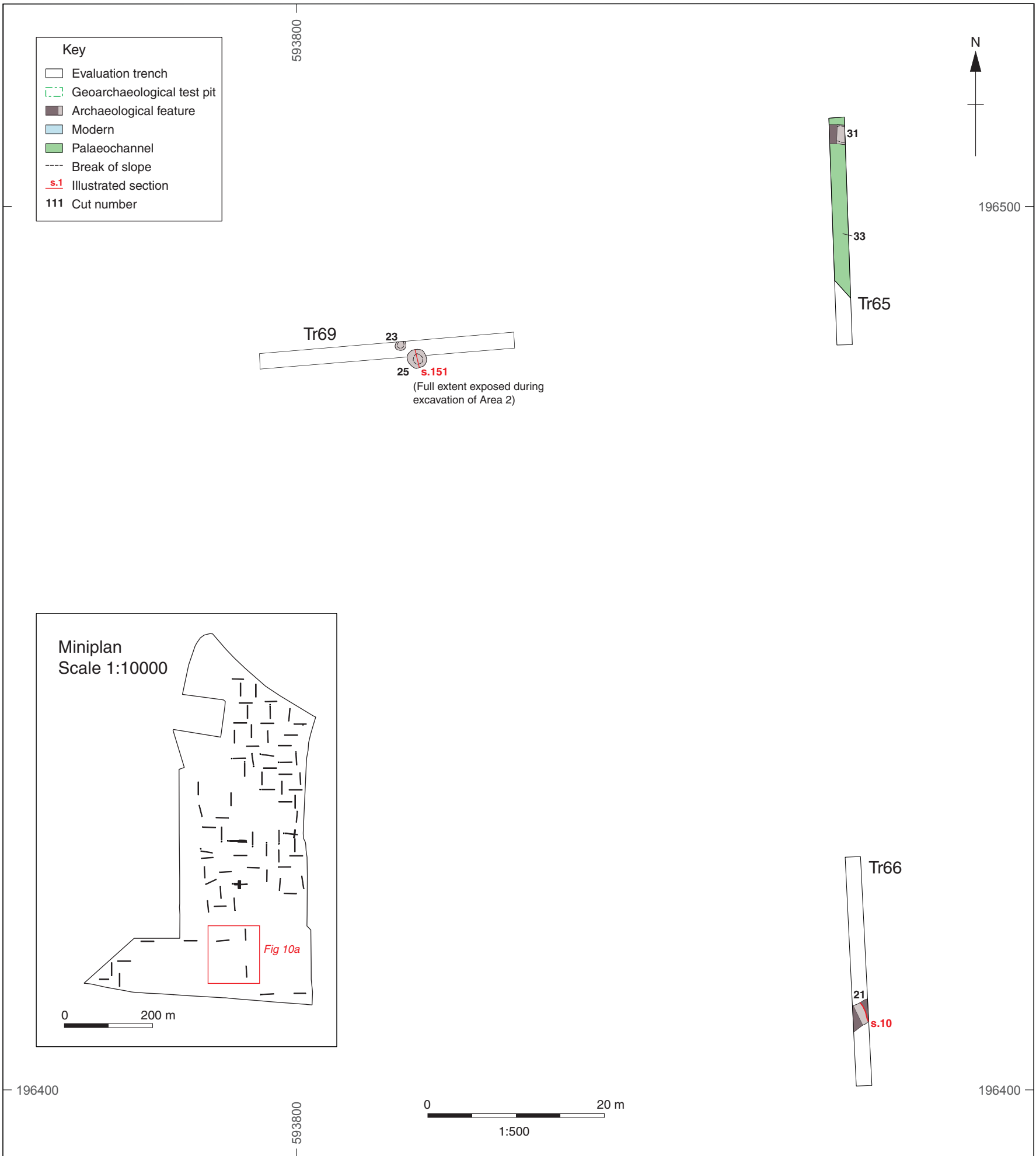


Figure 11a: Zone C: Trenches 65, 66 and 69



Figure 11b: Zone C: Trenches 66-68

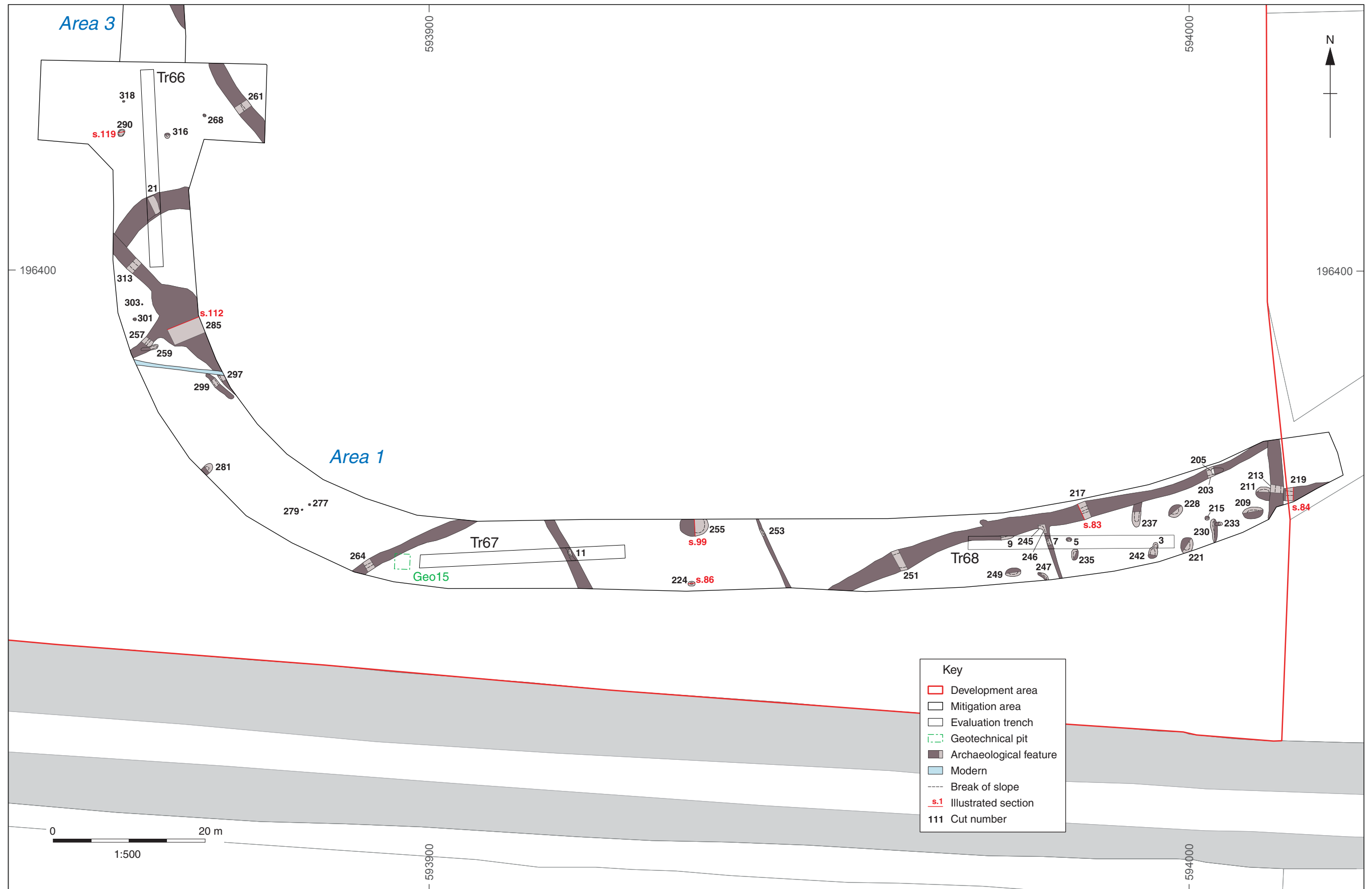


Figure 12a: Zone C: Mitigation Area 1 with Trenches 66-68

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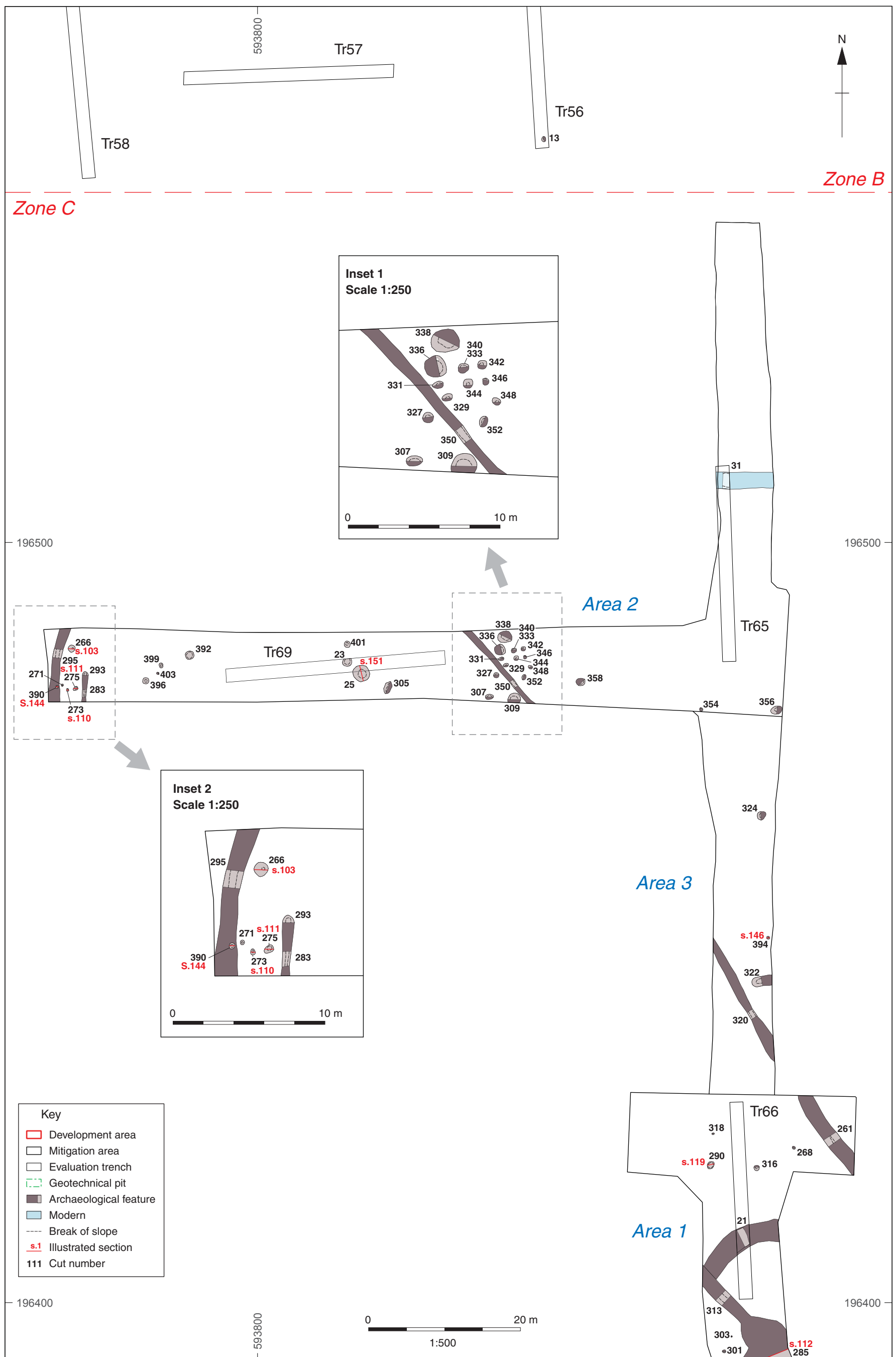


Figure 12b: Zone C: Mitigation Areas 2 and 3 with Trenches 65, 66 and 69

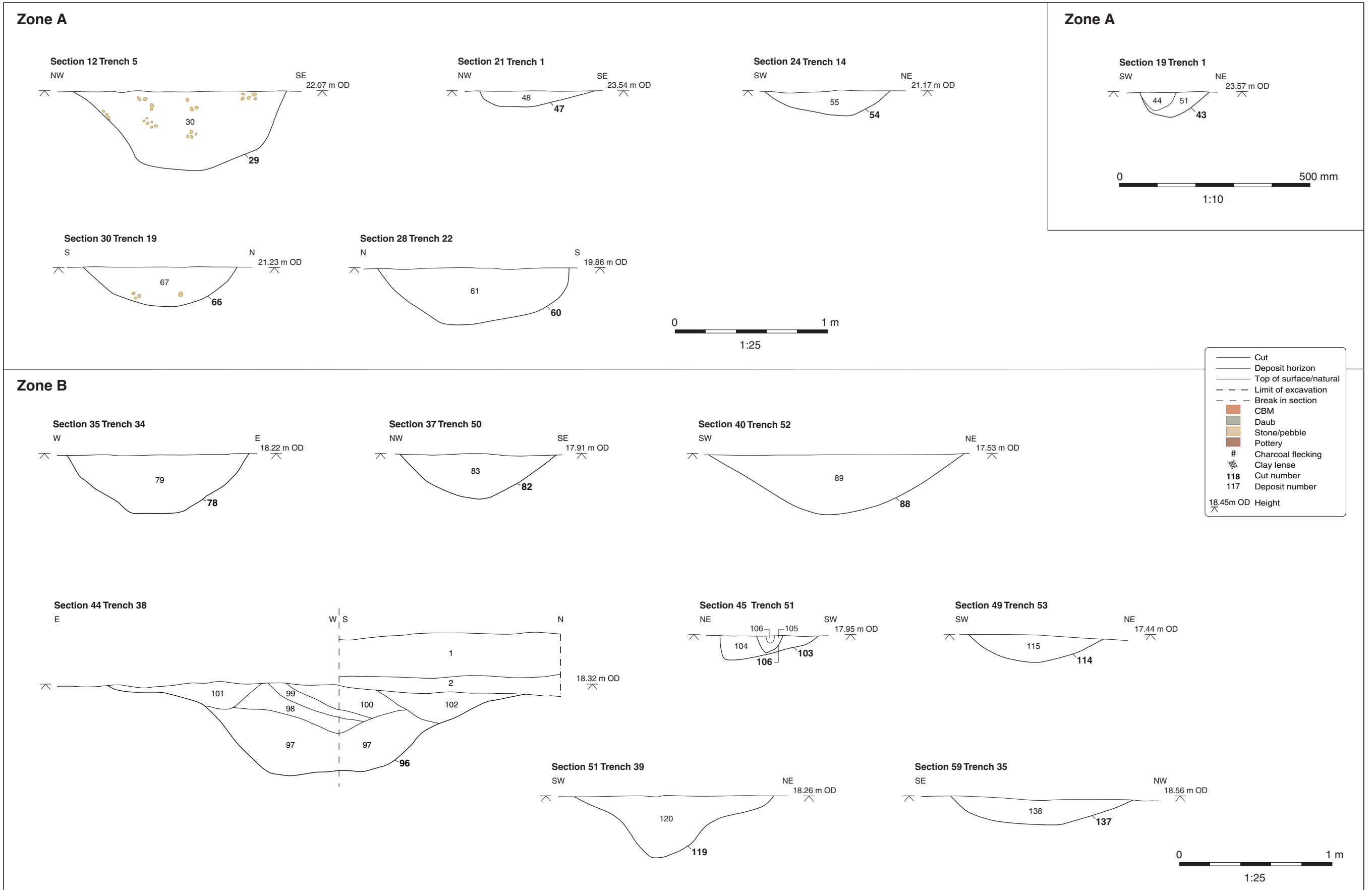


Figure 13a: Selected sections from Zone A and B

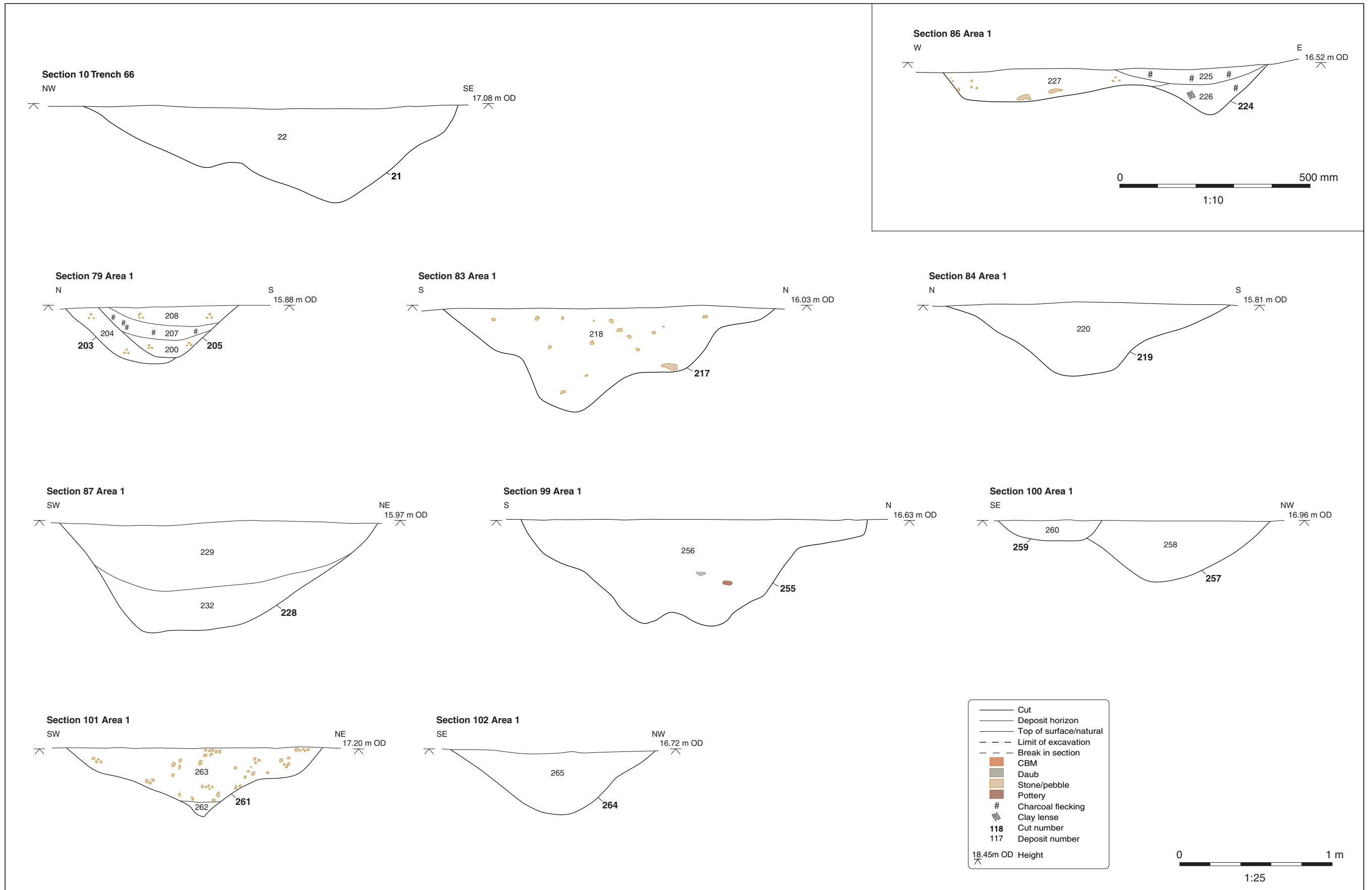


Figure 13b: Selected sections from Zone C (sheet 1)

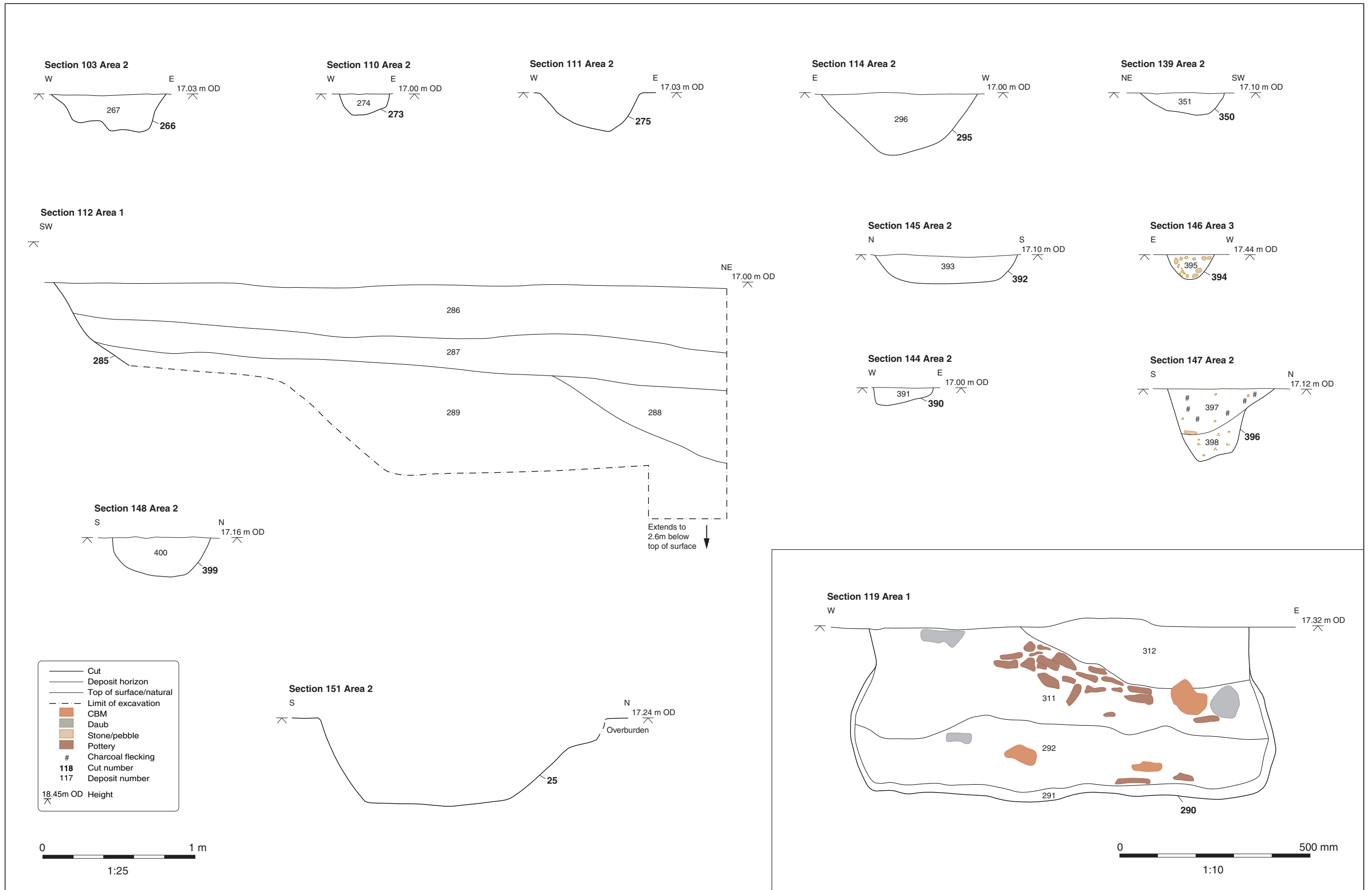


Figure 13c: Selected sections from Zone C (sheet 2)

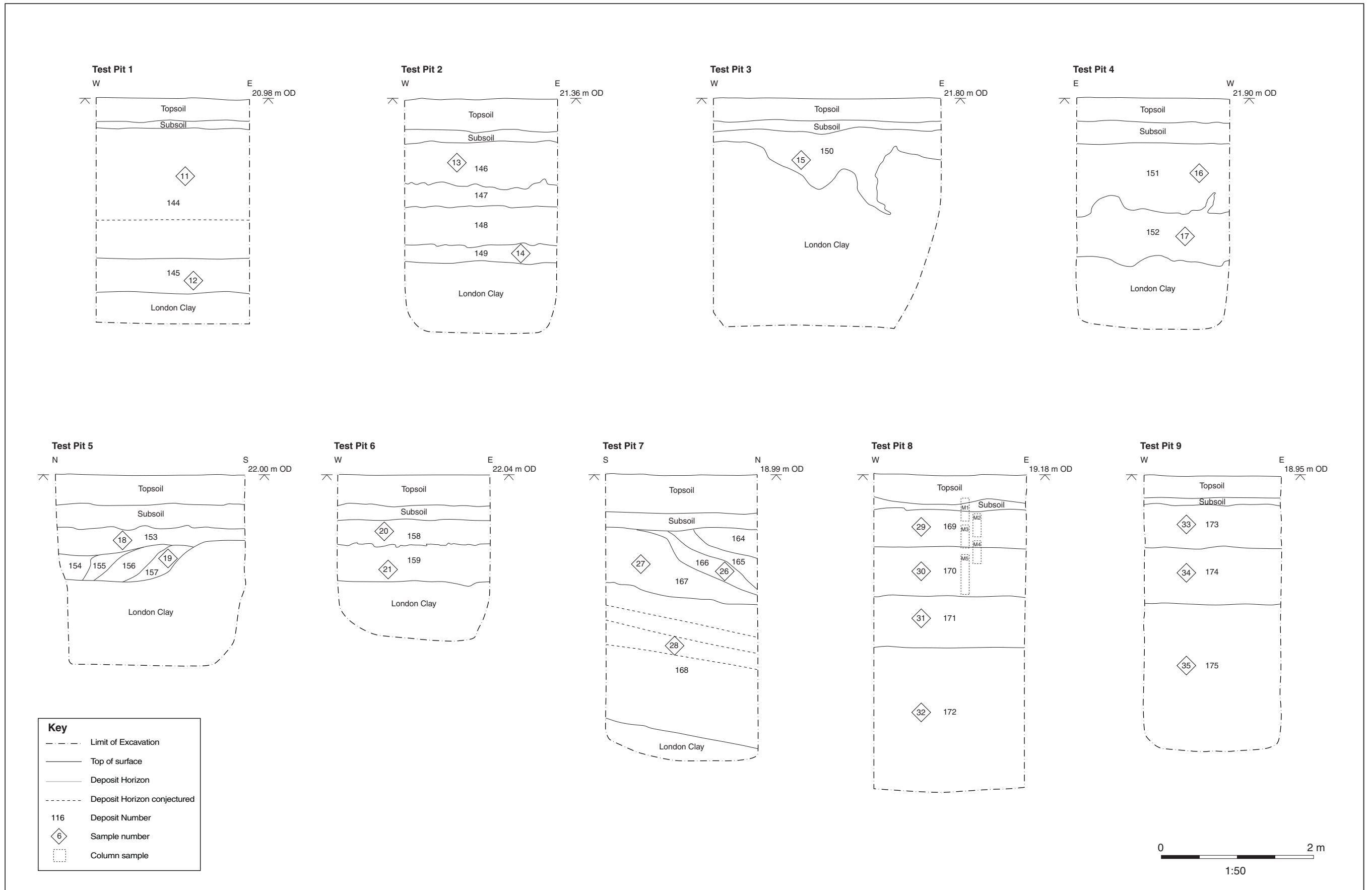


Figure 14a: Geo-archaeological test pit sections (sheet 1)

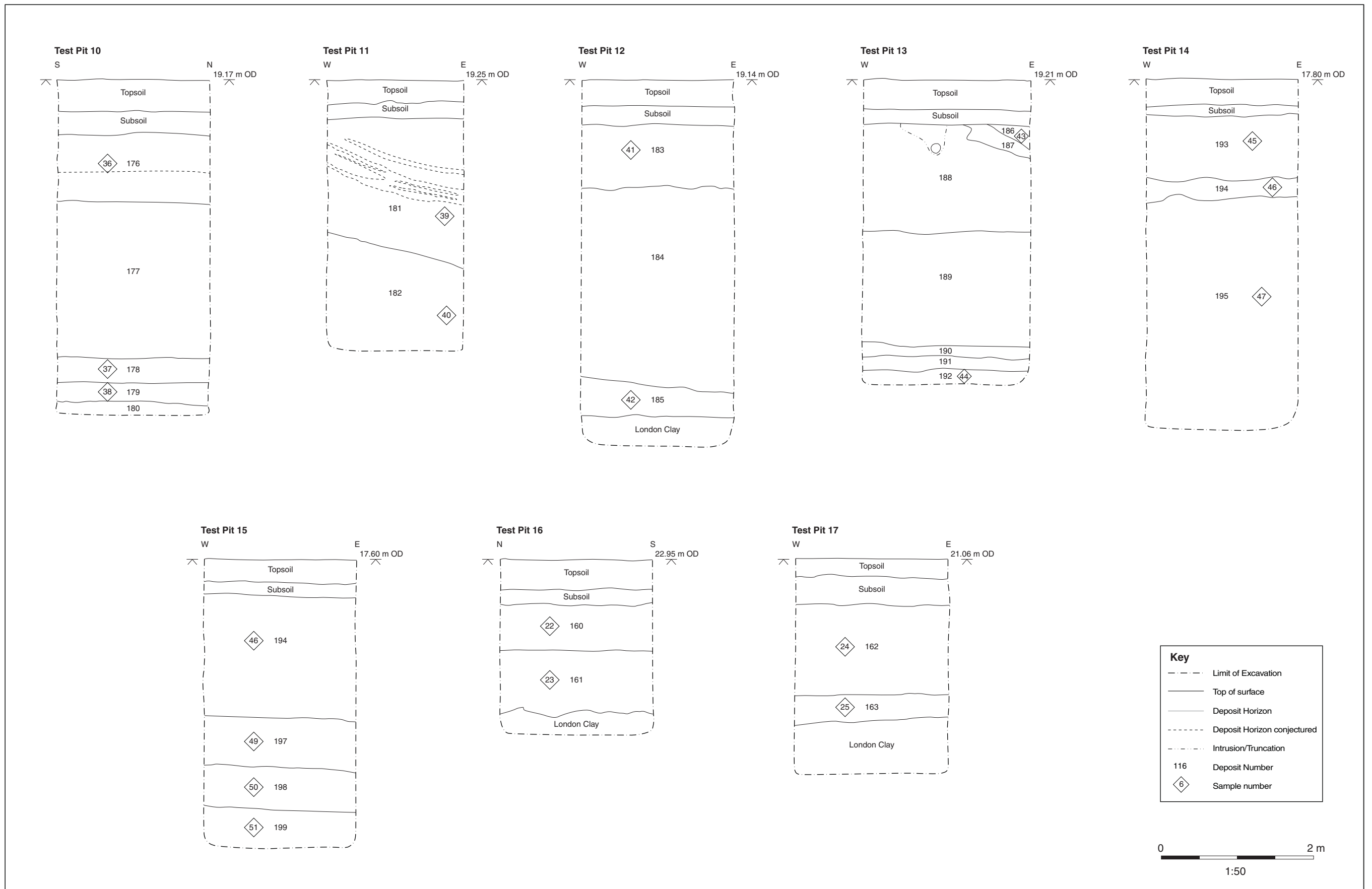
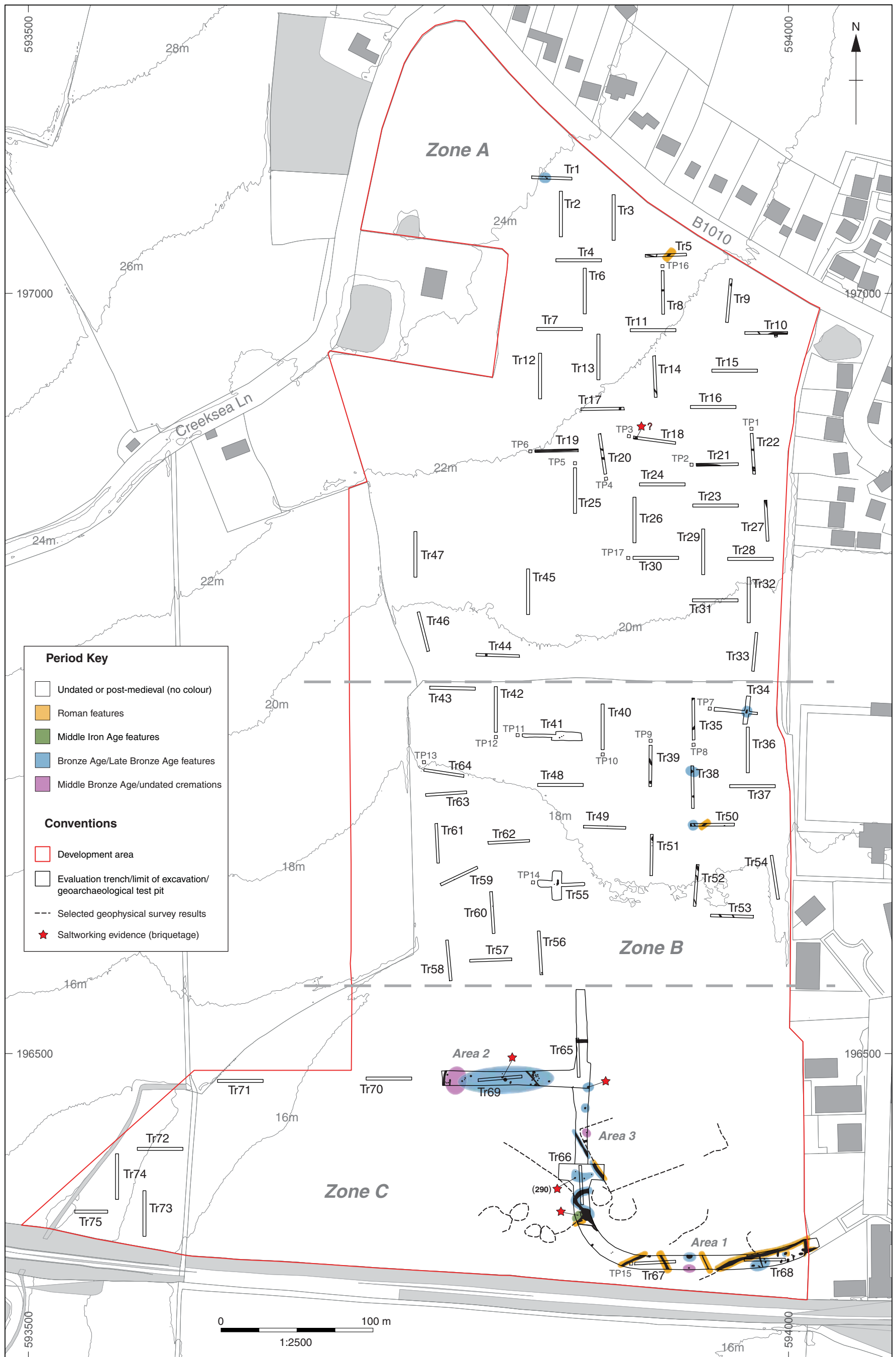


Figure 14b: Geo-archaeological test pit sections (sheet 2)



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Figure 15: Overview of results



Plate 1: Trench 1, looking east



Plate 2: Trench 5, looking northeast



Plate 3: Trench 19, looking west



Plate 4: Trench 21, ditch 92, looking west



Plate 5: Trench 22, looking north



Plate 6: Trench 27, looking south



Plate 7: Trench 34, pit **78**, looking north



Plate 8: Trench 34, looking west



Plate 9: Trench 35, looking south



Plate 10: Trench 35, pit 135, looking north



Plate 11: Trench 38, burnt pit 96, looking south



Plate 12: Trench 39, ditch 119, looking northwest



Plate 13: Trench 44, looking east



Plate 14: Trench 52, ditch 125, looking south



Plate 15: Trench 52, looking south



Plate 16: Trench 56, pit 13, looking east



Plate 17: Trench 56, looking north



Plate 18: Trench 60, looking north



Plate 19: Trench 66, ditch 21, looking northeast



Plate 20: Trench 67 gully 11, looking northwest



Plate 21: Trench 69 pits 23 and 25, looking east



Plate 22: Trench 69, looking east



Plate 23: Trench 73, looking southeast



Plate 24: Trench 74, looking northwest



Plate 25: Trench 75, looking east



Plate 26: Area 1, ditch **251**, looking northeast



Plate 27: Area 1, ditch **219**, looking east



Plate 28: Area 1, ditch **264**, looking southeast



Plate 29: Area 1, ditch **313**, looking northwest



Plate 30: Area 1, ditch **203** and pit **205**, looking east



Plate 31: Area 1, pit **228**, looking northwest



Plate 32: Area 1, wateringhole **285**, looking northwest



Plate 33: Area 1, cremation **224**, looking south



Plate 34: Area 1, saltworking feature **290**, looking northwest



Plate 35: Area 2, ditch **295**, looking south



Plate 36: Area 2, pit **25** fully excavated, looking south



Plate 37: Area 2, pit **392**, looking east



Plate 38: Area 2, pit 396, looking west



Plate 39: Area 2, pit 399, looking west



Plate 40: Area 2, cremation 266, looking north



Plate 41: Area 2, pre-ex shot of cremations **271**, **273** and **275**, looking north



Plate 42: Area 3, cremation **394**, looking south



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