NORTH FALLS

Offshore Wind Farm

ENVIRONMENTAL STATEMENT

Appendix 25.10: Five Estuaries & North Falls Onshore Substation Area Archaeological Evaluation Report: Phase 1

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NORTH FALLS
Offshore Wind Farm

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Five Estuaries OSWF, North Falls OSWF Onshore Substation Area Little Bromley, Essex

Archaeological Evaluation: Phase 1

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Summary

Wessex Archaeology was commissioned by Five Estuaries Offshore Windfarm Ltd and North Falls Offshore Windfarm Ltd, to undertake an archaeological evaluation of a 18.5 ha parcel of land located in north of Little Bromley Road, Little Bromley, Tendring, Essex, CO11 2QB for both the Five Estuaries and North Falls Offshore Windfarms.

The land parcel is being considered for an onshore substation for either the proposed Five Estuaries or North Falls offshore wind farms.

The evaluation comprised the excavation and recording of 48 trial trenches of varying length across a single large irregular field, with an additional three trenches cancelled due to ecological constraints. The trenches were targeted on the results of a previous geophysical survey, along with features identified by the National Mapping Programme and Aerial Photo Services. Several trenches were positioned to test the negative areas of the previous surveys.

A total of 50 archaeological features, comprising pits, postholes, ditches and a cremation burial were identified in 26 of the excavated trenches, including multiple sections of same ditches recorded across several trenches.

The majority of the features comprised ditches likely associated with multiple phases of land management/field boundary systems, some of which are present on the 1839 Lawford Tithe and later Ordnance Survey maps. The majority of the identified ditches did not contain artefactual evidence, and where datable material was recovered it was usually considered too small a quantity to be reliable for phasing the site.

The dated features comprised a Later Prehistoric ditch in the northeast corner of the site, which was not recorded by any of the previous surveys and was recorded in isolation so little could be determined about its purpose, a medieval pit, and the aforementioned ditches shown on the Lawford Tithe map.

The presumed route of a Roman Road was recorded during previous surveys, comprising two west-northwest/east-southeast aligned linear features, and were identified during the evaluation. However no datable material was recovered from either ditch, and no evidence for a metalled surface was identified between them. A number of probably residual Romano-British pottery sherds were recovered from nearby features, and the single unurned cremation burial was recorded 120m south of the proposed Roman Road.

The evaluation demonstrated that the previous geophysical and aerial photography survey were largely accurate, with the majority of features recorded by the non-instrusive surveys identified during the evaluation. The national mapping programme data was shown to be inaccurate in their mapped locations. However if the national mapping programme data was relocated to align with the geophysical and aerial photography surveys it is far more accurate, suggesting that the inaccuracy is due to the errors in georectification rather than the data itself.

The evaluation was undertaken between 9 to 19 May 2023.

Acknowledgements

Wessex Archaeology would like to thank Five Estuaries Offshore Windfarm Ltd and North Falls Offshore Windfarm Ltd, for commissioning the archaeological evaluation, in particular James Eaton. Wessex Archaeology is also grateful for the advice of Place Services, who monitored the project for the local planning authority.

Five Estuaries OSWF, North Falls OSWF Onshore Substation Area Little Bromley, Essex

Archaeological Evaluation: Phase 1

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by Five Estuaries Offshore Windfarm Ltd and North Falls Offshore Windfarm Ltd, to undertake an archaeological evaluation of a 18.5 ha parcel of land located in north of Little Bromley Road, Little Bromley, Tendring, Essex, CO11 2QB for both the Five Estuaries and North Falls Offshore Windfarms.

1.1.2 The evaluation area covers the land being considered by both projects for their onshore substations (OnSS) and is centred on NGR 608143, 228898 (hereafter the Site Area; **Fig. 1**). Due to landowner access arrangements the area was divided into two phases (Phase 1 and Phase 2). This report covers the Phase 1 evaluation.

1.1.3 All works were undertaken in accordance with a written scheme of investigation (WSI) which detailed the aims, methodologies and standards to be employed in order to undertake the evaluation (Wessex Archaeology 2023a). The Historic Environment Consultant at Place Services approved the WSI, on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing.

1.1.4 The evaluation comprising 50 trial trenches was undertaken 9 to 19 May 2023.

1.2 Scope of the report

1.2.1 The purpose of this report is to provide a detailed description of the results of the evaluation, to interpret the results within a local, regional or wider archaeological context and assess whether the aims of the evaluation have been met.

1.2.2 The presented results will provide further information on the archaeological resource that may be impacted by the proposed development and facilitate an informed decision with regard to the requirement for, and methods of, any further archaeological mitigation.

1.3 Location, topography and geology

1.3.1 The evaluation area is located within the Tendring District, 1.7 km to the west of Little Bromley and 2.4 km to the east of Ardleigh. The area is bound to the west by Grange Road, to the north and east by agricultural fields and to the south by Ardleigh Road. The area covers an area of approximately 38 ha currently used as agricultural land and divided into two parcels of land. The Phase 1 area comprises the northeast land parcel.

1.3.2 The topography of the area is generally flat and the existing ground levels within the Site are approximately 33 m above Ordnance Datum (aOD).

1.3.3 The bedrock geology in the area is mapped as clay, silt and sand of the Thames Group, with superficial deposits of Cover Sand (clay, silt and sand) (BGS 2023).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (Royal Haskoning DHV 2022; Wessex Archaeology 2023b), which considered the recorded historic environment resource within a study area surrounding the Onshore OnSS search area. A summary of the results is presented below, with relevant entry numbers from the Essex Historic Environment Record (HER), the National Heritage List for England (NHLE), and reference numbers assigned during the aerial photographic assessment (Aerial Photo Services (APS) 2022) included.

2.2 Previous investigations related to the proposed development

Geophysical Survey (Wessex Archaeology 2023c)

2.2.1 The gradiometer survey has detected several features, which can be identified as archaeological in origin (**Fig. 2** and **Fig. 3**). The clearest one is the Roman Road that was identified in the northern part of the Site (4200) which runs on an east –west alignment and forms a junction with the road that links Mistley with Colchester just north-west of the Site. This is represented by two parallel negative linear anomalies extending 193 m within the Site. These indicate roadside ditches and are 1.3 m wide and positioned 10m apart.

2.2.2 A curvilinear anomaly is located 30 m to the north west of the Roman Road (4201) and indicates a ditch-like feature occupying an area of 17 m x 17 m. This may be a rectangular enclosure that is open to the west.

2.2.3 Linear anomalies 4202 and 4203 lie to the south of the Roman Road on an east-west orientation and are likely to represent ditch features of a past field system. Further south, additional linear anomalies 4204 and 4205 also lie on an east-west alignment and are thought to be part of the same field system.

2.2.4 On a slightly different orientation linear anomalies 4206-4210 are interpreted as ditch-like features which indicate a field system on an orthogonal north-east to south-west by north-west to south-east alignment covering an area of 285 m to 265 m.

2.2.5 Anomalies 4216-4218 have been identified as former field boundaries present on 1898 Ordnance Survey mapping.

2.2.6 The majority of the Site is dominated by superficial geology. These features occur when freezing and thawing of the ground water happen throughout an extended period of time. They have been identified as water channels likely formed during the last Ice Age.

Aerial Photographic Assessment (APS 2022)

2.2.7 Work undertaken by Aerial Photo Services (APS 2022) assigned reference number APS-22 to the area between Grange Road and Ardleigh Road. This covers the majority of the Site except the north western corner. Features identified from the aerial photographs including the roadside ditches identified during the geophysical survey and linear features including field boundaries. Some of these had previously been identified through the National Mapping Programme (NMP) but were repositioned and remapped from new rectifications (**Fig. 3**). Some of these features align with those identified through the geophysical survey. Due to their proximity to the route of the Roman road these were assigned a tentative Romano-British date as part of the work carried out by APS.

Geoarchaeological Desk-Based Assessment

2.2.8 An additional geoarchaeological desk-based assessment was undertaken prior to the evaluation and formed part of the supporting evidence for a concurrent geoarchaeological evaluation which is being reported on separately. As such it is not discussed here.

2.3 Archaeological and historical context

Mesolithic to Iron Age

2.3.1 There are a small number of early prehistoric findspots within the area, including a scatter of flints north of Jenning's Farm, in the north-east of the survey area and Mesolithic finds 625 m south-east of the Site.

2.3.2 Around 1 km to the south east of the Site there is cropmark evidence for a possible Neolithic Henge monument and there are also numerous Bronze Age records within the study area. This includes three ring ditches recorded at the north western edge of the Site, as well as a findspot of Middle to Late Bronze Age date further south within the Site. In addition, numerous further Bronze Age round barrows have been recorded within the wider surroundings. Close to Great Bromley a group of at least 25 ring ditches plus other linear features has been identified.

2.3.3 Numerous cropmarks have been recorded across the Site and wider landscape some of which are likely to be prehistoric in origin.

Romano-British

2.3.4 Directly north west of the Site, there is a junction of two Roman roads. The first runs on a south-west to north-east trajectory, linking Mistley with Colchester, and the second is on an east–west alignment through Horsleycross Street (and through the Site). At the intersection of these roads is a dense concentration of cropmarks comprising a double-ditched rectangular enclosure, with entrances, a curvilinear enclosure, trackways, linear features, and field boundaries. Further to the north and east of this is a complex of linear features, and rectilinear and oval enclosures which may suggest the presence of a roadside settlement, although some of these cropmarks may be geological.

2.3.5 Linear features extending from the Roman roads continue into the northern portion of the Site. These are of unknown date, but date to anywhere between the Bronze Age and medieval periods. A Romano-British findspot has been recorded within the northern part of the Site.

Anglo-Saxon, medieval and post-medieval

2.3.6 Evidence for the Anglo-Saxon period is generally sparse within the wider area and from within the area immediately surrounding the Site. However, a find has been recorded dating to the Anglo-Saxon to Medieval period, 183 m to the north west of the Site.

2.3.7 There are a small number of medieval and post-medieval findspots close to the Site, mostly relating to agriculture objects such as horse harness hooks, as well as two post-medieval coins in the eastern part of the Site. Tithe and First edition Ordnance Survey mapping also illustrate the character of the landscape was predominantly agricultural, although numerous field boundaries are no longer extant.

Modern

2.3.8 Historic maps from the 20th century show that the OnSS search area lies within a rural area surrounded by a number of farmsteads including Cattsgreen Farm, Coles Farm, Rudkins Farm, Normans Farm and Jennings Farm to the south, Spinks Farm, Hollylodge Farm and

Riddlesdale Farm to the east and north east and Bounds Farm to the west. Within the Site are a small collection of buildings labelled Lower Barn likely to be storage buildings associated with a larger farmstead elsewhere. The buildings were demolished in the second half of the 20th century and the geophysical survey identified an area of increased magnetic response at this location likely to be associated with buried demolition material associated with the buildings.

2.3.9 Historic mapping shows that the OnSS search area was previously divided by former field boundaries which were removed in the second part of the 20th century. The Site continued to be used for agriculture and/or pasture throughout the 19th and 20th centuries.

Unknown

2.3.10 A large number of possible features identified from aerial photographs have been identified through the National Mapping Programme and through the work undertaken by APS . These features have not been ground truthed by any intrusive investigation and as such the presence, date and significance of these features is unconfirmed. Many of these comprise ring ditch features, enclosures, trackways, linear features, curvilinear features and field systems.

3 AIMS AND OBJECTIVES

3.1 General aims

3.1.1 The general aims of the evaluation, as stated in the WSI (Wessex Archaeology 2023a) and in compliance with the CIfA *Standard and guidance for archaeological field evaluation* (CIfA 2014a), were to:

- provide information about the archaeological potential of the site; and
- inform either the scope and nature of any further archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.2 General objectives

3.2.1 In order to achieve the above aims, the general objectives of the evaluation were to:

- determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the specified area;
- establish, within the constraints of the evaluation, the extent, character, date, condition and quality of any surviving archaeological remains;
- place any identified archaeological remains within a wider historical and archaeological context in order to assess their significance; and
- make available information about the archaeological resource within the site by reporting on the results of the evaluation.

3.3 Site-specific objectives

3.3.1 Following consideration of the archaeological potential of the site, the site-specific objectives defined in the WSI (Wessex Archaeology 2023a), including geoarchaeological objectives, were to:

- establish the potential of Pleistocene deposits to preserve Palaeolithic archaeology;
- establish the potential of Pleistocene deposits to preserve paleoenvironmental and scientific dating evidence;
- make recommendations for further archaeological and geoarchaeological work relating to the superficial deposits, including geoarchaeological assessment of samples obtained during the evaluation;
- test the results of the geophysical survey (Wessex Archaeology 2023b);
- examine evidence for remains of the potential Roman road that may exist within the Site and any associated roadside features;
- examine evidence for any prehistoric remains, in particular evidence of the ring ditches recorded by the HER, and
- assess the potential for the medieval and post-medieval agricultural activity within the Site.

3.3.2 The trial trenches were targeted over the results of the previous geophysical survey, the data from the National Mapping Programme and additional aerial photograph digitisation undertaken for the project. Possible 'blank' areas have also been tested. Following comments received during the Evidence Plan Process, a grid system of trenches measuring 30m in length has been applied to the 'blank' areas. A rationale is provided below for the positioning of each of the trenches.

Table 1 Phase 1: Trench Positioning Rational

Trench no.	Trench Position Rationale	Trench Length (m)
Tr.1	Tr.1 positioned over two curvilinear/rectilinear anomalies in the north eastern corner of the Site	50
Tr.2	Tr.2 positioned to test 'blank' area	30
Tr.3	Tr.3 is positioned to test small curvilinear trend and 'blank' area to the north, south of the Roman road	50
Tr.4	Tr. 4 is targeted over the geophysical anomaly and cropmark data thought to relate to the Roman road. The trench extends either side of the roadside ditch to test for any roadside activity not identified through non-intrusive surveys	50
Tr.5	Tr. 5 is positioned to test 'blank' area north of the Roman road	50
Tr.6	Tr.6 is positioned to test whether a linear feature identified as part of the NMP to the north of the area, continues into the Site	30
Tr.7	Tr.7 is positioned to test a 'blank' area and geological feature identified from geophysical survey	30
Tr.8	Tr.8 positioned to test 'blank' area south of the Roman road	30
Tr.9	Tr.9 positioned to test 'blank' area	30
Tr.10	Tr.10 is positioned to test a linear anomaly identified from the geophysical survey	30
Tr.11	Tr.11 positioned to test linear anomaly and trend identified from geophysical survey which could be a continuation of the linear anomaly within the Additional Evaluation Area	50
Tr.12	Tr. 12 positioned to test 'blank' area	30
Tr.13	Tr. 13 positioned to test 'blank' area and a linear trend from the geophysical survey	30

Tr.14	Tr.14 positioned to test linear anomaly identified from the geophysical survey and linear features identified by APS and NMP	50
Tr.15	Tr.15 positioned to test linear trend identified from the geophysical survey	30
Tr.16	Tr.16 positioned to test curvilinear anomaly identified from the geophysical survey	30
Tr.17	Tr.17 positioned to test 'blank' area and a linear trend identified from geophysical survey and during NMP. Also covers area where Roman Road is likely to continue (shown on NMP but not through geophysical survey)	30
Tr.18	Tr. 18 positioned to test 'blank' area and identify whether a liner feature identified during NMP continues into the Phase 1 area.	50
Tr 19	Tr.19 positioned to test a linear feature identified as part of NMP	30
Tr.20	Tr.20 positioned to test a liner anomaly identified from geophysical survey, a linear feature identified as part of the NMP and a linear identified by APS	50
Tr.21	Tr.21 positioned to test a curvilinear trend identified from geophysics	30
Tr.22	Tr.22 positioned to test 'blank' area	50
Tr.23	Tr. 23 positioned to test 'blank' area and geological feature identified from geophysical survey	30
Tr.24	Tr.24 positioned to test linear trend identified in geophysical survey, a linear feature identified during NMP and a linear feature identified by APS	50
Tr.25	Tr. 25 positioned to test linear features identified from the geophysical survey, NMP and APS	50
Tr.26	Tr. 26 positioned to test a linear trend identified from the geophysics and two linear features identified by APS	50
Tr.27	Tr.27 positioned to test 'blank' area	30
Tr.28	Tr. 28 positioned to test geological feature identified from geophysical survey	30
Tr.29	Tr. 29 positioned to test geological feature from geophysical survey and linear features identified by APS and NMP	50
Tr.30	Tr.30 positioned to test geological feature identified from geophysical survey and linear features identified by APS and NMP	30
Tr.31	Tr.31 positioned to test 'blank' area.	30
Tr.32	Tr. 32 positioned to test 'blank' area	30
Tr.33	Tr.33 positioned to test linear trend identified through geophysical survey and linear features identified by APS and NMP	50
Tr.34	Tr.34 positioned to test 'blank' area	30
Tr.35	Tr.35 positioned to test a linear feature identified by APS	30
Tr.36	Tr.36 positioned to test a linear anomaly and geological features identified from geophysical survey, and a liner feature identified by APS	50
Tr.37	Tr.37 positioned to test 'blank' area and geological feature identified from geophysical survey	50
Tr.38	Tr.38 positioned to test 'blank' area and geological feature identified from geophysical survey	50
Tr.39	Tr. 39 positioned to test 'blank' area	30
Tr.40	Tr. 40 positioned to test linear feature identified by APS and a 'blank' area	30
Tr.41	Tr. 41 aligned E-W to test 'blank' area	30

Tr.42	Tr. 42 aligned N-S to test 'blank' area	30
Tr.43	Tr.43 positioned to test geological features identified from geophysical survey	50
Tr.44	Tr.44 positioned to test 'blank' area and to test whether features identified by APS in the Phase 2 (Additional Evaluation Area) continue into Phase 1	30
Tr.45	Tr.45 positioned to test 'blank' area	30
Tr.46	Tr.46 positioned to test a liner feature identified from geophysical survey as a geological feature but surveyed by APS to be part of a field system	50
Tr.47	Tr.47 aligned E-W to test 'blank' area	30
Tr.48	Tr.48 aligned N-S to test 'blank' area	30
Tr.49	Tr.49 positioned to test 'blank' area and linear trend identified from geophysical survey	50
Tr.50	Tr.50 aligned N-S to test 'blank' area	30
Tr.51	Tr.51 aligned E-W to test 'blank' area	30

4 METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2023a) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The methods employed are summarised below.

4.2 Fieldwork methods

General

4.2.1 The trench locations were set out using a Global Navigation Satellite System (GNSS), in the approximate positions proposed in the WSI, although Trench 5 had to be slightly moved, Trenches 3 and 34 shortened and Trenches 48, 49 and 51 cancelled due to ecological constraints (Fig. 1).

4.2.2 48 trial trenches (20 measuring 50m by 2m and 28 originally measuring 30m by 2m, were excavated in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded until either the archaeological horizon or the natural geology was exposed.

4.2.3 Where necessary, the base of the trench/surface of archaeological deposits were cleaned by hand. All archaeological features and deposits were hand-excavated, unless by agreement with the Historic Environment Consultant at Places Services. Intersections between features were avoided to maximise the retrieval of uncontaminated material and avoid removing relationships for possible subsequent phases of work. The surface of features was cleaned to determined relationships as far as possible.

4.2.4 Spoil from machine stripping and hand-excavated archaeological deposits was both visually scanned for the purposes of finds retrieval and scanned with a metal detector. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained.

4.2.5 Trenches completed to the satisfaction of the client and the Historic Environment Consultant at Place Services were backfilled using excavated materials in the order in which they were

excavated, and left level on completion. No other reinstatement or surface treatment was undertaken.

Recording

4.2.6 All exposed archaeological deposits and features were recorded using Wessex Archaeology's pro forma recording system. A complete record of excavated features and deposits was made, including plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid.

4.2.7 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of at least 50 mm.

4.2.8 A full photographic record was made using digital cameras equipped with an image sensor of not less than 16 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

4.3 Finds and environmental strategies

4.3.1 Strategies for the recovery, processing and assessment of finds and environmental samples were in line with those detailed in the WSI (Wessex Archaeology 2023a). The treatment of artefacts and environmental remains was in general accordance with: *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b), *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011), and CIfA's *Toolkit for Specialist Reporting* (Type 2: Appraisal).

4.4 Monitoring

4.4.1 The Historic Environment Consultant at Place Services monitored the evaluation on behalf of the LPA. Any variations to the WSI, if required to better address the project aims, were agreed in advance with the client and the Historic Environment Consultant at Place Services.

5 STRATIGRAPHIC EVIDENCE

5.1 Introduction

5.1.1 26 of the 48 excavated trial trenches contained archaeological features and deposits, indicating archaeological remains are present across the site (Figs. 2 & 3).

5.1.2 The uncovered features mostly comprised ditches, with a small number of pits, postholes and a single cremation, and are largely undated. The earliest date identified on site is a single Late Prehistoric ditch, while the latest comprises two ditches recorded on the 1839 Lawford Tithe map. The site produced a very limited quantity of artefactual material which hampered efforts to phase the site.

5.1.3 The following section presents the results of the evaluation with archaeological features and deposits discussed by trench.

5.1.4 Detailed descriptions of individual contexts are provided in the trench summary tables (Appendix 1). Figure 1 shows the site location and trench layout. Figures 2 and 3 show all

archaeological features recorded within the trenches, together with the preceding geophysical survey results (Wessex Archaeology 2023) and APS survey (2022). Figures 4-29 provides detail of archaeological features within the trenches. Figure 30 shows the archaeological results along with the APS and NMP data.

5.2 Soil sequence and natural deposits

5.2.1 Two distinct stratigraphic sequences were recorded within the site. Trenches 1-15, 17-20, 23, 26, 36 and 50, which are predominantly located in the eastern half of the site had stratigraphic sequences comprising 0.27 to 0.56m of topsoil overlying a 0.07 to 0.27m thick deposit of mid yellow brown silty clay subsoil. The subsoil deposits overlaid natural geology comprising light to mid reddish yellow/yellowish red sand/silty sand at depths of between 0.39 and 0.77m below ground level (bgl).

5.2.2 No subsoil deposits were recorded in Trenches 16, 21, 22, 24, 25, 27-35 and 37-47, with topsoil deposits overlying the natural geology at a depth of 0.31 to 0.44m bgl. The two geological sequences were predominantly separated into the two halves of the site, with subsoil deposits recorded in the northeast half. However there were some trenches which defied this pattern, such as Trench 16 and Trench 50.

5.3 Archaeological results

Trench 1 (Fig. 4)

5.3.1 Trench 1 was located at the northeast boundary of the Phase 1 area, on a northwest/southeast alignment, and contained three linear ditches. Northwest/southeast aligned ditch 104/106 was recorded at the northeast end of the trench and contained a single secondary fill. The ditch measured at least 6m long, up to 0.8m wide and up to 0.3m deep, with moderately sloped concave sides and a concave base. 25 sherds (285g) of Late Prehistoric pottery was recovered from fill.

5.3.2 East-northeast/west-southwest aligned ditch 108 (Fig. 36) was recorded in the southeast half of trench and contained a single secondary fill. The ditch measured at least 2.2m long, 0.6m wide and 0.25m deep, with moderately sloped concave sides and a concave base. Parallel ditch 110 was recorded 0.8m south of ditch 108 and also contained a single secondary fill. The ditch measured at least 2.2m long, 1.45m wide and 0.18m deep, with moderately sloped concave sides and a concave base. Ditch 110 lines up with the northern of the two 'possible archaeology' anomalies identified by the previous geophysical survey and targeted by the trench.

5.3.3 The southern of the two 'possible archaeology' anomalies targeted by the trench was not identified.

Trench 4 (Fig. 5)

5.3.4 Trench 4 was located in the northeast corner of the Phase 1 area, on a north-northeast/south-southwest alignment, and contained two linear ditches. West-northwest/east-southeast aligned ditch 404 was recorded in the approximate centre of the trench and contained a single secondary fill. The ditch measured at least 2m long, 0.82m wide and 0.16m deep, with moderately sloped concave sides and a concave base.

5.3.5 Parallel ditch 406 was recorded 11.6m to the south and also contained a single secondary fill. The ditch measured at least 2m long, 1.32m wide and 0.16m deep, with moderately sloped concave sides and a concave base. No artefactual evidence was recovered from the two ditches but they correspond with the presumed alignment of the Roman Road

running through the site, identified by the previous geophysical survey. No sign of a road surface was recorded within the trench.

Trench 5 (Fig. 6)

5.3.6 Trench 5 was located in the northeast corner of the Phase 1 area on an east-west alignment and contained a single linear ditch. North-northeast/south-southwest aligned ditch 504 (Fig. 37) was recorded at the eastern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.77m wide and 0.33m deep, with moderately sloped concave sides and a concave base. A single piece (80g) of ceramic building material (CBM) was recovered from the fill.

Trench 6 (Fig. 7)

5.3.7 Trench 6 was located at the northern boundary of the Phase 1 area, on an east/west alignment, and contained two linear ditches. Northwest/southeast aligned ditch 604 was recorded at the western end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.36m wide and 0.23m deep, with moderately sloped concave sides and a concave base.

5.3.8 North-northeast/south-southwest aligned ditch 606 cut ditch 604 at its northwest point and contained a single secondary fill. The ditch measured at least 2.2m long, 1.22m wide and 0.2m deep, with moderately sloped concave sides and a concave base. Neither ditch contained artefactual evidence.

5.3.9 While neither ditch appears to correspond to the linear feature identified to the north by the NMP, ditch 606 shares an alignment, albeit approximately 20m to the west, and ditch 604 shares alignment with the earlier field system identified by the NMP to the north.

Trench 10 (Fig. 8)

5.3.10 Trench 10 was located in the eastern half of the Phase 1 area, on a north/south alignment, and contained a single pit and a curvilinear ditch. Ditch 1004 was recorded in the approximate centre of the trench, on a variable alignment and contained a single secondary fill. The ditch measured at least 2.4m long, 0.8m wide and 0.21m deep, with moderately sloped concave sides and a concave base.

5.3.11 Sub-circular pit 1006 was partially exposed approximately 0.67m north of ditch 1004 and contained a single deliberate backfill. The pit measured at least 0.6m long, 0.9m wide and 0.38m deep, with moderately sloped concave sides and a concave base. The fill contained charcoal and a single sherd (1g) of abraded late prehistoric pottery.

5.3.12 The linear feature identified by the previous geophysical survey and targeted by the trench was not recorded.

Trench 11 (Fig. 9)

5.3.13 Trench 11 was located on the eastern boundary of the Phase 1 area, on a northeast/southwest alignment and contained a single posthole and linear ditch. Sub-circular posthole 1104 was recorded in the southwest half of the trench and contained a single secondary fill. The posthole measured 0.42m long, 0.33m wide and 0.11m deep, with moderately sloped concave sides and a concave base.

5.3.14 Curvilinear ditch 1106 (Fig. 38) was recorded in the approximate centre of the trench, on a largely northwest/southeast alignment before turning to the west-northwest at the northwest end and contained a single primary and secondary fill. The ditch measured at least 2.4m

long, 0.96m wide and 0.21m deep, with moderately sloped concave sides and a concave base. A single brick (1.284kg) was recovered from the upper fill. The ditch corresponds with the northwest/southeast aligned feature identified by the previous geophysical survey and targeted by this trench and the curvilinear alignment appears to align with a slight kink in the alignment on the geophysical survey.

Trench 14 (Fig. 10)

5.3.15 Trench 14 was located in the eastern half of the Phase 1 area, on a northwest/southeast alignment and contained a large geological feature and a linear ditch. Northeast/southwest aligned ditch 1406 was recorded in the northwest half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.09m wide and 0.37m deep, with shallow concave sides and a concave base. A single piece (44g) of CBM was recovered from the fill. The ditch corresponds with a field system identified by the NMP and APS surveys.

5.3.16 Geological feature 1408 (Fig. 39) was recorded at the northwest end of the trench and contained at least two fills. The feature measured at least 15m long, 2m wide and at least 1.2m deep. The feature appeared to correspond with a ferrous anomaly identified by the previous geophysical survey and due to its size was machine excavated.

5.3.17 The curvilinear feature identified by the previous geophysical survey and targeted by the trench was not recorded.

Trench 16 (Fig. 11)

5.3.18 Trench 16 was located on the northern boundary of the Phase 1 area, on a north/south alignment and contained three linear ditches. East/west aligned ditch 1603 (Fig. 40) was recorded in the northern half of the trench and contained two secondary fills. The ditch measured at least 2m long, 1.75m wide and 0.41m deep, with moderately sloped concave sides and a concave base. A single sherd of medieval pottery (1g) and six sherds (18g) of Romano-British pottery were recovered from the lower fill.

5.3.19 Parallel east/west aligned ditch 1608 (Fig. 41) was recorded at the southern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 0.7m wide and 0.21m deep, with shallow concave sides and a concave base. Four sherds (15g) of medieval pottery were recovered from the fill. These two ditches correspond with northern and southern extents of a possible rectangular enclosure identified by the previous geophysical survey and targeted by this trench, with an internal size of at least 15.4m between the two ditches.

5.3.20 Northwest/southeast aligned ditch 1606 was recorded in the southern half of the trench and contained a single secondary fill. The ditch measured at least 3.8m long, 1.04m wide and 0.33m deep, with moderately sloped concave sides and a concave base.

Trench 17 (Fig. 12)

5.3.21 Trench 17 was located in the northern half of the Phase 1 area, on a north/south alignment, and contained two linear ditches, a posthole and three pits. East-northeast/west-southwest aligned ditch 1704 was recorded at the southern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.72m wide and 0.31m deep, with moderately sloped concave sides and a concave base. Three sherds (20g) of medieval pottery and two animal bones (3g) were recovered from the fill and roughly aligned with a trendline identified by the previous geophysical survey.

5.3.22 Northeast/southwest aligned ditch 1714 (Fig. 42) was recorded at the northern end of the trench and contained a single primary and secondary fill. Due to the size of the ditch a full profile could not be completed so a box slot was excavated instead. The ditch measured at least 2.4m long, 3m wide and 0.3m deep, with moderately sloped concave sides and a concave base. Three sherds (25g) of medieval pottery were recovered from the secondary fill.

5.3.23 Circular pit 1706 was recorded in the approximate centre of the trench and contained a single deliberate backfill. The pit measured 0.96m in diameter and 0.39m deep, with moderately sloped concave sides and a concave base.

5.3.24 Pit 1708 was partially exposed in the southern half of the trench and contained a single deliberate backfill. The pit measured at least 0.6m long, 0.97m wide and 0.39m deep, with moderately sloped concave sides and a concave base. Seven sherds (38g) of medieval pottery was recovered from the backfill.

5.3.25 Partially exposed pit 1710 was recorded in the approximate centre of the trench, 2.5m southwest of pit 1706 and 1.5m northwest of pit 1708, and contained a single secondary fill. The pit measured 2.2m long, at least 1.02m wide and 0.4m deep, with moderately sloped concave sides and a concave base.

5.3.26 Posthole 1712 was cut into the surface of pit 1710 and contained a single secondary fill. The posthole measured at least 0.19m long, at least 0.26m wide and 0.41m deep, with steep concave sides and a concave base.

Trench 20 (Fig. 13)

5.3.27 Trench 20 was located near the centre of the Phase 1 area, on an east/west alignment, and contained two linear ditches. Northeast/southwest aligned ditch 2004 was recorded in the eastern half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.62m wide and 0.27m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds to a field system identified by the previous NMP and APS surveys which was targeted by this trench.

5.3.28 North-northwest/south-southeast aligned ditch 2005 was recorded in the western half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.61m wide and 0.4m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds to a field system identified by the previous NMP and APS surveys which was targeted by this trench. Despite their slightly different alignments the two ditches appear to be part of a contemporaneous field system, although neither contained any datable material.

Trench 22 (Fig. 14)

5.3.29 Trench 22 was located in the eastern half of the Phase 1 area, on a north/south alignment, and contained a cremation grave and a linear ditch terminus. Sub-circular cremation grave 2203 (Fig. 43) was recorded at the northern end of the trench and contained a single unurned cremation burial deposit. The grave measured 0.56m long, 0.5m wide and 0.2m deep, with steep straight sides and a concave base. The grave contained 129.1g of cremated human bone and 42 pieces (36g of burnt flint). A detailed assessment of the cremation is found in section 6.6 below.

5.3.30 Northwest/southeast aligned ditch terminus 2205 was recorded in the approximate centre of the trench and contained a single secondary fill. The ditch measured at least 9.8m long,

0.8m wide and 0.24m deep, with shallow concave sides and a concave base, and terminated at the northwest end just before the trench edge.

Trench 24 (Fig. 15)

5.3.31 Trench 24 was located in the eastern half of the Phase 1 area, on a northeast/southwest alignment, and contained a single linear ditch. North-northwest/south-southeast aligned ditch 2403 was recorded in the northeast half of the trench and contained a single secondary fill. The ditch measured at least 2.2m long, 1.7m wide and 0.34m deep, with moderately sloped concave sides and a concave base.

5.3.32 The ditch likely corresponds with the field boundary identified on the previous APS survey and targeted by this trench, although the orientation is slightly different. The geophysical trend and linear feature from the previous geophysical and NMP surveys were not identified.

Trench 25 (Fig. 16)

5.3.33 Trench 25 was located in the northern half of the Phase 1 area, on a north/south alignment, and contained two linear ditches. East-northeast/west-southwest aligned ditch 2503 was recorded in the northern half of the trench and contained a single secondary fill. The ditch measured at least 2.2m long, 0.82m wide and 0.16m deep, with shallow concave sides and a concave base. A single brick fragment (745g) was recovered from the fill. The ditch roughly corresponds with a field boundary identified by the previous APS survey and targeted by this trench.

5.3.34 Northwest/southeast aligned ditch 2505 was recorded in the southern half of the trench and contained a single secondary fill. The ditch measured at least 3.4m long, 0.85m wide and 0.16m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds with a field boundary identified by the previous APS survey and targeted by this trench.

5.3.35 The trench did not identify the northeast/southwest aligned feature identified by the previous NMP survey.

Trench 26 (Fig. 17)

5.3.36 Trench 26 was located in the western half of the Phase 1 area, on a north/south alignment, and contained three linear ditches and a pit. Pit 2610 was partially exposed at the southern end of the trench and contained a single secondary fill. The pit measured at least 0.95m long, 1m wide and 0.25m deep, with steep concave sides and a concave base. Two sherds (12g) of Late Prehistoric pottery was recovered from the fill.

5.3.37 Northwest/southeast aligned ditch 2606 was recorded in the northern half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 0.5m wide and 0.09m deep, with shallow concave sides and a concave base.

5.3.38 Northeast/southwest aligned ditch 2604 was recorded in the northern half of the trench, 2.74m south of ditch 2606, and contained a single secondary fill. The ditch measured at least 2m long, 0.85m wide and 0.15m deep, with shallow concave sides and a concave base. Two bricks (1.54kg) were recovered from the fill. Considering the similar profiles and perpendicular alignments it is likely that these two ditches are part of the same land management system.

5.3.39 Northwest/southeast aligned ditch 2608 was recorded in the southern half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1m wide and 0.3m

deep, with moderately sloped concave sides and a concave base. The ditch roughly aligned with a trendline identified by the previous geophysical survey.

Trench 27 (Fig. 18)

5.3.40 Trench 27 was located on the northwest boundary of the Phase 1 area, on an east/west alignment, and contained a single linear ditch. North-northwest/south-southeast aligned ditch 2703 was recorded at the western end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.36m wide and 0.26m deep, with shallow concave sides and a concave base.

Trench 29 (Fig. 19)

5.3.41 Trench 29 was located near the centre of the Phase 1 area, on a northeast/southwest alignment, and contained an animal burial and a linear ditch. Northwest/southeast aligned ditch 2903 was recorded at the northeast end of the trench and contained a single secondary fill. The ditch measured at least 2.4m long, 1.18m wide and 0.18m deep, with moderately sloped concave sides and a concave base. The ditch roughly aligns with a field boundary identified by the previous APS survey and targeted by this trench.

5.3.42 A small animal burial was identified 5m southwest of ditch 2903 and contained a single deliberate backfill. The circular burial deposit measured 0.49m in diameter and 0.14m deep, with shallow concave sides and a concave base. The remains of up to two lambs (83 bones, 123g) were recovered from the fill, and were potentially modern in date.

5.3.43 The trench did not identify the geological feature, or the linear features identified by the previous geophysical and NMP surveys.

Trench 30 (Fig. 20)

5.3.44 Trench 30 was located on the southern boundary of the Phase 1 area, on a northeast/southwest alignment, and contained a single linear ditch. Northwest/southeast aligned ditch 3003 was recorded at the southwest end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.8m wide and 0.18m deep, with shallow concave sides and a concave base. A single brick fragment (233g) was recovered from the fill. The ditch roughly corresponds with a field boundary identified on the previous APS survey and targeted by this trench.

5.3.45 The trench did not identify the geological feature identified by the previous geophysical survey, while a geological feature identified at the northeast end of the trench may correspond with the linear feature identified by the previous NMP survey.

Trench 31 (Fig. 21)

5.3.46 Trench 31 was located on the southern boundary of the Phase 1 area, on an east/west alignment, and contained a single linear ditch. North/south aligned ditch 3103 (Fig. 44) was recorded at the western end of the trench and contained two secondary fills. The ditch measured at least 2m long, 0.9m wide and 0.41m deep, with steep concave sides and a concave base.

Trench 33 (Fig. 22)

5.3.47 Trench 33 was located in the southern half of the Phase 1 area, on a northwest/southeast alignment, and contained a single linear ditch. Northeast/southwest aligned ditch 3303 was recorded at the northwest end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.68m wide and 0.41m deep, with shallow concave sides and

a concave base. The ditch roughly corresponds to a field boundary identified by the previous APS survey and targeted by this trench.

5.3.48 The trench did not identify the linear feature identified by the previous NMP survey.

Trench 35 (Fig. 23)

5.3.49 Trench 35 was located in the western half of the Phase 1 area, on a northeast/southwest alignment, and contained a single linear ditch. Northwest/southeast aligned ditch 3503 was recorded in the approximate centre of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1m wide and 0.18m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds to a field boundary identified by the previous APS survey and targeted by this trench, although slightly west of the recorded location.

Trench 36 (Fig. 24)

5.3.50 Trench 36 was located in the western half of the Phase 1 area, on a northwest/southeast alignment, and contained three linear ditches. North/south aligned ditch 3604 (Fig. 45) was recorded in the southeast half of the trench and contained a single secondary fill. The ditch measured at least 4.7m long, 1.22m wide and 0.29m deep, with moderately sloped concave sides and a concave base. A single piece (4g) of CBM was recovered from the fill. The ditch roughly corresponds to a field boundary identified by the previous APS survey.

5.3.51 Northeast/southwest aligned ditch 3606 was recorded at the northern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 0.55m wide and 0.14m deep, with moderately sloped concave sides and a concave base.

5.3.52 Parallel ditch 3608 was located 0.71m northwest of ditch 3606 and contained a single secondary fill. The ditch measured at least 2m long, 1.95m wide and 0.31m deep, with moderately sloped concave sides and a concave base. These two ditches roughly correspond with a field boundary and ‘potential archaeology’ polygon identified by the previous APS and geophysical surveys and targeted by this trench.

5.3.53 The trench did not identify the geological anomaly identified by the previous geophysical survey.

Trench 38 (Fig. 25)

5.3.54 Trench 38 was located on the northwest boundary of the Phase 1 area, on a north/south alignment, and contained a single pit. Sub-circular pit 3803 was recorded in the northern half of the trench and contained a single deliberate backfill. The pit measured 1.04m long, 1.08m wide and 0.16m deep, with shallow concave sides and a concave base. The pit contained abundant charcoal in the fill.

5.3.55 The trench did not identify the geological anomaly identified by the previous geophysical survey.

Trench 40 (Fig. 26)

5.3.56 Trench 40 was located near the western boundary of the Phase 1 area, on a northwest/southeast alignment, and contained two linear ditches. East-northeast/west-southwest aligned ditch 4003 was recorded in the southeast half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 0.83m wide and 0.31m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds to a field boundary identified by the previous APS survey.

5.3.57 Parallel ditch 4005 was recorded 3m southeast of ditch 4003 and contained a single secondary fill. The ditch measured at least 2m long, 1m wide and 0.25m deep, with moderately sloped concave sides and a concave base.

Trench 44 (Fig. 27)

5.3.58 Trench 44 was located on the southern boundary of the Phase 1 area, on an east-northeast/west-southwest alignment, and contained a single linear ditch. Northwest/southeast aligned ditch 4404 was recorded at the western end of the trench and contained two secondary fills. The ditch measured at least 2m long, 1.34m wide and 0.37m deep, with steep irregular sides and a concave base.

Trench 46 (Fig. 28)

5.3.59 Trench 46 was located in the western half of the Phase 1 area, on a northwest/southeast alignment, and contained a single linear ditch. East-northeast/west-southwest aligned ditch 4603 was recorded at the northwest end of the trench and contained a single secondary fill. The ditch measured at least 2.2m long, 1.35m wide and 0.44m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds to a field boundary identified by the previous APS survey which was recorded as a geological anomaly on the previous geophysical survey.

Trench 50 (Fig. 29)

5.3.60 Trench 50 was located on the western boundary of the Phase 1 area, on a north-northeast/south-southwest alignment, and contained a single linear ditch. East/west aligned ditch 5004 (Fig. 46) was recorded at the southern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.89m wide and 0.55m deep, with moderately sloped concave sides and a concave base. The ditch roughly corresponds with a 'geological anomaly' recorded by the previous geophysical survey and is a continuation of ditch 4603.

6 FINDS EVIDENCE

6.1 Introduction

6.1.1 A small quantity (4,632) of finds were recovered ranging in date from the later prehistoric to the medieval period. The finds have been cleaned and quantified by material type within each context and scanned to assess their nature, condition, and potential date range. The recording and reporting conforms to the Type 2 (appraisal level according to the CIFA's toolkit for specialist recording and reporting (CIFA 2021). Quantification by material type is given in Table 1.

Table 2 Quantification of finds by material type, number and weight

Material	No.	Wt. (g)
Animal bone	87	126
CBM	8	3,930
Cremated human bone	142	125
Flint	42	36
Fuel-ash slag	1	1
Pottery Late prehistoric Romano-British	 28 6	 298 18

Medieval	18	99
Total	**332**	**4,632**

6.2 Pottery

6.2.1 The pottery (52 sherds, 415g) is mainly late Prehistoric in date, with small quantities of Roman-British and a larger group of medieval sherds. The assemblage mainly consists of moderate sized fragments, with a mean sherd weight of 7.9g. Three rim fragments are present with an EVE of 0.97 vessels.

6.2.2 For this assessment, the sherds were divided into broad ware groups or known fabric type (e.g., Colchester-type ware) and quantified by number and weight of the pieces present. Where appropriate, the fabrics have been cross-referenced with other local published assemblages Hawkes and Hull, 1947, Symonds and Wade, 1999 and Cotter 2000). Spot dates have been assigned to each context based on the pottery present. The level of recording is consistent with the 'basic record' advocated for the rapid characterisation of pottery assemblages (Barclay *et al* 2016, Section 2.4.5). A breakdown of the sherds by chronological period and ware type is presented in Table 2.

Table 3 Pottery totals by chronological period, and ware types

Period	**Ware**	**No.**	**Wt. (g)**
Late prehistoric	Flint-tempered ware	28	298
Romano-British	Fine greyware	6	18
Medieval	Colchester-type ware	17	90
	Hedingham ware	1	9
Total		**52**	**415**

Late Prehistoric

6.2.3 The later prehistoric sherds (recovered from ditch 104 and pits 1006 and 2610) comprise of at least three flint-tempered ware vessels. The flattened-topped jar sherd with an elongated neck from pit 1006, and the cooking pot with a simple rim offset at the shoulder from ditch 104, are characteristically late Iron Age in date and relatively well known within the environs of Colchester (Hawkes and Hull 1947, 267-270).

Romano-British

6.2.4 Six sherds from a single fine greyware vessel of early Romano-British date were recovered from ditch 1603. A very small medieval sherd was also present and is considered to be intrusive.

Medieval

6.2.5 The eighteen sherds of medieval pottery were found in pit 1208 and ditches 1609, 1705, 1709 and 1716. The pottery mainly consist of local Colchester-type ware of 11th-14th century date, and a single Hedingham ware jug sherd (ditch 1609), typologically dated between the 13th-mid 14th century.

6.3 Animal bone

6.3.1 A total of 87 (126g) animal bone fragments were recovered during the normal course of hand-excavation. The bones are all in a poor condition and very fragmented.

6.3.2 The vast majority of the bones were recovered from within pit 2906 and consisted of two lamb burials (Table 3) of unknown/probable modern date. A single laminated upper cattle molar was also recovered from medieval ditch 1704.

6.3.3 Two small, refitting fragments of animal bone were collected from test pit 201, (context 20105). Their size prevents a detailed identification, but they are fragments of a long bone shaft, and the lack of trabecular material indicates they derive from a bird. Their well-preserved condition and lack of mineralisation is surprising, given the provenance, and it would seem likely that they are intrusive.

Table 4 Number of identified bones present in 2905, Pit 2906

Lamb bone	**No.**
Scapula	3
Humerus	3
Ulna	4
Radius	4
Tibia	3
Pelvis	1
Metacarpal	1
Metatarsal	1
Astragalus	1
Ribs	9
Vertebrae	23
Unidentified	31
Total	**84**

6.4 Ceramic Building material

6.4.1 Ceramic building material amounting to eight fragments, recovered from seven ditches, amounted to three pieces of peg tile of either medieval or post-medieval date (ditches 504, 1406 and 3604) and five post-medieval/Modern brick fragments (1106, 2503, 2604 and 3003).

6.5 Cremated human bone

6.5.1 Cremated bone was recovered from a single feature (2203) in Trench 22 which was located in the northeastern portion of the area of investigation, some 200 m from it's eastern margins (Fig. 2; site plan). The deposit comprised the remains of an unurned burial, the grave fill being inclusive of a substantial quantity of fine particle fuel ash (pyre debris).

6.5.2 No dating evidence was recovered from the grave, which lay at the north end of Trench 22 some 10 m from an undated ditch (2205; northwest/southeast orientation). Finds recovered from other features on the site – predominantly enclosure and field boundary ditches – generally indicate later prehistoric – medieval dates for activity in the area, with cartographic evidence indicating post-medieval to modern agricultural activity.

Methods

6.5.3 The burial remains were excavated in quadranted spits (two spits each 0.10 m depth), enabling the formation process of the deposit to be deduced in post-excavation. The cremated remains were subject to a rapid scan to assess the condition of the bone and collect demographic data, together with a note of the presence of pathological lesions and pyre goods. Assessments of age and sex were based on standard methods (Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000).

Results

6.5.4 The grave had survived to 0.20 m in depth from the level of the machine stripped surface. Its presence was identified via common fuel ash observed at this level, at which only a few fragments of bone were evident. Consequently, it is unlikely that any cremated bone will have been lost as a result of horizontal truncation. The bone is, however, heavily eroded with a slightly chalky appearance, and no trabecular bone was observed. The latter is commonly subject to preferential loss in an aggressive (acidic) burial environment such as the silty sands seen here, and an unknown quantity of bone (particularly trabecular elements) will undoubtably have been lost due to this taphonomic mechanism.

6.5.5 The 129.1 g of bone recovered, comprising fragments of long bone shaft (upper and lower limb) and cranial vault, represent the remains of a subadult/adult individual (>15 years) of unknown sex. No pathological lesions were observed and no pyre goods (artefactual or animal bone) were noted. The bone is white in colour indicative of full oxidation.

6.5.6 The majority of the bone (73% by weight) was recovered from the upper 0.10 m depth of the fill and almost half derived from the northeast quadrant, again mostly from the upper spit. This suggests a discrete concentration of bone, probably originally held within some form of organic container, comprised the ‘burial’ per se. The common presence of the fuel ash throughout the depth of the fill implies that this material was added to the grave both before the burial was made and after the bone had been deposited – thereafter infiltrating amongst the bone fragments and leaching into the surrounding natural. The inclusion of this material suggests that the pyre sites were located close to where the burial was made – one might transport/curate the cremated bone over some distance/time but the same treatment is unlikely to have been afforded to the pyre debris (McKinley 2013; 2015).

Potential

6.5.7 Full analysis of the bone might provide more conclusive demographic data regarding the age and sex of the individual. It is unlikely that any pathological data will be recovered, but more detailed examination might reveal the presence of some osseous pyre goods (e.g. fragments animal bone). Standard recording of data pertaining to the cremation process and mortuary rite – e.g. levels of oxidation to different skeletal elements, degree of fragmentation to the bone, skeletal elements included in the burial and weight of bone recovered – should facilitate some degree of inter-site comparisons to be undertaken to further our understanding of social, cultural, geographic and temporal variations and similarities.

6.5.8 Currently further discussion of the remains is hampered by the lack of dating evidence. Numerous Bronze Age ring ditches are known to lie within the environs of the site including three to the northwest, with numerous round barrows in the wider vicinity including a substantial group at Great Bromley some 3 km to the south (see section 2.3.2). Evidence for a possible Romano-British roadside settlement and agricultural enclosures has been found around the intersection between two Roman roads lying directly northwest of the site a location likely to feature at least some burial remains (Smith 2018, 236–241). The

cremation rite was practiced across the wide temporal range covered by these finds, and although a later prehistoric or Romano-British date appears most likely for those from Five Estuaries OSWF and North Falls OSWF such cannot be stated with certainty, nor can any meaningful comparisons currently be drawn.

Proposed methods and recommendations

6.5.9 Analysis of the cremated bone will follow the writer's standard procedures (McKinley 1994, 5–6; 2000; 2004) including a scan of the unsorted <4mm residues to extract any identifiable material, osseous or artefactual. Taphonomic factors potentially affecting bone preservation will be further assessed. Age and sex will be assessed in greater detail using standard methodologies (Bass 1987; Beek 1983; Buikstra and Ubelaker 1994; Gejvall 1981; Scheuer and Black 2000; Wahl 1982). Aspects of pyre technology and the cremation mortuary rite, including formation processes, will be discussed within the local, regional and national context.

6.5.10 It is strongly recommended that a bone sample, potentially together with a sample of pyre debris from the grave to ascertain the 'old wood effect' (see Radiocarbon section), is submitted for radiocarbon analysis to enable the deposit to be placed and discussed in its correct temporal context.

6.6 Conservation

6.6.1 None of the finds (animal bone, CBM, cremated human bone, flint, and pottery) have any conservation requirements.

6.7 Potential

6.7.1 The small assemblage of finds recovered from the site offers little potential for further research in itself, but provides good evidence for later prehistoric, Romano-British, and medieval activity.

6.7.2 The lack of any diagnostic prehistoric flintwork, apart from burnt flint, from the geoarchaeological test pits, has limited research potential, unless further worked or burnt flints are recovered in future investigations on this site.

6.7.3 The presence of several features containing later prehistoric, Romano-British, and medieval pottery presumably relates to a dense concentration of cropmarks situated to the north and east of the site. Finds of both Romano-British and medieval date have also been encountered within the site (Wessex Archaeology 2023, 3-6).

6.7.4 Therefore, any further archaeological mitigation has the potential to recover a larger and more informative multiperiod assemblage.

7 ENVIRONMENTAL EVIDENCE

7.1 Introduction

7.1.1 Eight bulk sediment samples were taken from a cremation grave (2203) in Trench 22. The samples were processed for the recovery and assessment of environmental evidence.

7.2 Aims and methods

7.2.1 The aim of this assessment is to determine the nature and significance of the environmental remains preserved at the site. This assessment has been undertaken in accordance with Historic England's guidelines outlined in *Environmental Archaeology: A Guide to the Theory*

and Practice of Methods, from Sampling and Recovery to Post-Excavation (English Heritage 2011).

Bulk sediment samples

7.2.2 The size of the bulk sediment samples varied between three and ten litres, with an average volume of approximately six litres. The samples were processed by standard flotation methods on a Siraf-type flotation tank, with the flot retained on a 0.25 mm mesh and the residues retained on 4 mm and 1 mm meshes. The coarse fractions of the residues (>4 mm) were sorted by eye for artefactual and environmental remains.

7.2.3 The fine residue fractions and the flots were examined using a stereomicroscope at up to 40x magnification for wood charcoal, charred/uncharred plant remains, and other environmental material. Plant remains were identified through comparison with modern reference material held by Wessex Archaeology and relevant literature (Cappers *et al.* 2006). The volume of wood charcoal (>2 mm) in the flots was recorded and selected fragments were identified. Wood charcoal fragments were identified through examination of the transverse, tangential longitudinal, and radial longitudinal sections at up to 400x magnification with comparison to Wessex Archaeology's reference collection and keys (Gale and Cutler 2000; Hather 2000; Schweingruber 1990). The presence of recent material within the flots was noted as appropriate, including modern roots, modern seeds, earthworm eggs, soil fungus sclerotia, and shells of the burrowing blind snail (*Cecilioides acicula*) which was introduced in the medieval period. Nomenclature follows Stace (1997) for wild plants and Zohary *et al.* (2012) for cereals and other cultivated crops (using traditional names).

7.2.4 Remains were recorded semi-quantitatively on an abundance scale: C = <5 ('Trace'), B = 5-10 ('Rare'), A = 10-30 ('Occasional'), A* = 30-100 ('Common'), A** = 100-500 ('Abundant'), A*** = >500 ('Very abundant/Exceptional').

7.3 Results

7.3.1 The results are presented in Appendix 2.

7.3.2 The samples produced moderate to large flots which contain abundant wood charcoal and varying quantities of charred plant remains. All of the wood charcoal fragments examined derive from ash (*Fraxinus excelsior*) and these generally have weak or moderate growth ring curvature which indicates the use of mature stemwood and/or large branches. There are small quantities of twigs with buds still attached and a charred thorn is present in one sample. Within most of the samples, there are abundant charred rhizomes/tubers and monocotyledon stems, alongside small quantities of onion-couch grass (*Arrhenatherum elatius* var. *bulbosum*) tubers or swollen basal stem internodes. Other charred wild plant remains recorded include seeds of ribwort plantain (*Plantago lanceolata*), vetches/wild peas (*Vicia/Lathyrus* sp.) and trefoils/medicks/clovers (Trifolieae). Charred cereal remains are noted in two samples, including a single poorly preserved wheat (*Triticum* sp.) grain and a fragment of chaff (glume base) from a glume wheat (*Triticum* sp.) species which is likely to derive from either emmer wheat (*T. dicoccum*) or spelt wheat (*T. spelta*).

7.3.3 Small quantities of modern roots, modern/uncharred seeds and earthworm egg capsules are present in all of the samples which suggests that some more recent material has filtered down through the soil profile. Fragmented (<4 mm) coal and clinker/cinder occurs sporadically.

7.4 Conclusions

7.4.1 The relatively rich deposit of wood charcoal in grave 2203 is likely to reflect fuel debris which was gathered up from the pyre site and placed within the grave fill, alongside the cremated bone (cf. McKinley 1997). Stemwood or large branches of ash would have formed the main structure of the pyre, perhaps with the addition of small twigs and grassy material which acted as tinder. It has been widely noted that one or two species tend to dominate wood charcoal assemblages from cremation graves, and in many cases either oak or ash appear to have been the preferred species due to their excellent burning properties (e.g., O'Donnell 2016). Whilst most of the charcoal is likely to derive from the wood used to construct the pyre, some of this material could also be from artefacts placed alongside the body (e.g., bowls, tool handles). Most of the charred plant remains recorded reflect grassy vegetation and these probably derive from the burning of turf and soil in the area below the pyre, or from the uprooting of grassy vegetation to create a fire-break around the pyre (Campbell 2011; Stevens 2008). The cereal remains within the samples could reflect incidental inclusions associated with a nearby settlement, although it is equally possible that these are intrusive/residual contaminants.

7.4.2 The presence of small quantities of fragmented coal and clinker/cinder is likely to reflect intrusive fuel waste of medieval or later date.

Recommendations

7.4.3 There is potential for further analysis of the wood charcoal to provide additional information on the pyre technology and to make the results accessible for future synthetic studies. Suitable short-lived material (e.g., twigs, onion-couch grass tubers) is available for radiocarbon dating to obtain a paired date (Bayliss and Marshall 2022) on the calcined bone and the pyre debris.

8 CONCLUSIONS

8.1 Summary

8.1.1 The Phase 1 evaluation has been successful in fulfilling the aims and objectives as set out in the WSI (Wessex Archaeology 2023a). While datable material was sparse, multiple field systems/land management features were identified within the evaluation area, along with a number of discrete features.

8.1.2 Features dated to the Late Prehistoric and medieval periods were identified from artefactual evidence, with tentative artefactual evidence for Romano-British and post-medieval activity. Although no datable material was recovered the two west-northwest/east-southeast aligned ditches identified by previous surveys as possibly relating to a Roman Road through the site were identified during the evaluation, with residual Romano-British finds recovered from a probable medieval enclosure to the north of the proposed roadway.

8.2 Discussion

Archaeology

8.2.1 The majority of the archaeological features (39 of 50 identified features) identified during the evaluation comprised ditches which likely form several phases of land management/field boundary systems. The clearest of these field systems was identified by the previous geophysical survey and comprises a roughly northeast/southwest and northwest/southeast aligned linear field system (geophysical survey 4206, 4208, 4209, 4210) which was identified in Trenches 20, 24, 25 and 36, with additional segments not identified by the previous survey in Trenches 29, 30 and 35. Possible continuations of this field system were

identified in Trenches 33, 40 and 44, although these were not direct continuations and their association is based on complementary alignments. This field system is also arguably visible in the APS and NMP surveys which are discussed below.

8.2.2 The earliest dated feature comprises ditch 104/106 in the northeast corner of the site which contained the broken remains of a single Late Prehistoric pottery vessel. Unfortunately this ditch was largely recorded in isolation, and with no corresponding geophysical or APS/NMP records and so the potential for a detailed analysis is limited.

8.2.3 Although undated the two west-northwest/east-southeast aligned ditches recorded in Trench 4 and identified as '4200' on the previous geophysical survey (WA) has been interpreted as the possible remains of boundary ditches either side of a Roman Road which ran through the site. No definitely dated Romano-British features were identified within the site, although Romano-British material was recovered from a ditch in Trench 16 (1603), which may to be residual due to the combination of the geophysical survey and limited medieval pottery in an associated feature (1608), although it is unclear if the Romano-British material is residual or the medieval material intrusive.

8.2.4 Medieval and post-medieval material was recovered in four of the excavated slots, although none contained enough material to provide dating, with most containing either too few diagnostic sherds or too low a weight to be considered definitive. However it is likely that some of these ditches form multiple phases of agricultural field systems from the medieval to post-medieval periods, with the latest identified features (ditches 3104 and 3604) both present on the 1839 Lawford Tithe Map as the only land divisions with the Phase 1 area.

8.2.5 Ditches 1603 and 1608 near the northern boundary of the site form the northern and southern boundaries of an enclosure recorded by the previous geophysical survey (feature 4201) and contain small quantities of Romano-British and medieval pottery respectively.

8.2.6 A total of six pits and two postholes were recorded across the site, with half of these recorded in Trench 17. Of the discrete features in Trench 17, only one contained artefactual evidence and has been dated to they medieval period. This, combined with their position beneath the proposed route of the Roman Road recorded in Trench 4, suggest that these features are medieval in date, and could be associated with the neighbouring enclosure in Trench 16 which also contained medieval material.

8.2.7 Analysis of the single cremation burial identified during the evaluation is limited by a lack of dating evidence from both the cremation itself and the wider site. The lack of additional burials within the neighbouring trenches may suggest it is an isolated burial, but due to the nature of archaeological evaluations this cannot be determined.

Previous surveys

8.2.8 Most of the archaeology or possible archaeology identified by the previous geophysical survey was identified where tested by evaluation trenches, although with some clear exceptions in the form of anomalies 4203 and 4204 which were not recorded in any of the trenches that tested them. And two possible small enclosures at the southern ends of Trench 1 and 3.

8.2.9 The geological features identified by the geophysical survey were predominantly not recorded, with the exception of linear features in Trenches 46 and 50 which were determined to be a single east-northeast/west-southwest aligned ditch and a large patch of geology at the northern end of Trench 14. The two identified linear features have been reinterpreted as ditches during the evaluation works.

8.2.10 The APS survey was very successful in identifying linear archaeological features with all tested features being identified. The only possible discrepancy was in Trench 35 where the feature was recorded slightly west of the projected location.

8.2.11 The NMP by contrast only corresponded with identified features where it corresponded with the APS survey. However there appears to be a clear offset between the APS and NMP survey which, when adjusted for would make the NMP data correlate with the APS and geophysical survey. This discrepancy is likely due to differing levels of georectification between the aerial photography used for the APS and NMP surveys (Fig. 30).

9 ARCHIVE STORAGE AND CURATION

9.1 Museum

9.1.1 The archive resulting from the evaluation is currently held at the offices of Wessex Archaeology in Meopham and Salisbury. Colchester Museum has agreed in principle to accept the archive on completion of the project. Deposition of any finds with the museum will only be carried out with the full written agreement of the landowner to transfer title of all finds to the museum.

9.2 Preparation of the archive

Physical archive

9.2.1 The archive, which includes paper records, graphics, artefacts and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Colchester Museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014c; SMA 1995).

9.2.2 All archive elements are marked with the **site code LAWGR23**, and a full index will be prepared. The physical archive currently comprises the following:

- 02 cardboard boxes or airtight plastic boxes of artefacts and ecofacts, ordered by material type
- 01 files/document cases of paper records

Digital archive

9.2.3 The digital archive generated by the project, which comprises born-digital data (e.g., site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata.

9.3 Selection strategy

9.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of both future researchers and the receiving Museum.

9.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

9.3.3 In this instance, given the relatively low level of finds recovery, the selection process has been deferred until after the fieldwork stage was completed. Project-specific proposals for selection are presented below. These proposals are based on recommendations by Wessex Archaeology's internal specialists and will be updated in line with any further comment by other stakeholders (museum, local authority). The selection strategy will be fully documented in the project archive.

9.3.4 Any material not selected for retention may be used for teaching or reference collections by Wessex Archaeology.

Finds

- Animal bone (87 fragments); small assemblage, poorly-preserved and fragmented, mainly from an undated lamb burial of potential modern date. Current potential is limited, but retain and review at next stage, following any further mitigation on site.

- CBM (8 pieces); limited potential for further analysis. Retain to compare with any future assemblage from the site, and review at the next stage.

- Pottery (52 sherds); small assemblage of later prehistoric, Romano-British and medieval ceramic fragments from mainly ditch features. Limited potential for further analysis. Retain to compare with any future assemblage from the site, and review at the next stage.

- Cremated Human Bone (129.1g); small assemblage of cremated human remains from a single undated cremation. Retain for review with any further assemblage and further analysis. Deposit in accordance with Ministry of Justice Burial Licence (23-0094).

Palaeoenvironmental material

9.3.5 It is recommended that the flots are retained within the site archive. The residues have been scanned for environmental remains (e.g., charred plant remains, wood charcoal) which were not recovered during flotation. Since the residues contain cremated human bone they should be retained, although recommendations for long-term storage should be reviewed following further analysis of the cremated bone.

Documentary records

9.3.6 Paper records comprise site registers (other pro-forma site records are digital), drawings and reports (written scheme of investigation, client report). All will be retained and deposited with the project archive.

Digital data

9.3.7 The digital data comprise site records (tablet-recorded on site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although site photographs will be subject to selection to eliminate poor quality and

duplicated images, and any others not considered directly relevant to the archaeology of the site.

9.4 Security copy

9.4.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

9.5 OASIS

9.5.1 An OASIS (online access to the index of archaeological investigations) record (http://oasis.ac.uk) has been initiated, with key fields completed (Appendix 3). A .pdf version of the final report will be submitted following approval by the Historic Environment Consultant at Place Services on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

10 COPYRIGHT

10.1 Archive and report copyright

10.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

10.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

10.2 Third party data copyright

10.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material.

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APPENDICES

Appendix 1 Trench summaries

depth bgl = below ground level

Trench No 1	Length 50 m	Width 2 m	Depth 0.61 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
101		Topsoil	Dark reddish brown. loam.	0–0.53
102		Subsoil	Mid yellowish brown. silty clay.	0.53–0.60
103		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.60+
104	105	Ditch	Linear ditch aligned NW to SE with moderate, concave sides and a concave base. Length: >6.00 m. Width: >0.64 m. Depth: 0.26 m.	
105	104	Secondary fill	Mid reddish brown sandy silt with sparse flint pebbles	
106	107	Ditch	Linear ditch aligned NW to SE with moderate, concave sides and a concave base. Length: >6.00 m. Width: 0.80 m. Depth: 0.30 m.	
107	106	Secondary fill	Mid reddish brown sandy silt with sparse flints	
108	108	Ditch	Linear ditch aligned NE SW with moderate, concave sides and a concave base. Length: >2.20 m. Width: 0.60 m. Depth: 0.25 m.	
109	108	Secondary fill	Mid brownish red sandy silt with sparse flints	
110	111	Ditch	Linear ditch aligned NE SW with moderate, concave sides and a concave base. Length: >2.20 m. Width: 1.45 m. Depth: 0.18 m.	
111	110	Secondary fill	Mid reddish brown sandy silt with sparse flints	

Trench No 2	Length 30 m	Width 2 m	Depth 0.61 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
201		Topsoil	Dark reddish brown. loam.	0–0.52
202		Subsoil	Mid yellowish brown. silty clay.	0.52–0.60
203		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.60+

Trench No 3	Length 47 m	Width 2 m	Depth 0.70 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
301		Topsoil	Dark reddish brown. loam.	0–0.56
302		Subsoil	Mid yellowish brown. silty clay.	0.56–0.68
303		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.68+

Trench No 4	Length 50 m	Width 2 m	Depth 0.52 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
401		Topsoil	Dark reddish brown. loam.	0–0.40
402		Subsoil	Mid yellowish brown. silty clay.	0.40–0.49
403		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.49+
404	405	Ditch	Linear ditch aligned WNW to ESE with moderate, concave sides and a concave base. Length: >1.80 m. Width: 0.82 m. Depth: 0.16 m.	0.49–0.61
405	404	Secondary fill	Mid greyish brown loam with 1% rare well sorted well rounded gravel	
406	407	Ditch	Linear ditch aligned WNW-ESE with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.32 m. Depth: 0.20 m.	0.49–0.69
407	406	Secondary fill	Loam mid greyish brown with 1% rare well sorted well rounded gravel	

Trench No 5	Length 50 m	Width 2 m	Depth 0.47 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
501		Topsoil	Dark reddish brown. loam.	0–0.27
502		Subsoil	Mid yellowish brown. silty clay.	0.27–0.45
503		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.45+
504	505	Ditch	Curvilinear ditch aligned NNE to SSW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.77 m. Depth: 0.33 m.	0.45–0.78
505	504	Secondary fill	Mid greyish brown loam with 1% rare well sorted well rounded gravel	

Trench No 6	Length 30 m	Width 2 m	Depth 0.67 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
601		Topsoil	Dark reddish brown. silty loam. Common rooting.	0.0–0.40
602		Subsoil	Mid yellowish brown. silty clay. Rare rooting.	0.40–0.67
603		Natural	Mid yellowish red. Gravely sand. abundant small rounded Flintstones.	0.67+
604	605	Ditch	Linear ditch aligned NW / SE with moderate, concave sides and a concave base. Length: >3.00 m. Width: 2.00 m. Depth: 0.23 m.	
605	606	Secondary fill	Mid yellowish brown silty clay with sparse rounded flintstones. rare manganese	
606	607	Ditch	Linear ditch aligned NNE / SSW with moderate, concave sides and a concave base. Length: >0.90 m. Width: 2.20 m. Depth: 0.20 m.	
607	606	Secondary fill	Mid greyish yellowish brown silty clay with common smaller rounded flintstones	

Trench No 7	Length 30 m	Width 2 m	Depth 0.52 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
701		Topsoil	Dark reddish brown. loam.	0–0.33
702		Subsoil	Mid yellowish brown. silty clay.	0.33–0.49
703		Natural	Light reddish yellow silty sandy with well rounded gravel inclusions.	0.49+

Trench No 8	Length 30 m	Width 2 m	Depth 0.49 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
801		Topsoil	Dark reddish brown. loam.	0–0.32
802		Subsoil	Mid yellowish brown. silty clay.	0.32–0.47
803		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.47+

Trench No 9	Length 30 m	Width 2 m	Depth 0.53 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
901		Topsoil	Dark reddish brown. loam.	0–0.43
902		Subsoil	Mid yellowish brown. silty clay.	0.43–0.51
903		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.51+

Trench No 10	Length 30 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1001		Topsoil	Dark reddish brown. loam.	0–0.30
1002		Subsoil	Mid yellowish brown. silty clay.	0.30–0.45
1003		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.45+
1004	1005	Ditch	Curvilinear ditch aligned Predominantly NW to SE with moderate, concave sides and a concave base. Length: >2.90 m. Width: 0.80 m. Depth: 0.21 m.	0.45–0.65
1005	1004	Secondary fill	Mid greyish brown loam with 1%rare well sorted rounded gravel	
1006	1007	Pit	Sub-circular pit with moderate, concave sides and a concave base. Diameter: 0.90 m. Depth: 0.38 m.	0.45–0.59
1007	1006	Deliberate backfill	Mid blackish brown loam with 1% rare rounded well sorted gravel	

Trench No 11	Length 50 m	Width 2 m	Depth 0.55 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1101		Topsoil	Dark reddish brown. loam.	0–0.43
1102		Subsoil	Mid yellowish brown. silty clay.	0.43–0.55
1103		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.55+
1104	1105	Posthole	Sub-circular posthole with moderate, concave sides and a concave base. Length: 0.42 m. Width: 0.33 m. Depth: 0.11 m.	
1105	1104	Secondary fill	Mid brownish grey sandy silt with charcoal and flint	
1106	1107, 1108	Ditch	Curvilinear ditch aligned predominantly NW to SE with moderate, concave sides and a concave base. Length: >2.40 m. Width: 0.96 m. Depth: 0.21 m.	
1107	1106	Primary fill	Mid greyish brown sandy silt with common flints	
1108	1106	Secondary fill	Mid brownish grey sandy silt with sparse flints	

Trench No 12	Length 30 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1201		Topsoil	Dark reddish brown. loam.	0–0.0.39
1202		Subsoil	Mid yellowish brown. silty clay.	0.39–0.46
1203		Natural	Light reddish yellow. sand with small well rounded gravel inclusions.	0.46+

Trench No 13	Length 30 m	Width 2 m	Depth 0.49 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1301		Topsoil	Dark reddish brown. loam.	0–0.36
1302		Subsoil	Mid yellowish brown. silty clay.	0.36–0.46
1303		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.46+

Trench No 14	Length 50 m	Width 2 m	Depth 1.14 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1401		Topsoil	Dark reddish brown. loam. common rooting.	0–0.41
1402		Subsoil	Mid yellowish brown. silty clay.	0.41–0.70
1403		Fill	Fill of pond. mid yellowish brown. silty clay.	0.70–0.90
1404		Natural	Light reddish white. silty sand.	0.90–1.02
1405		Natural	Light reddish yellow sandy loam with well rounded gravel inclusions.	1.02+
1406	1407	Ditch	Linear ditch aligned E to W with shallow, concave sides and a concave base. Length: 1.00 m. Width: 1.09 m. Depth: 0.37 m.	
1407	1406	Secondary fill	Mid greyish brown silty sand with common small gravel	
1408	1409, 1410	Pond	Circular pond with steep, concave sides and a flat base. Length: >15.00 m. Width: >2.30 m. Depth: 1.20 m.	
1409	1408	Natural	Mid brown silty sand with common small gravel	
1410	1408	Natural	Light reddish brown silty sand with common gravel	

Trench No 15	Length 30 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1501		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.32
1502		Subsoil	Mid yellowish brown. Silty clay. Rare Flintstones.	0.32–0.44
1503		Natural	Mid yellowish red. Silty sand. Sparse flintstones.	0.44+

Trench No 16	Length 30 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1601		Topsoil	Dark reddish brown. Silty loam. Common rooting.	0.0–0.36
1602		Natural	Mid yellowish red. Gravely sand. Abundant small rounded flintstones.	0.36+
1603	1604, 1605	Ditch	Linear ditch with moderate, concave sides and a concave base. Length: 1.24 m. Width: 1.75 m. Depth: 0.41 m.	
1604	1603	Secondary fill	Dark greyish brown silty clay with common small rounded flintstones	
1605	1603	Secondary fill	Dark greyish brownish black silty clay with common small rounded flintstones	
1606	1607	Ditch	Linear ditch with moderate, concave sides and a concave base. Length: >3.00 m. Width: 1.04 m. Depth: 0.33 m.	
1607	1606	Secondary fill	Mid yellowish brown silty sand with sparse rounded flintstones. common manganese	
1608	1609	Ditch	Linear ditch with shallow, concave sides and a concave base. Length: >3.00 m. Width: 0.70 m. Depth: 0.21 m.	
1609	1608	Secondary fill	Dark greyish brown silty clay with sparse small rounded flintstones	

Trench No 17	Length 30 m	Width 2 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
1701		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.30
1702		Subsoil	Mid yellowish brown. silty clay. Rare Flintstones.	0.30–0.40
1703		Natural	Mid yellowish red. Silty sand. Sparse flintstones.	0.40+
1704	1705	Ditch	Linear ditch with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.72 m. Depth: 0.31 m.	
1705	1704	Secondary fill	Mid yellowish brown silty clay with rare small rounded flintstones	
1706	1707	Pit	Circular pit with moderate, concave sides and a concave base. Length: 0.96 m. Width: 0.97 m. Depth: 0.30 m.	
1707	1706	Deliberate backfill	Dark greyish black silty clay with rare small rounded flintstones	

1708	1709	Pit	Circular pit with moderate, concave sides and a concave base. Length: 0.60 m. Width: 0.97 m. Depth: 0.39 m.	
1709	1708	Deliberate backfill	Dark brownish grey silty clay with small rounded flintstones	
1710	1711	Pit	Circular pit with moderate, concave sides and a concave base. Length: 2.22 m. Width: >1.02 m. Depth: 0.40 m.	
1711	1710	Secondary fill	Mid greyish brown silty clay with small rounded flintstones	
1712	1713	Posthole	Circular posthole with steep, concave sides and a concave base. Length: 0.19 m. Width: 0.26 m. Depth: 0.41 m.	
1713	1712	Secondary fill	Dark greyish brown silty clay with sparse small rounded flintstones	
1714	1715, 1716	Ditch	Linear ditch with moderate, concave sides and a concave base. Length: 2.40 m. Width: 3.00 m. Depth: 0.39 m.	
1715	1714	Primary fill	Mid yellowish brown silty clay with common small rounded flintstones	
1716	1714	Secondary fill	Mid greyish brown silty clay with sparse flintstones	

Trench No 18	**Length 30 m**	**Width 2 m**	**Depth 0.46 m**

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
1801		Topsoil	Dark reddish brown. loam.	0–0.30
1802		Subsoil	Mid yellowish brown. silty clay.	0.30–0.46
1803		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.46+

Trench No 19	**Length 30 m**	**Width 2 m**	**Depth 0.50 m**

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
1901		Topsoil	Dark reddish brown. loam.	0–0.31
1902		Subsoil	Mid yellowish brown. silty clay.	0.31–0.50
1903		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.50+

Trench No 20	Length 50 m	Width 2 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2001		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.32
2002		Subsoil	Mid yellowish brown. Silty loam. Rare Flintstones.	0.32–0.39
2003		Natural	Mid yellowish red. silty sand. Sparse flintstones.	0.39+
2004	2006	Ditch	Linear ditch aligned SW to NE with moderate, concave sides and a concave base. Length: >1.00 m. Width: 1.62 m. Depth: 0.27 m.	
2005	2007	Ditch	Linear ditch aligned NNW to SSE with moderate, concave sides and a concave base. Length: >1.00 m. Width: 1.61 m. Depth: 0.40 m.	
2006	2004	Secondary fill	Mid greyish brown silty sand with small gravel	
2007	2005	Secondary fill	Mid reddish brown silty sand with common gravel near base	

Trench No 21	Length 30 m	Width 2 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2101		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.37
2102		Natural	Mid yellowish red. silty sand. Common flintstones.	0.37+

Trench No 22	Length 50 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2201		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.32
2202		Natural	Mid yellowish red. silty sand. Common flintstones.	0.32+
2203	2204	Cremation grave	Circular cremation grave with steep, straight sides and a concave base. Length: 0.56 m. Width: 0.50 m. Depth: 0.20 m.	
2204	2203	Cremation grave (unurned)	Dark blackish brown silty sand with charcoal (this is an archaeological component)	
2205	2206	Ditch terminal	Linear ditch terminal aligned N- S with shallow, concave sides and a concave base. Length: >1.54 m. Width: 0.20 m. Depth: 0.24 m.	
2206	2205	Secondary fill	Mid brownish grey silty sand with moderate stones	

Trench No 23	Length 30 m	Width 2 m	Depth 0.79 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2301		Topsoil	Dark reddish brown. loam.	0–0.56
2302		Subsoil	Mid yellowish brown. silty clay.	0.56–0.77
2303		Natural	Light reddish yellow. silty sand with small well rounded gravel inclusions. patches of white sand.	0.77+

Trench No 24	Length 50 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2401		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.40
2402		Natural	Mid yellowish red. silty sand. Common flintstones.	0.40+
2403	2404	Ditch	Linear ditch aligned NNW SSE with moderate, concave sides and a concave base. Length: >2.20 m. Width: 1.70 m. Depth: 0.34 m.	
2404	2403	Secondary fill	Mid brownish red sandy silt with common flint pebbles	

Trench No 25	Length 50 m	Width 2 m	Depth 0.52 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2501		Topsoil	Dark reddish brown. loam. common rooting.	0–0.39
2502		Natural	Light reddish yellow. silty sand. rounded gravel inclusions.	0.39–0.48+
2503	2504	Ditch	Linear ditch aligned ENE WSW with shallow, concave sides and a concave base. Length: >2.20 m. Width: 0.82 m. Depth: 0.16 m.	
2504	2503	Secondary fill	Mid brownish grey sandy silt with common flints	
2505	2506	Ditch	Linear ditch aligned SE NW with moderate, concave sides and a concave base. Length: >3.40 m. Width: 0.85 m. Depth: 0.16 m.	
2506	2505	Secondary fill	Mid greyish brown sandy silt with sparse flints	

Trench No 26	Length 50 m	Width 2 m	Depth 0.58 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2601		Topsoil	Dark reddish brown. loam.	0–0.38
2602		Subsoil	Mid yellowish brown. silty clay.	0.38–0.50
2603		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.50+
2604	2605	Ditch	Linear ditch aligned NE- SW with shallow, concave sides and a concave base. Length: 1.00 m. Width: 0.85 m. Depth: 0.15 m.	
2605	2604	Secondary fill	Mid greyish brown silty sand	
2606	2607	Ditch	Linear ditch aligned NW- SE with shallow, concave sides and a concave base. Length: 1.00 m. Width: 0.50 m. Depth: 0.09 m.	
2607	2606	Secondary fill	Mid greyish brown sandy silt with moderate compaction. clear fill boundary	
2608	2609	Ditch	Linear ditch aligned E- W with moderate, concave sides and a concave base. Length: 1.45 m. Width: >1.00 m. Depth: 0.30 m.	
2609	2608	Secondary fill	Mid greyish brown sandy silt with moderate stones	
2610	2611	Pit	Circular pit with steep, concave sides and a concave base. Length: 0.95 m. Width: >1.00 m. Depth: 0.25 m.	
2611	2610	Secondary fill	Dark brownish grey silty sandy clay	

Trench No 27	Length 30 m	Width 2 m	Depth 0.46 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2701		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.35
2702		Natural	Mid yellowish red. Silty sand. Sparse flintstones. Rare chalk flecks.	0.35+
2703	2704	Ditch	Linear ditch aligned S / SE to N / NW with shallow, concave sides and a concave base. Length: >1.00 m. Width: 1.36 m. Depth: 0.26 m.	
2704	2703	Secondary fill	Mid greyish brown silty sand	

Trench No 28	Length 30 m	Width 2 m	Depth 0.51 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2802		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.44
2803		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.44+

Trench No 29	Length 50 m	Width 2 m	Depth 0.46 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
2901		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.37
2902		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.37+
2903	2904	Ditch	Linear ditch aligned NW to SE with moderate, concave sides and a concave base. Length: >1.00 m. Width: 1.18 m. Depth: 0.18 m.	
2904	2903	Secondary fill	Mid greyish brown silty sand with rare small sub-rounded flint and gravel	
2905	2906	Animal bone deposit	Animal bone group aligned SW to NE. Fetal. Generally well preserved. 35% complete.	
2906	2905, 2907	Grave	Circular grave with shallow, concave sides and a concave base. Width: 0.49 m. Depth: 0.14 m.	
2907	2906	Deliberate backfill	Light greyish brown silty sand	

Trench No 30	Length 30 m	Width 2 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3001		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.38
3002		Natural	Mid yellowish red. Silty sand. Common flintstones.	0.38+
3003	3004	Ditch	Linear ditch aligned SE NW with shallow, concave sides and a concave base. Length: >2.00 m. Width: 1.80 m. Depth: 0.18 m.	
3004	3003	Secondary fill	Mid brownish grey sandy silt	

Trench No 31	Length 30 m	Width 2 m	Depth 0.44 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3101		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.40
3102		Natural	Mid yellowish red. silty sand. common flintstones.	0.40+
3103	3104, 3105	Ditch	Linear ditch aligned N S with steep, concave sides and a concave base. Length: >2.00 m. Width: 0.90 m. Depth: 0.41 m.	
3104	3103	Secondary fill	Mid brownish grey silt sand with common flints	
3105	3103	Secondary fill	Mid reddish brown sandy silt with common flints	

Trench No 32	Length 30 m	Width 2 m	Depth 0.44 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3201		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones. Rare chalk flecks.	0.0–0.41
3202		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.41+

Trench No 33	Length 50 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3301		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.40
3302		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.40+
3303	3304	Ditch	Linear ditch aligned S / SW to N / NE with shallow, concave sides and a concave base. Length: >2.00 m. Width: 1.68 m. Depth: 0.41 m.	
3304	3303	Secondary fill	Mid greyish brown silty sand	

Trench No 34	Length 20 m	Width 2 m	Depth 0.47 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3401		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.35
3402		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.35+

Trench No 35	Length 30 m	Width 2 m	Depth 0.41 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3501		Topsoil	Dark reddish brown. loam.	0–0.31
3502		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.31+
3503	3504	Ditch	Linear ditch aligned SE- NW with moderate, concave sides and a concave base. Length: 1.00 m. Width: 1.00 m. Depth: 0.18 m.	
3504	3503	Secondary fill	Greyish brown sandy silt with moderate gravel	

Trench No 36	Length 50 m	Width 2 m	Depth 0.49 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3601		Topsoil	Dark reddish brown. loam.	0–0.31
3602		Subsoil	Mid yellowish brown. silty clay.	0.31–0.45
3603		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.45+
3604	3605	Ditch	Linear ditch aligned NNE SSW with moderate, concave sides and a concave base. Length: >2.40 m. Width: 1.22 m. Depth: 0.29 m.	
3605	3604	Secondary fill	Mid reddish brown silty sand with common flint pebbles	
3606	3607	Ditch	Linear ditch aligned NE SW with moderate, concave sides and a concave base. Length: >2.28 m. Width: 0.55 m. Depth: 0.14 m.	
3607	3606	Secondary fill	Mid reddish brown sandy silt with sparse flint pebbles	
3608	3609	Ditch	Linear ditch aligned NE SW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.95 m. Depth: 0.31 m.	
3609	3608	Secondary fill	Mid brownish red sandy silt with sparse flint pebbles	

Trench No 37	Length 50 m	Width 2 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3701		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.39
3702		Natural	Mid yellowish red. silty sand. Sparse flintstones. Rare manganese.	0.39+

Trench No 38	Length 50 m	Width 2 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3801		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.37
3802		Natural	Mid yellowish red. silty sand. Sparse flintstones. sparse manganese flecks.	0.37+
3803	3804	Pit	Sub-circular pit with shallow, concave sides and a concave base. Length: 0.52 m. Width: 1.08 m. Depth: 0.16 m.	
3804	3803	Deliberate backfill	Dark reddish black sandy silt with abundant charcoal	

Trench No 39	Length 30 m	Width 2 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
3901		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.35
3902		Natural	Mid yellowish red. silty sand. Sparse flintstones.	0.35+

Trench No 40	Length 30 m	Width 2 m	Depth 0.50 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
4001		Topsoil	Dark reddish brown. loam.	0–0.39
4002		Natural	Light reddish yellow sandy silty sand with well rounded gravel inclusions.	0.39+
4003	4004	Ditch	Linear ditch aligned WSW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 0.83 m. Depth: 0.31 m.	
4004	4003	Secondary fill	Light greyish brown silty sandy clay with rare stone	
4005	4006	Ditch	Linear ditch aligned WSW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.00 m. Depth: 0.25 m.	
4006	4005	Secondary fill	Light greyish brown silty sandy clay with rare stone	

Trench No 41	Length 30 m	Width 2 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
4101		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.37
4102		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.37+

Trench No 42	Length 30 m	Width 2 m	Depth 0.45 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
4201		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.41
4202		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.41+

Trench No 43	Length 50 m	Width 2 m	Depth 0.42 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
4301		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.38
4302		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.38+

Trench No 44	Length 30 m	Width 2 m	Depth 0.44 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
4401		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.38
4402		Natural	Mid yellowish red. silty sand. Common flintstones.	0.38+
4403	4404, 4405	Ditch	Linear ditch aligned SE NW with steep, irregular sides and a concave base. Length: >2.00 m. Width: 1.34 m. Depth: 0.37 m.	
4404	4403	Secondary fill	Mid reddish brown sandy silt with common flints	
4405	4403	Secondary fill	Mid brownish grey sandy silt with sparse flints	

Trench No 45	Length 30 m	Width 2 m	Depth 0.40 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
4501		Topsoil	Dark reddish brown. Silty loam. Rare small rounded flintstones.	0.0–0.36
4502		Natural	Mid yellowish red. silty sand. Common small rounded flintstones. Common manganese.	0.36+

Trench No 46	Length 50 m	Width 2 m	Depth 0.49 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
4601		Topsoil	Dark reddish brown. loam.	0–0.44
4602		Natural	Light reddish yellow silty sand.	0.44+
4603	4604	Ditch	Linear ditch aligned ENE to WSW with moderate, concave sides and a concave base. Length: >2.20 m. Width: 1.35 m. Depth: 0.44 m.	
4604	4603	Secondary fill	Mid brownish grey sandy silt with common flint pebbles	

Trench No 47	Length 30 m	Width 2 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
4701		Topsoil	Dark reddish brown. loam.	0–0.38
4702		Natural	Light reddish yellow. silty sand.	0.38+

Trench No 50	Length 30 m	Width 2 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
5001		Topsoil	Dark reddish brown. loam.	0–0.36
5002		Subsoil	Mid yellowish brown. silty clay.	0.36–0.48
5003		Natural	Light reddish yellow silty sand with well rounded gravel inclusions.	0.48+
5004	5005	Ditch	Linear ditch aligned SE NW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.89 m. Depth: 0.55 m.	
5005	5004	Secondary fill	Mid greyish brown silty sand with common flint pebbles	

Appendix 2 Environmental Data

Assessment of the environmental evidence: charred plant remains and wood charcoal

Scale of abundance: C = <5, B = 5–10, A = 10–30, A* = 30–100, A** = 100–500, A*** = >500

Trench	Feature Type	Feature	Context	Sample Code	Sample vol. (l)	Flot vol. (ml)	Bioturbation proxies	Charred plant remains					Wood charcoal >2mm (ml)	Charcoal	Other
								Grain	Chaff	Cereal Notes	Other	Other notes			
22	Cremation grave	2203	2204	231916_2 - spit 1	10	170	25% roots, modern seeds A, earthworm eggs	C	-	*Triticum* sp.	A**	A** - Rhizomes/tubers + monocotyledon stems, *Arrhenatherum elatius* var. *bulbosum* tubers, *Vicia/Lathyrus* sp. seed	100	*Fraxinus excelsior* - moderate to weak growth ring curvature (stemwood)	Coal and clinker/cinder - small frags C
22	Cremation grave	2203	2204	231916_2 - spit 2	9	120	25% roots, modern seeds A, earthworm eggs	-	-	-	A*	Rhizomes/tubers + monocotyledon stems	50	*Fraxinus excelsior* - moderate to weak growth ring curvature (stemwood); few twigs + thorn	Coal and clinker/cinder - small frags C
22	Cremation grave	2203	2204	231916_3 - spit 1	6	150	25% roots, modern seeds B, earthworm eggs	-	-	-	A*	Rhizomes/tubers + monocotyledon stems, *Plantago lanceolata* seed	80	*Fraxinus excelsior* - moderate to weak growth ring curvature (stemwood)	Clinker/cinder - small frags C

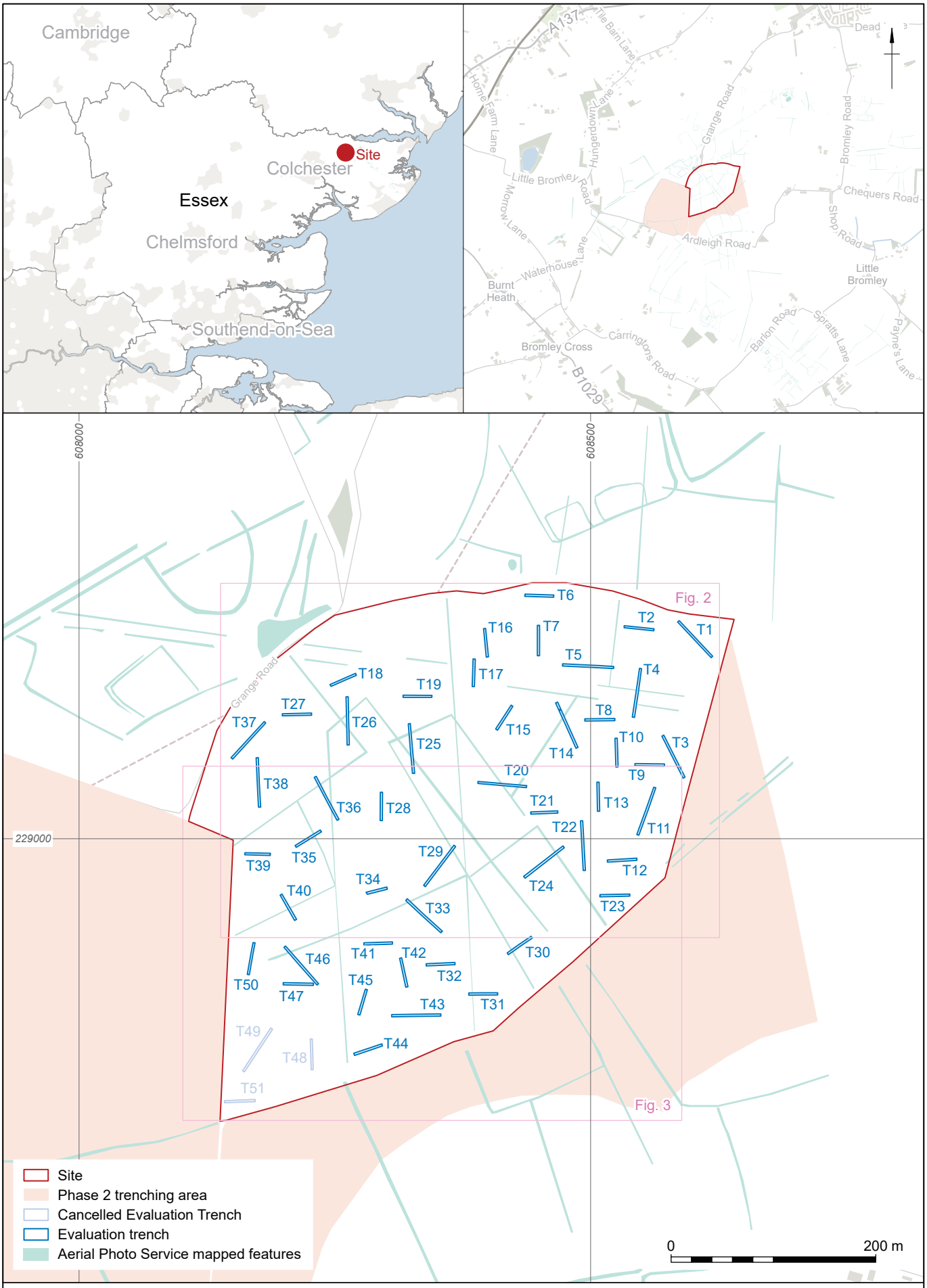
Appendix 3 OASIS summary

OASIS ID (UID)	wessexar1-517674
Project Name	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex: Archaeological Evaluation: Phase 1
Sitename	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex
Sitecode	LAWGR23
Project Identifier(s)	231916
Activity type	Evaluation
Planning Id	
Reason For	Planning requirement
Organisation Responsible for	Wessex Archaeology
Project Dates	09-May-2023 - 19-May-2023
Location	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex NGR : TM 08639 29215 LL : 51.92234629854591, 1.032739973504795 12 Fig : 608639,229215
Administrative Areas	Country : England County : Essex District : Tendring Parish : Lawford
Project Methodology	48 trial trenches (20 measuring 50m by 2m and 28 originally measuring 30m by 2m, were excavated in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded until either the archaeological horizon or the natural geology was exposed. Where necessary, the base of the trench/surface of archaeological deposits were cleaned by hand. All archaeological features and deposits were hand-excavated, unless by agreement with the Historic Environment Consultant at Places Services. Intersections between features were avoided to maximise the retrieval of uncontaminated material and avoid removing relationships for possible subsequent phases of work. The surface of features was cleaned to determined relationships as far as possible. Spoil from machine stripping and hand-excavated archaeological deposits was both visually scanned for the purposes of finds retrieval and scanned with a metal detector. Artefacts were

Project Results	A total of 50 archaeological features, comprising pits, postholes, ditches and a cremation burial were identified in 26 of the excavated trenches, including multiple sections of same ditches recorded across several trenches. The majority of the features comprised ditches likely associated with multiple phases of land management/field boundary systems, some of which are present on the 1839 Lawford Tithe and later Ordnance Survey maps. The majority of the identified ditches did not contained artefactual evidence, and where datable material was recovered it was usually considered too small a quantity to be reliable for phasing the site. The dated features comprised a Later Prehistoric ditch in the northeast corner of the site, which was not recorded by any of the previous surveys and was recorded in isolation so little could be determined about its purpose, a medieval pit, and the aforementioned ditches shown on the Lawford Tithe map. The presumed route of a Roman Road was recorded during previous surveys, comprising two west-northwest/east-southeast aligned linear features, and were identified during the evaluation. However no datable material was recovered from either ditch, and no evidence for a metalled surface was identified between them. A number of probably residual Romano-British pottery sherds were recovered from nearby features, and the single unurned cremation burial was recorded 120m south of the proposed Roman Road. The evaluation demonstrated that the previous geophysical and aerial photography survey were largely accurate, with the majority of features recorded by the non-instrusive surveys identified during the evaluation. The national mapping programme data was shown to be inaccurate in their mapped locations. However if the national mapping programme data

Keywords	Field Boundary - POST MEDIEVAL - FISH Thesaurus of Monument Types Field System - UNCERTAIN - FISH Thesaurus of Monument Types Ditch - LATER PREHISTORIC - FISH Thesaurus of Monument Types Ditch - UNCERTAIN - FISH Thesaurus of Monument Types Pit - MEDIEVAL - FISH Thesaurus of Monument Types Pit - UNCERTAIN - FISH Thesaurus of Monument Types Cremation Burial - UNCERTAIN - FISH Thesaurus of Monument Types Sherd - LATER PREHISTORIC - FISH Archaeological Objects Thesaurus Sherd - ROMAN - FISH Archaeological Objects Thesaurus Sherd - MEDIEVAL - FISH Archaeological Objects Thesaurus Ceramic - UNCERTAIN - FISH Archaeological Objects Thesaurus Animal Remains - 20TH CENTURY - FISH
Funder	Private or public corporation Five Estuaries Offshore Wind Farm
HER	Essex HER - unRev - STANDARD
Person Responsible for work	Nina Oloffson
HER Identifiers	HER Event No - LAWGR23
Archives	Physical Archive, Documentary Archive, Digital Archive - to be deposited with Colchester & Ipswich Museum Sevice (Colchester Collection);

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_ArcPro\231916_ArcPro.aprx



Coordinate system: OSGB 1936 British National Grid
NMP/APS data provided by client.

Date: 17/07/2023	Created by: IA	Revision: 0	Scale: 1:5,000 at A4 (main graphic)

Figure 1: Site location and trench layout

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_ArcPro\231916_ArcPro.aprx

Grange Road

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T33 T34 T35 T36 T37 T38 T39 T40

4200 4201 4202 4203 4204 4205 4206 4207 4208 4209 4210

4218 4219 4220

0 50 m

Site
Evaluation trench
Archaeological feature
Aerial Photo Service mapped features
Geophysical results
Geophysical survey extent
Archaeology
Possible archaeology
Ferrous
Former field boundary
Geology
Increased response
Trend
Agricultural feature

Date: 26/07/2023	Created by: IA	Revision: 0	Scale: 1:1,250 at A3

Figure 2: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_ArcPro\231916_ArcPro.aprx

Grange Road

T38 T36 T25 T20 T10 T3

4209 4208 4206

T28 T13 T11

T21

T35 T22

T39 T29 T24

T12

4210 T34 4219

T40 T23

4220 T33

T30

T41

T50 T46 T32

T42

T47

T45 T31

T43

T49 T44

T48

T51

0 50 m

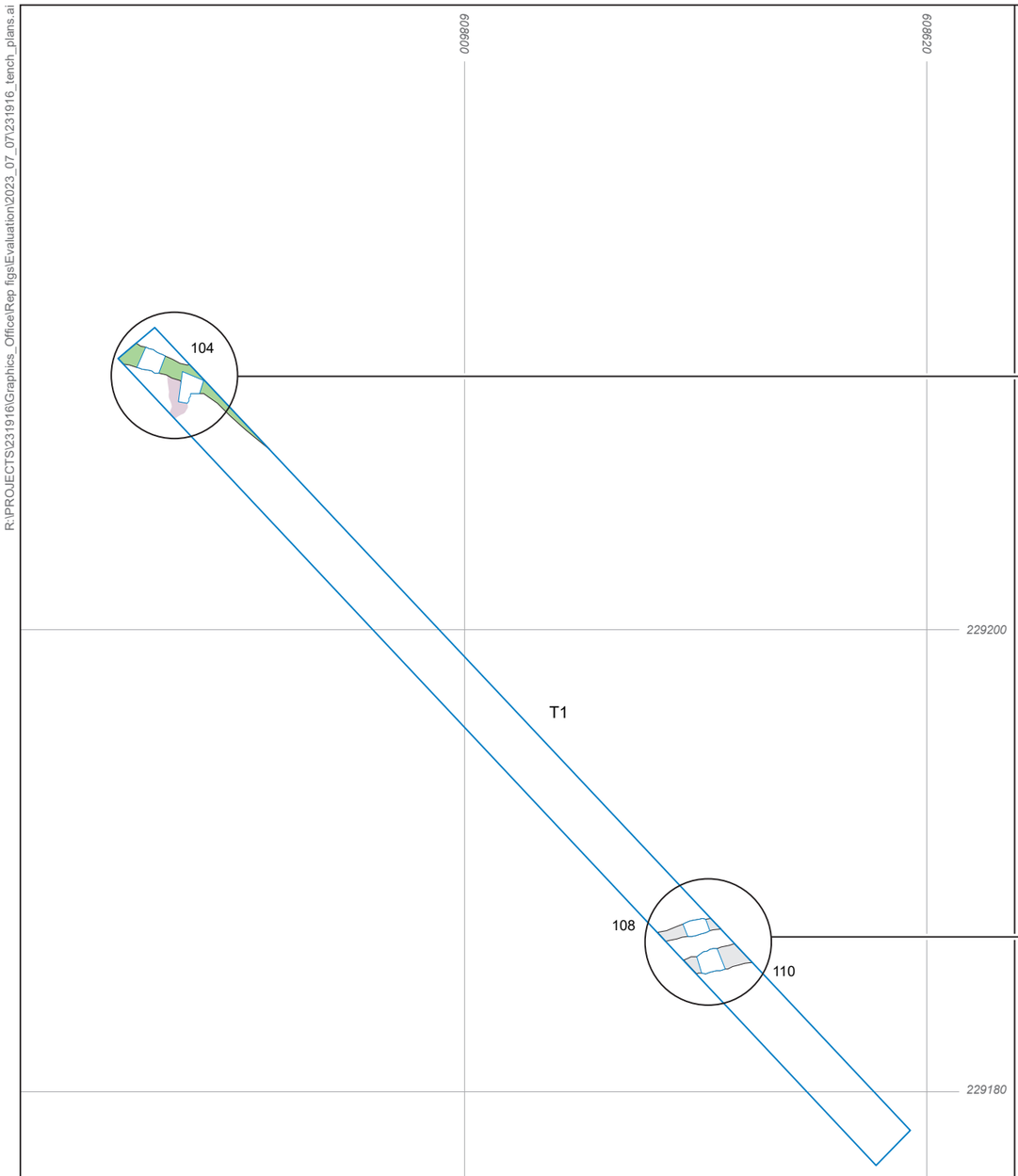
Site
Cancelled Evaluation Trench
Evaluation trench
Archaeological feature
Aerial Photo Service mapped features
Geophysical results
Geophysical survey extent
Possible archaeology
Ferrous
Former field boundary
Geology
Trend
Drain

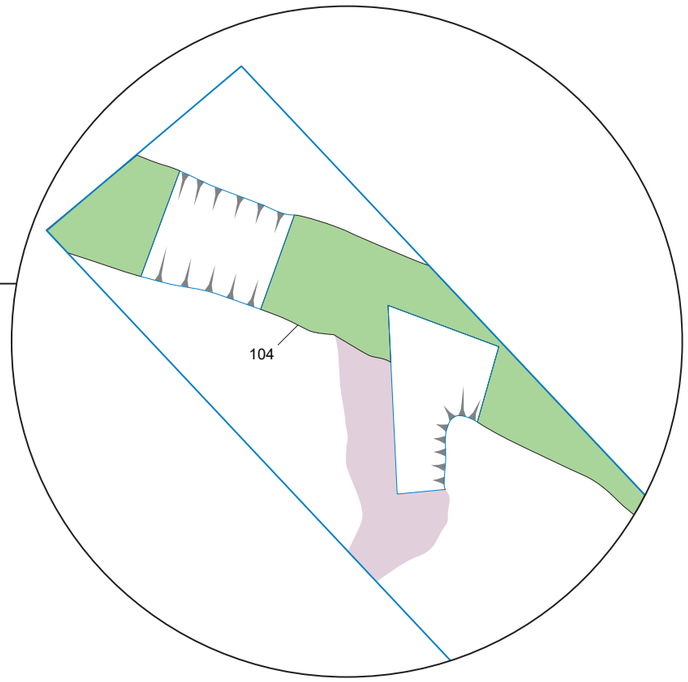
Coordinate system: OSGB 1936 British National Grid
NMP/APS data provided by client.

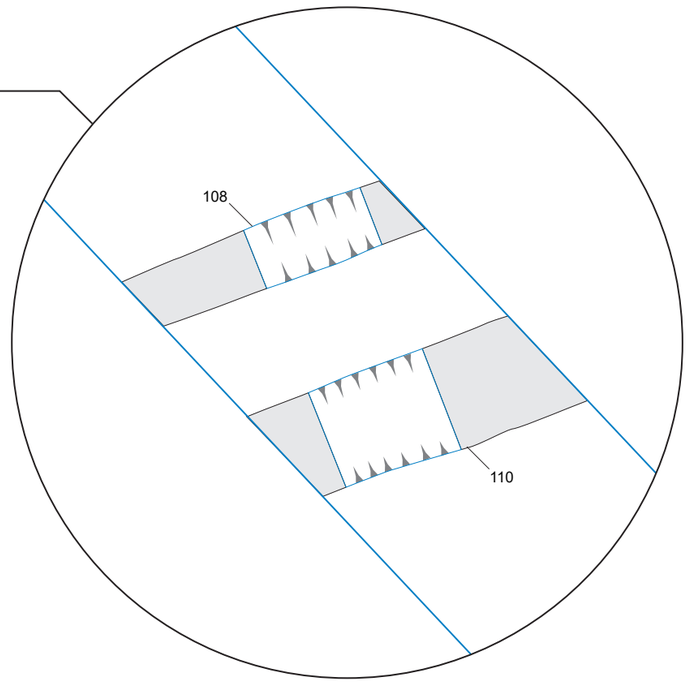
Date: 24/07/2023	Created by: IA	Revision: 0	Scale: 1:1,250 at A3

Figure 3: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai







Evaluation trench
Excavated slot

Archaeological feature
Undated
Late Prehistoric

Geology

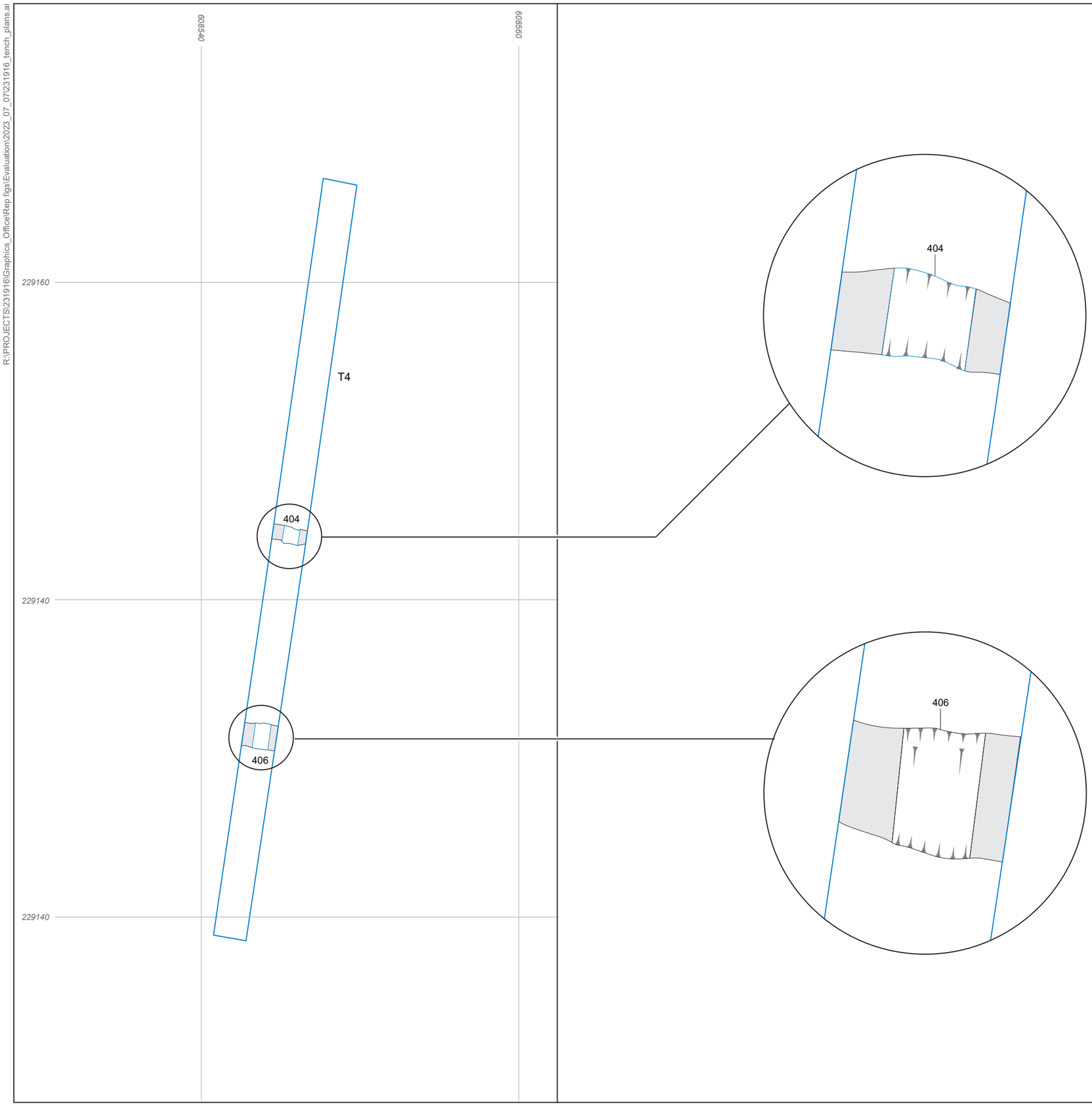
0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 4: Plan of trench 1

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai



Evaluation trench
Excavated slot
Archaeological feature
Undated

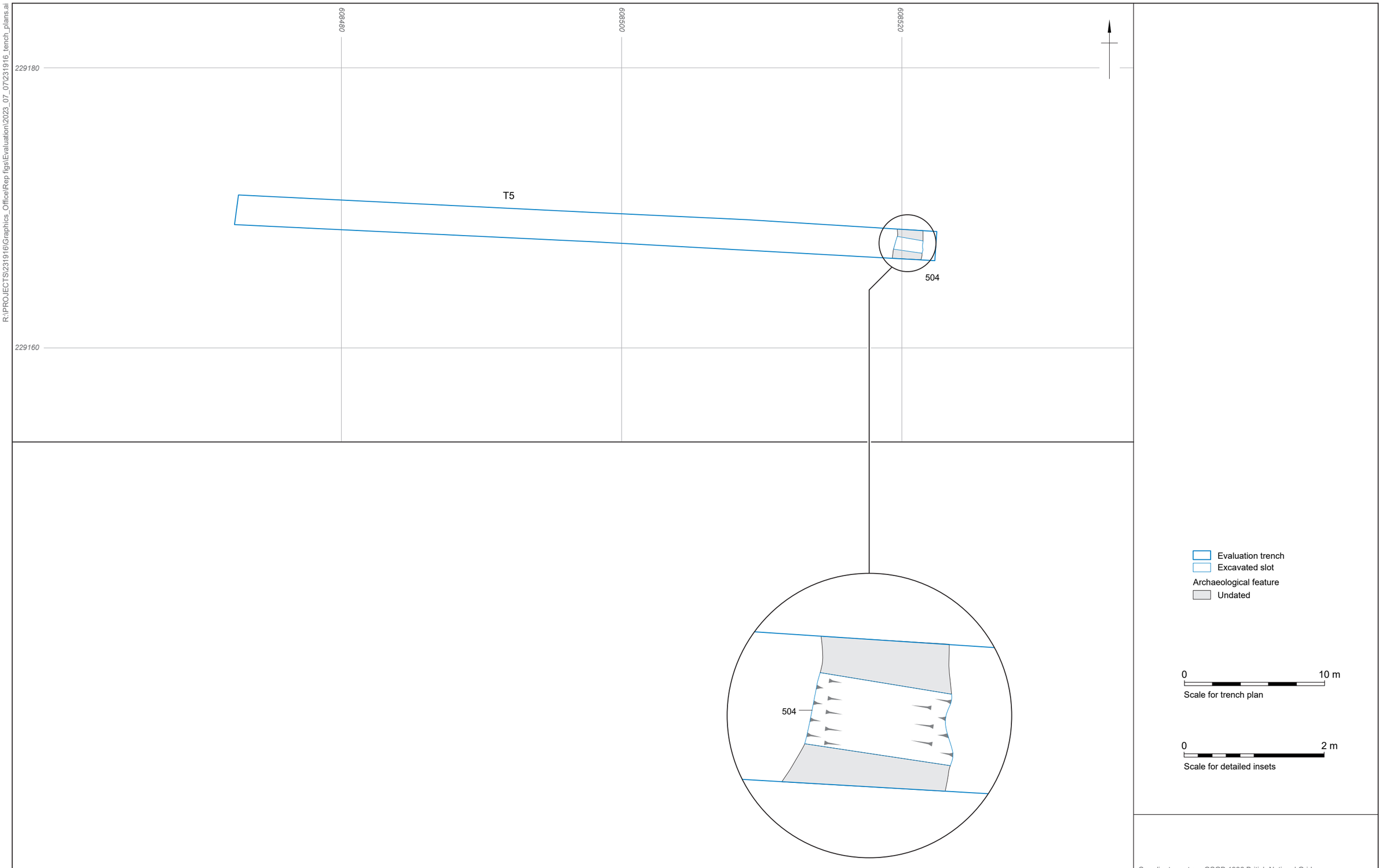
0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 5: Plan of trench 4

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai



Evaluation trench
Excavated slot
Archaeological feature
Undated

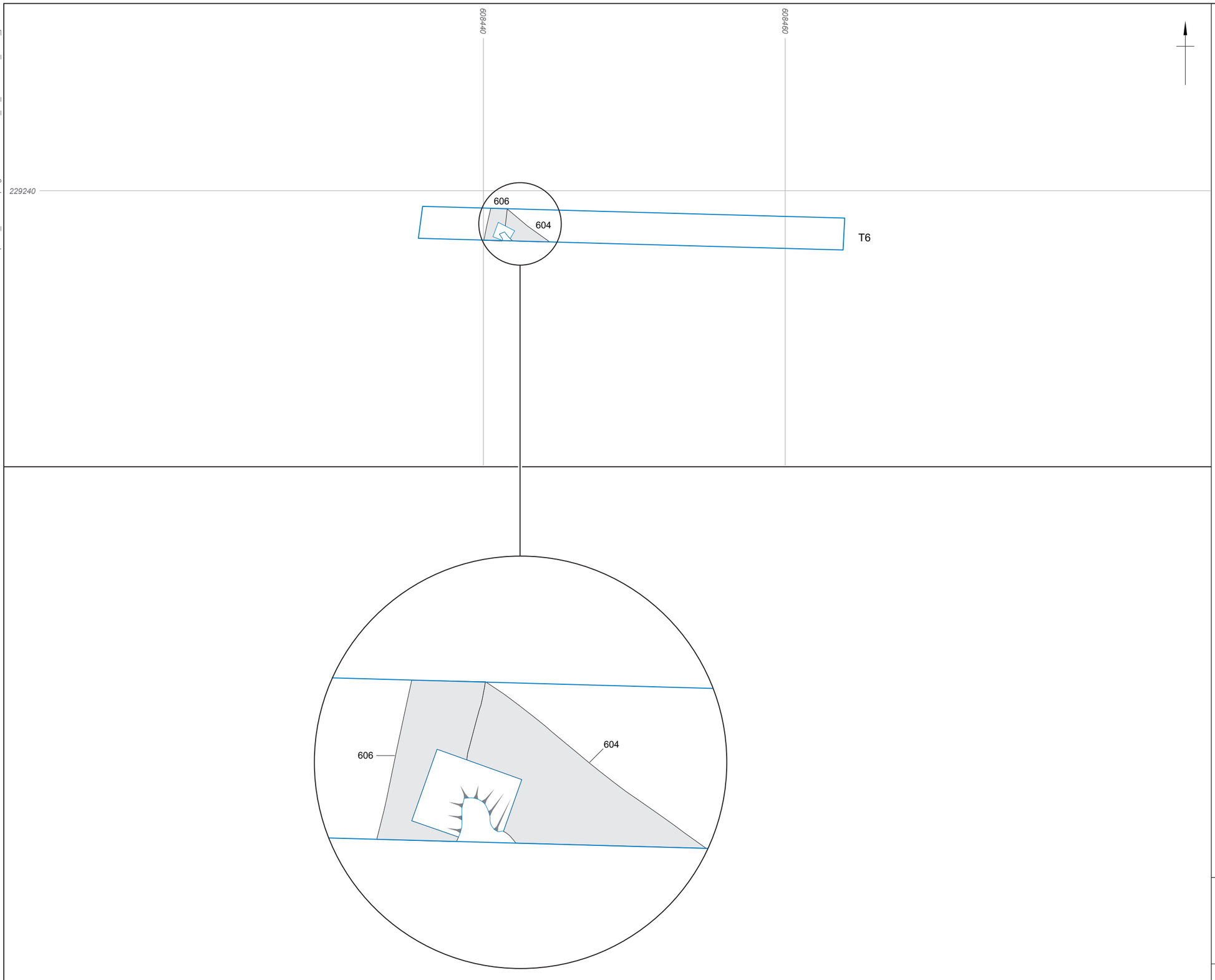
0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023
Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 6: Plan of trench 5

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai



Evaluation trench
Excavated slot
Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 7: Plan of trench 6

R:\PROJECTS\2319161Graphics_Office\Rep figs\Evaluation\2023_07_07\2319161_tench_plans.ai

608520

608540

229100

229080

229060

T10

1006

1004

1006

1004

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 8: Plan of trench 10

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608540

608560

229040

229020

T11

1106

1104

1106

1104

Evaluation trench

Excavated slot

Archaeological feature

Undated

Possible post-medieval or modern

0 10 m

Scale for trench plan

0 2 m

Scale for detailed insets

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 9: Plan of trench 11

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608490

608480

229120

229100

1408

1406

T14

1406

Evaluation trench
Excavated slot

Archaeological feature
Undated

Geology

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 10: Plan of trench 14

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608280

608400

229220

229200

229180

229180

T16

1603

1606

1608

1603

1606

1608

Site boundary
Evaluation trench
Excavated slot
Archaeological feature
Furrow
Tree-throw hole
Disturbance
Geology

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 11: Plan of trench

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608380

608400

229180

229160

229140

T17

1714

1706

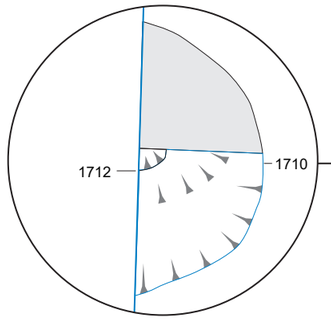
1710/1712

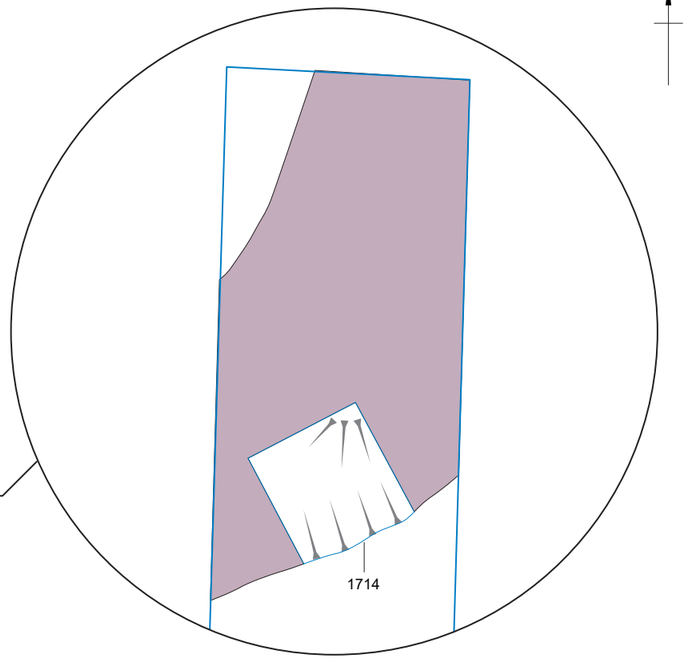
1708

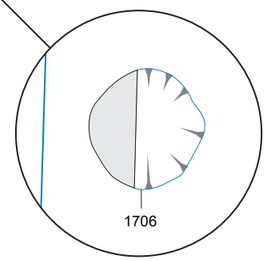
1704

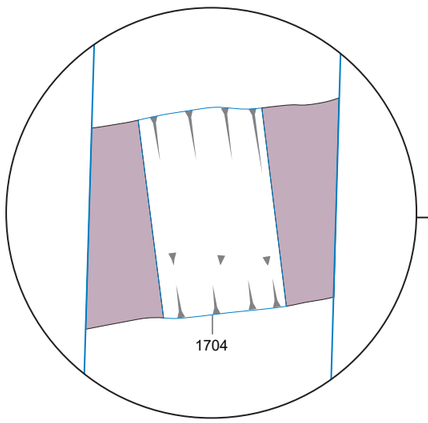
1712

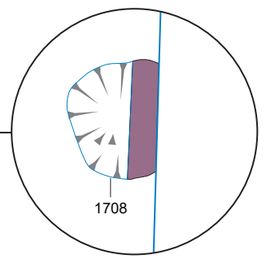
1710











Evaluation trench
Excavated slot

Archaeological feature
Medieval
Possible medieval
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 12: Plan of trench 17

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608380

608400

608420

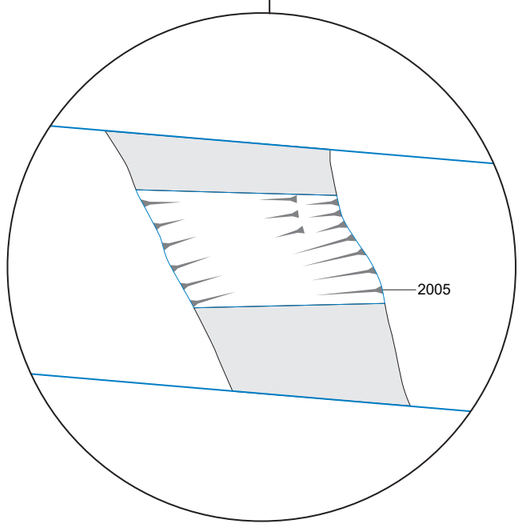
608440

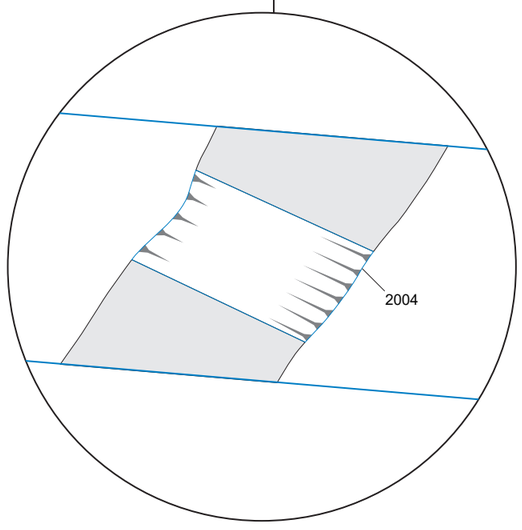
229060

2005

T20

2004





Evaluation trench

Excavated slot

Archaeological feature

Undated

Disturbance

0 10 m

Scale for trench plan

0 2 m

Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG	Date: 10/07/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 13: Plan of trench 20

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608480

608500

229020

229000

228980

228960

2203

2205

T22

2203

2205

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 14: Plan of trench 22

R:\PROJECTS\2319161\Graphics_Office\Rep figs\Evaluation\2023_07_07\2319161_tench_plans.ai

608440

608460

229000

228980

228960

T24

2403

2403

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 15: Plan of trench 24

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608320

608340

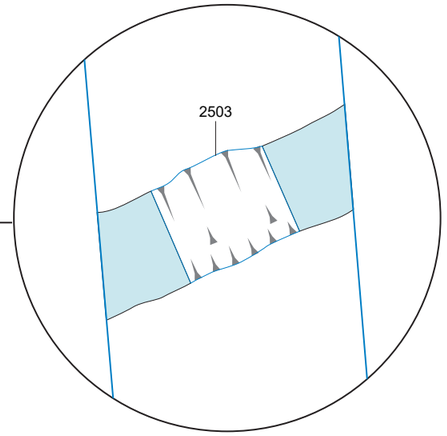
229100

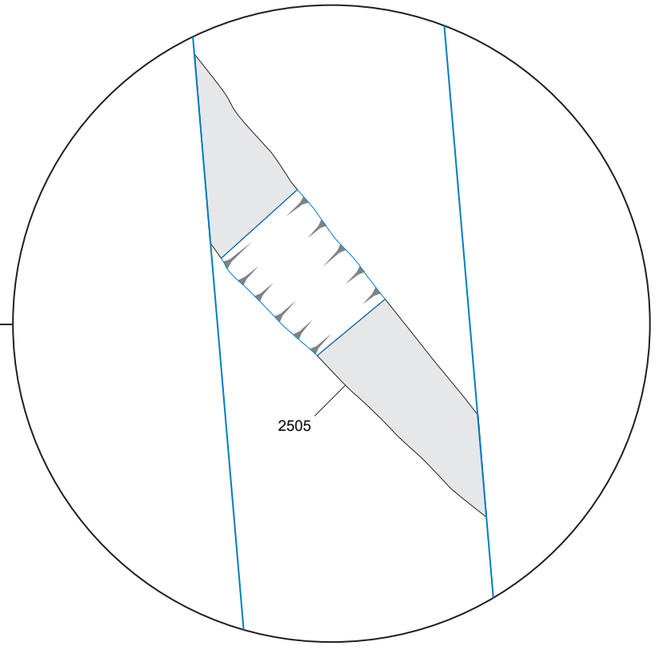
229080

T25

2503

2505





Evaluation trench
Excavated slot

Archaeological feature
Possible post-medieval/modern
Undated

Geology

0 10 m
Scale for trench plan

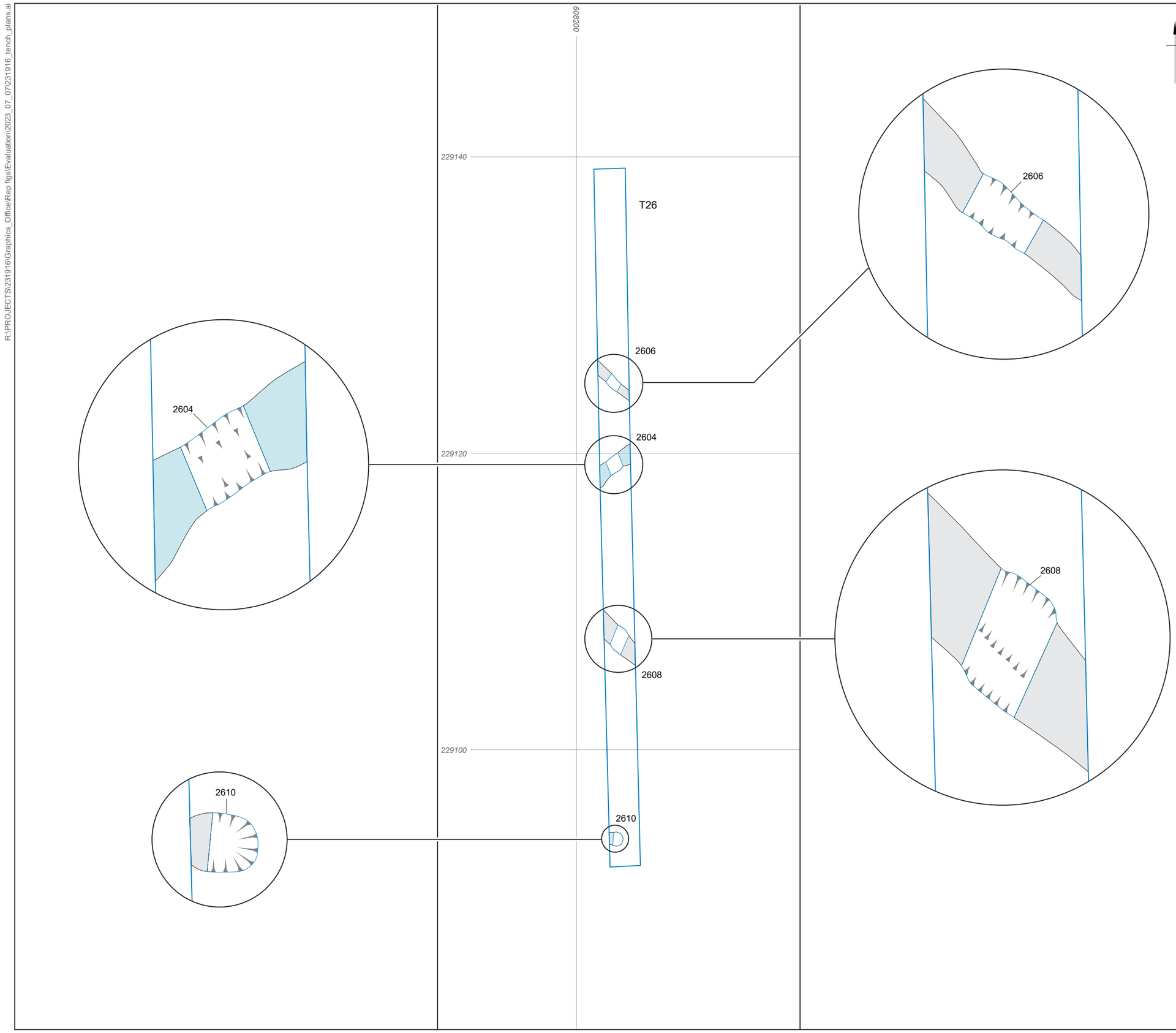
0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 16: Plan of trench 23

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai



Evaluation trench
Excavated slot

Archaeological feature
Possible post-medieval/modern
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 17: Plan of trench 26

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07231916_tench_plans.ai

608240

608260

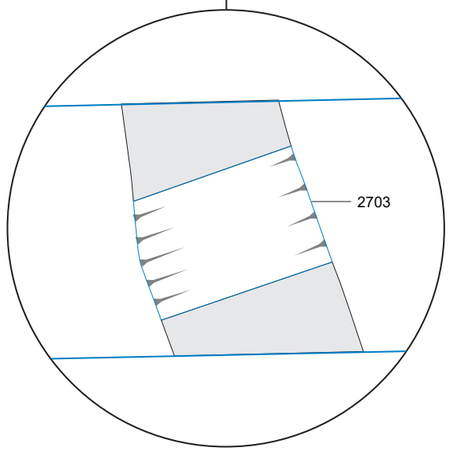
608280

608300

229120

T27

2703



Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 18: Plan of trench 27

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608340

608360

229000

228980

228960

T29

2903

2905

2903

2905

Evaluation trench

Excavated slot

Archaeological feature

Undated

0 10 m

Scale for trench plan

0 2 m

Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 19: Plan of trench 29

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608400

608420

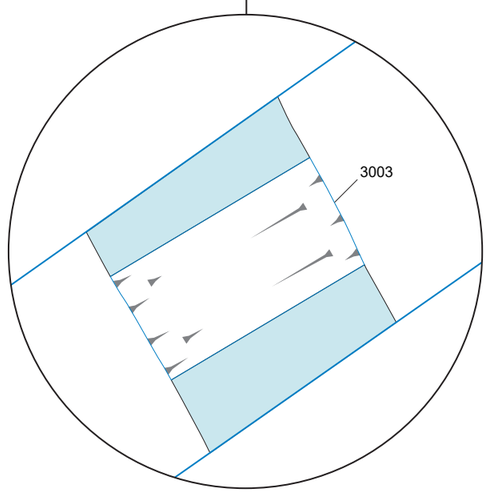
608440

608460

228900

T30

3003



Evaluation trench
Excavated slot

Archaeological feature
Possible post-medieval/modern
Geology

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

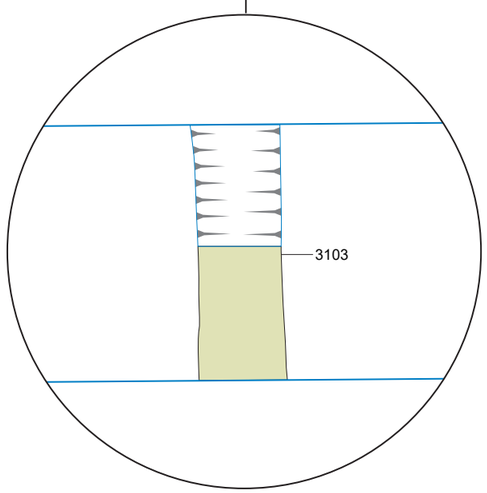
Created by: RG	Date: 10/07/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 20: Plan of trench 30

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608360
608380
608400
608420
228860
228840

T31
3103



Evaluation trench
Excavated slot
Archaeological feature
Modern (1839 Lawford Tithe Map)

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023
Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 21: Plan of trench 31

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608320

608340

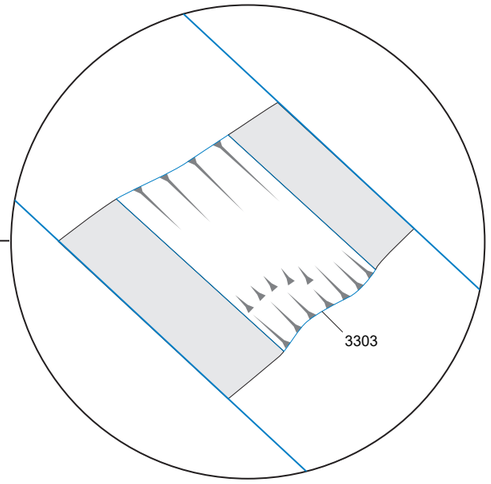
228940

228920

228900

3303

T33



Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

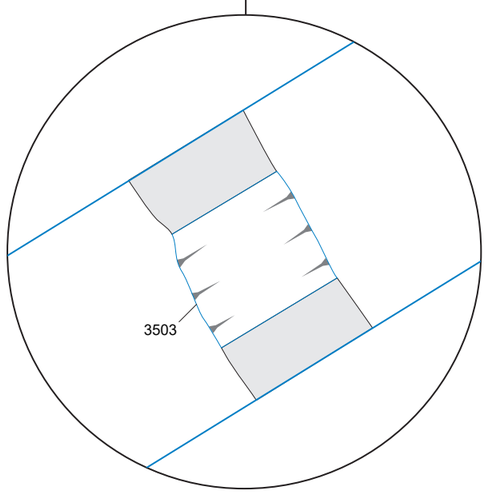
Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 22: Plan of trench 33

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608200
608220
608240
608260
229000

T35
3503



Evaluation trench
Excavated slot
Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG | Date: 10/07/2023
Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 23: Plan of trench 35

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608240

229060

229040

229020

T36

3608

3606

3604

3608

3606

3604

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 24: Plan of trench 36

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608180

229080

229060

229040

3803

T38

3803

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 25: Plan of trench 38

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608200

608220

228960

228940

228920

228900

T40

4003

4005

4003

4005

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG	Date: 10/07/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

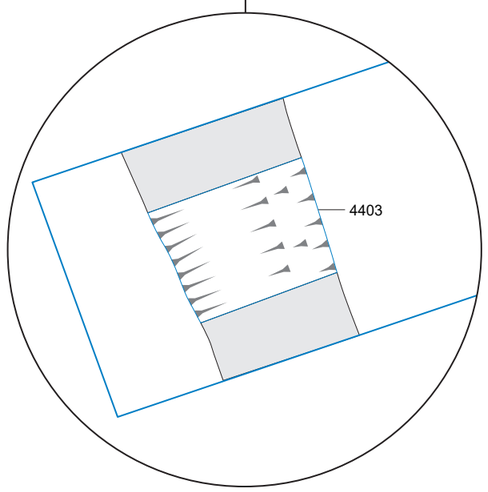
Figure 26: Plan of trench 40

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608260
608280
608300
608320
228800
228780

T44

4403



Evaluation trench
Excavated slot
Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023
Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 27: Plan of trench 44

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608200

608220

608240

228900

228880

228860

228840

4603

T46

4603

Evaluation trench

Excavated slot

Archaeological feature

Undated

0 10 m

Scale for trench plan

0 2 m

Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 28: Plan of trench 46

R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_tench_plans.ai

608160

608180

228900

228880

228860

T50

5004

5004

Evaluation trench
Excavated slot

Archaeological feature
Undated

0 10 m
Scale for trench plan

0 2 m
Scale for detailed insets

Created by: RG | Date: 10/07/2023

Scale: 1:250 and 1:50 at A3 | Revision: 0

Figure 29: Plan of trench 50

608200
608400
608600
229400
229200
229000
228800
228600
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
T13
T14
T15
T16
T17
T18
T19
T20
T21
T22
T23
T24
T25
T26
T27
T28
T29
T30
T31
T32
T33
T34
T35
T36
T37
T38
T39
T40
T41
T42
T43
T44
T45
T46
T47
T50
0
100 m
Site
Evaluation trench
Archaeological feature
Aerial Photo Service mapped features
National Mapping Programme mapped features
Coordinate system: OSGB 1936 British National Grid
NMP/APS data provided by client.

Date: 17/07/2023 | Created by: IA | Revision: 0 | Scale: 1:2,500 at A3
Figure 30: Archaeological features overlaid on APS data showing NMP data for comparison
R:\PROJECTS\231916\Graphics_Office\Rep figs\Evaluation\2023_07_07\231916_ArcPro\231916_ArcPro.aprx

Figure 31: Trench 6, viewed from the east

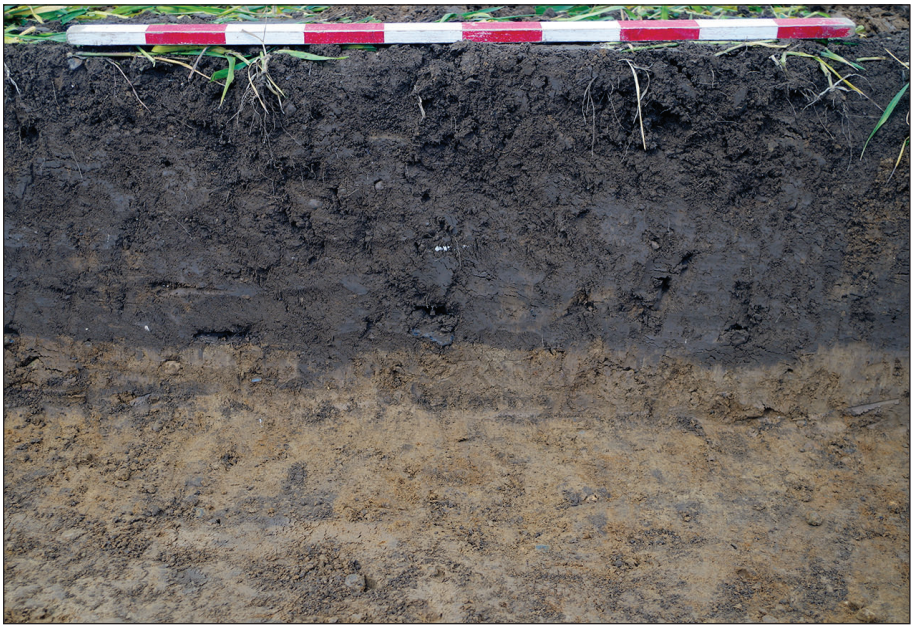


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Figure 33: Trench 24, viewed from the north-east

Figure 34: Southeast facing representative section of Trench 29

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Figure 36: Ditches 108 and 110, viewed from the west-south-west/east-north-east

Figure 37: Ditch 504, viewed from the south

Figure 38: Ditch 1106, viewed from the south-east

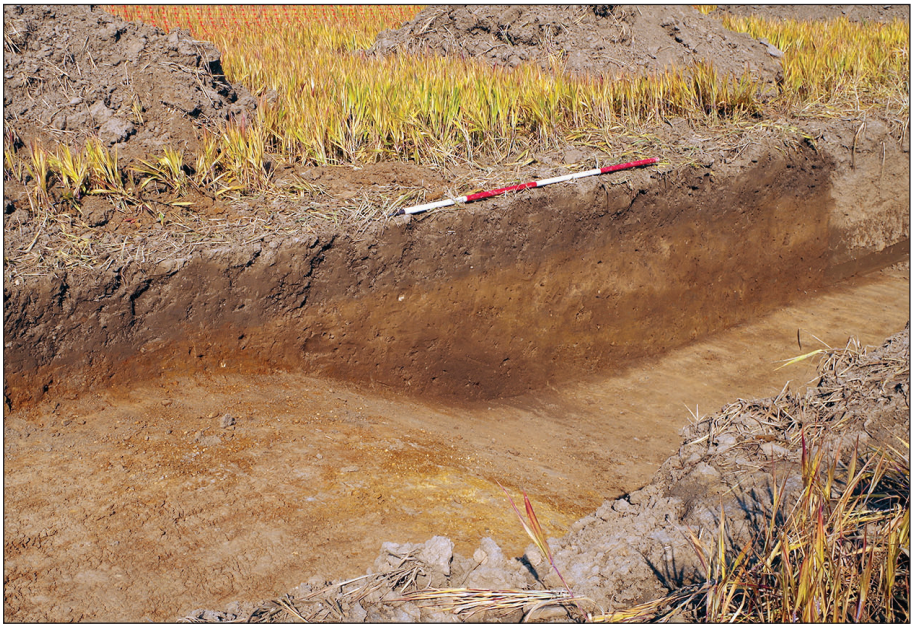

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Figure 43: Cremation burial 2203, viewed from the north

Figure 44: 19th century ditch 3103, viewed from the south

Figure 45: 19th century ditch 3604, viewed from the south

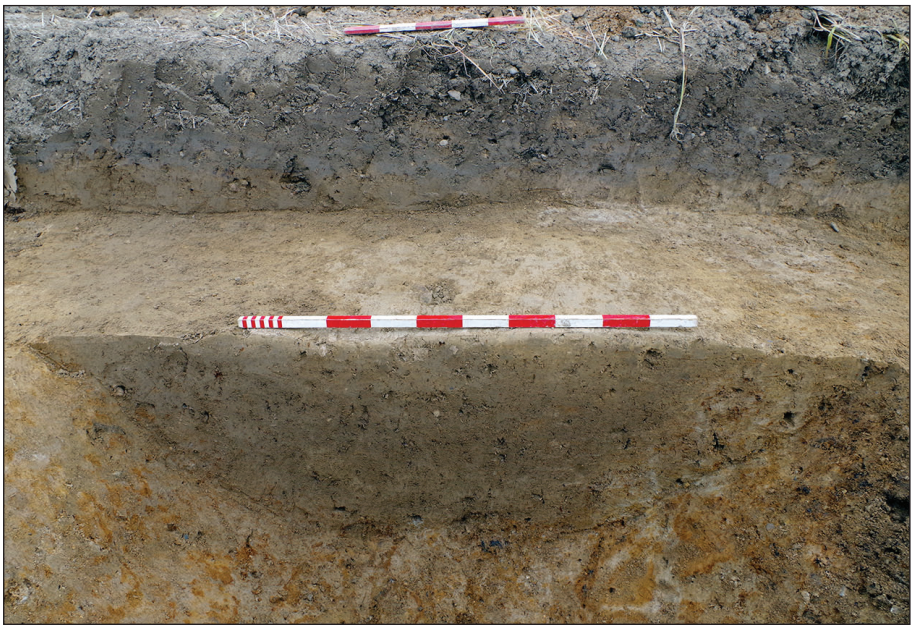

Figure 46: Ditch 5004, viewed from the west-north-west

Appendix 4 Geoarchaeological report

Five Estuaries Offshore Wind Farm Onshore Substation Area, Essex

Palaeolithic Archaeological Evaluation

Ref: 231916.01
July 2023

wessexarchaeology

Document Information

Document title	Five Estuaries Offshore Wind Farm, Onshore Substation Area, Essex
Document subtitle	Palaeolithic Archaeological Evaluation
Document reference	231916.04
Client name	Five Estuaries Offshore Wind Farm Ltd
Address	Trigonos Building Windmill Hill Business Park Whitehill Way Swindon SN5 6PB
County	Essex
National grid reference	608639, 229215 (TM 08639 29215)
Planning authority	Essex County Council
Planning reference	TBC
OASIS ID	wessexar1-517235
WA project name	Five Estuaries Offshore Wind Farm, OnSS Area, Archaeological Evaluation
WA project code	231916
Project management by	Nina Olofsson
Document compiled by	Hayley Hawkins and Dr Andrew Shaw
Graphics by	Kitty Foster

Quality Assurance

Issue number	date	Status	Author	Approved by
1	05/07/2023	Draft	HH/ADS	DSY
2	24/07/2023	External after comments	HH/ADS	DSY

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Summary

Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm (OSWF) Ltd and North Falls Offshore Wind Farm Ltd ('the Client') to undertake a Palaeolithic archaeological evaluation through a program of test pitting at the proposed location for an onshore substation (OnSS) associated with the wind farm projects ('the Site'). The Site is located north of Little Bromley Road, Little Bromley, Tendring, Essex and is centred on NGR 608143, 228898 (TM 08639 29215).

The Site covers an area of approximately 38 ha. The Palaeolithic evaluation reported on is the first phase of evaluation to be carried out in the Site, and focussed on 20.5 hectares (ha) of land located in the north-east of the Site ('the Evaluation Area'). Further evaluation works are planned across the remaining areas of the Site. The evaluation comprised the excavation, investigation and recording of 11 machine-dug Palaeolithic test pits.

A consistent sequence of Quaternary deposits was identified across the evaluation Area enabling the deposits to be grouped within a single Geoarchaeological Character Zone (GCZ 1) of a Geoarchaeological Landscape Characterisation (GLC). The Pleistocene deposits comprised Fluvial Sands and Gravels, the surface if which has been incised into by hollows/gullies infilled with basal Sands and slope deposits (Head). These sediments were sealed by Pleistocene Brickearth.

The Fluvial Sands and Gravels likely belong to the Ardleigh Gravels of the Kesgrave Sands and Gravels (MIS 16–14; 676–524 Ka) of the River Thames. The evaluation investigated the upper c. 3.0 m of these deposits, which comprised high energy fluvial sediments, likely deposited by a braided river. BGS borehole date suggests that thicknesses of c.10.0 m of the Ardleigh Gravels occur in this area. It is unclear whether the lower, unevaluated, units of this stratigraphy are similarly all high energy fluvial deposits or whether sediments occur a greater depth that reflect different depositional regimes (e.g. finer-grained deposits associated with more stable channels). The upper 3.0 m of the Ardleigh Gravels have potential to sporadically contain reworked Lower Palaeolithic artefacts (a possible flake likely reworked form these deposits was recovered from overlying Head). The palaeoenvironmental potential of these coarse fluvial sediments is low.

The hollows/gullies incised into the Ardleigh Sands and Gravels are infilled with a basal Sand and slope deposits (Head). The Sands reflect low energy water run-off, with the Head resulting from slope processes (colluviation and solifluction). The specific age of the Sands and Head is uncertain; they may post-date the Ardleigh Gravel by a considerable period. These deposits have not previously been recognised in the area. No artefacts were recovered from these sediments. Burnt, unworked flint clasts were sporadically identified in the Head, which may be indicative of human activity, but could result from natural burning. The lack of chronology for these newly identified deposits provides uncertainty when judging Palaeolithic archaeological potential. Based on this assessment the Palaeolithic archaeological potential has been assessed as Low to Moderate; their palaeoenvironmental potential is Low.

The youngest Pleistocene sediments comprise Brickearth. These deposits likely have significant aeolian components but have been reworked through colluviation and/or solifluction. The specific age of the Brickearth is uncertain. No archaeology was recovered from these deposits and the lithostratigraphy indicates that any archaeology within these sediments is likely to reworked to some degree; no stabilisation horizons were identified with potential for buried stable surfaces that could preserve minimally disturbed/in situ archaeology. Based on this assessment their Palaeolithic archaeological potential is assessed as Low; similarly, their palaeoenvironmental potential is Low.

Recommendations for further targeted Palaeolithic archaeological work in the Evaluation Area are provided. Although the upper c. 3.0 m of the Ardleigh Gravels may contain occasional reworked Lower Palaeolithic artefacts of significance to the Palaeolithic settlement history, given their likely

low density and the artefact sampling already carried out as part of the evaluation, no further work on these deposits in this area of the Site is recommended.

The principal area of archaeological uncertainty regarding unevaluated deposits of the Ardleigh Gravels below 3.0 m below ground level (bgl) is whether they contained fine-grained and/or organic sediments with palaeoenvironmental potential. Should deposits of the Ardleigh Gravels at depths beyond 3.0 m bgl be impacted on by development proposals, it is recommended that they are assessed for the presence of such fine-grained and/or organic sediments. This could be achieved through a geoarchaeological watching brief on any Ground Investigation (GI) boreholes, or through a targeted geoarchaeological borehole survey.

The Palaeolithic archaeological potential of deposits overlying Ardleigh Gravels in GCZ 1 is limited. However, to mitigate against uncertainties regarding the Palaeolithic archaeological potential of newly identified deposits infilling hollows/gullies incised into the Ardleigh Gravel, it is recommended that a stepped test pit is excavated through these deposits to directly record and sample a sequence through these deposits, with provision for the recovery of luminescence samples for dating.

Acknowledgements

Wessex Archaeology would like to thank Five Estuaries Offshore Windfarm Ltd and North Falls Offshore Wind Farm Ltd for commissioning the Palaeolithic archaeological evaluation, in particular James Eaton. Wessex Archaeology is also grateful for the assistance, advice and support provided by Teresa O'Connor, who monitored the project for Place Services, Essex County Council on behalf of the LPA.

The fieldwork was directed by Jon Badger and Dr Andrew shaw, with the assistance of Miriam Weinbren. This report was written by Hayley Hawkins and Dr Andrew Shaw, with contributions from Mark Stewart (lithics) and Lorrain Higbee (animal bone). The report was edited by Dr Daniel Young. The project was managed by Nina Olofsson on behalf of Wessex Archaeology.

Five Estuaries Offshore Wind Farm Onshore Substation Area

Palaeolithic Archaeological Evaluation

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm (OSWF) Ltd and North Falls Offshore Wind Farm Ltd ('the Client') to undertake a Palaeolithic archaeological evaluation through a program of test pitting at the proposed location for an onshore substation (OnSS) associated with the wind farm projects ('the Site'). The Site is located north of Little Bromley Road, Little Bromley, Tendring, Essex and is centred on NGR 608143, 228898 (TM 08639 29215) (**Figure 1**).

1.1.2 The OnSS will consist of the ONSS substation buildings, connected to the offshore OSWF arrays via an Onshore and Offshore Export Cable Corridor. The OnSS will additionally connect to a National Grid Substation located to the west of the Site via another section of underground cable. Landscaping and planting will also be undertaken in the onshore substation area as part of the proposals.

1.1.3 The Site covers an area of approximately 38 ha. The Palaeolithic evaluation reported on is the first phase of evaluation work to be carried out in the Site, and focussed on 20.5 hectares (ha) of land located in the north-east of the Site ('the Evaluation Area') (**Figure 1**). Further evaluation works are planned to be carried out across the remaining areas of the Site.

1.1.4 The results of the evaluation will be included in an Environmental Statement and Habitats Regulation Assessment in order to inform a future planning application.

1.1.5 This Palaeolithic test pitting evaluation is part of a staged approach to determining the archaeological potential of the Site. It follows a Geoarchaeological Desk-based Assessment (GDBA; Wessex Archaeology 2022) and a Geophysical Survey (Wessex Archaeology 2023b).

1.2 Scope of works

1.2.1 The agreed program of Palaeolithic evaluation works within the Evaluation Area comprised the excavation, investigation and recording of 11 machine-dug test pits.

1.2.2 All works undertaken as part of the evaluation were in accordance with the Written Scheme of Investigation (WSI), which detailed the aims, objectives, methodologies and standards to be employed to undertake the evaluation (Wessex Archaeology 2023a). The Historic Environment Officer, Place Services, Essex County Council approved the WSI, on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing.

1.2.3 The evaluation was undertaken from the 15th to the 19th May 2023.

1.3 Scope of document

1.3.1 Quaternary superficial sediments of Pleistocene date have potential to contain Palaeolithic archaeology and environmental remains reflective of past human activity, landscapes and environments. Evaluation of Palaeolithic archaeological potential is therefore 'deposit-led', with the aim to provide a lithostratigraphic framework and to evaluate the archaeological potential of different Pleistocene deposits.

1.3.2 To help frame Palaeolithic archaeological investigations, Wessex Archaeology has developed a four-stage approach, encompassing different levels of investigation appropriate to the results obtained, accompanied by formal reporting of the results at the level achieved. The stages are summarised below (**Table 1**). This evaluation represents Stage 2 of this process.

Table 1 Staged approach to Palaeolithic archaeological investigations

Stage 1: Palaeolithic archaeological Desk-based Assessment (DBA) and deposit modelling	A Palaeolithic archaeological desk-based assessment (DBA) examines a range of information (published and unpublished ("grey literature"), LiDAR, historic maps) and models existing Ground Investigation (GI) data to inform on the possible Palaeolithic archaeological potential of an assessment area. The DBA may include a Geoarchaeological Landscape Characterisation (GLC) which divides an assessment area into different zones (Geoarchaeological Characterization Zones – GCZs) based on variations in deposits and potential. The DBA establishes the requirements for and scope of Stage 2 Palaeolithic archaeological field evaluation. Should Stage 2 evaluation be required, appropriate and proportionate recommendations for each GCZ are provided.
Stage 2: Palaeolithic archaeological evaluation	Field evaluation to establish the Palaeolithic archaeological potential of Pleistocene deposits within an evaluation area, which informs on the requirements and scope of Stage 3 palaeoenvironmental assessment and/or Stage 4 mitigation. The principal methods of Palaeolithic archaeological evaluation are through targeted machine-dug test pits and boreholes. A Palaeolithic archaeological evaluation report is produced, which includes updated deposit modelling and an updated GLC. If required, recommendations for Stage 3 sample assessment and/or Stage 4 mitigation are made.
Stage 3: Sample assessment	Palaeoenvironmental samples and/or sediment samples recovered during Stage 2 are assessed to inform on the archaeological potential of deposits and guide the scope and need for Stage 4 mitigation. Dating of samples taken during Stage 2 may be required to inform on the archaeological potential of deposits and to guide the scope and need for Stage 4 mitigation. If this is the case, dating will be carried out at this stage. Alternatively dating samples will be retained for Stage 4 mitigation, if required. Recommendations for dating requirements during Stage 3 are made in the Stage 2 report. A sample assessment report is produced outlining the palaeoenvironmental and dating potential of the deposits including targeted and proportionate recommendations for Stage 4 mitigation.
Stage 4: Palaeolithic archaeological mitigation	Based on the results of the Stage 2 and 3 investigations Palaeolithic archaeological mitigation may be required to offset development impacts. Mitigation may include Palaeolithic archaeological excavation, targeted geoarchaeological sampling for paleoenvironmental analysis and dating and Palaeolithic artefact analysis. A final mitigation report is provided on completion of mitigation program.

Publication	The scope and location of a publication report will be agreed in consultation with the client and LPA advisor. The publication report may comprise a note in a local journal or a larger publication article or monograph, dependant on the significance of the archaeological work.

1.3.3 A previous Stage 1 Geoarchaeological Desk-Based Assessment (GDBA; Wessex Archaeology 2022) identified the likely presence of Pleistocene deposits within the Evaluation Area which may have Palaeolithic archaeological potential, including the potential for deposits that preserve paleoenvironmental evidence and/or dating evidence relevant for contextualising Palaeolithic settlement history.

1.3.4 The purpose of this report is to provide a detailed description of the results of the Stage 2 Palaeolithic archaeological evaluation of Pleistocene deposits within the Evaluation Area, to interpret the results within a local, regional or wider archaeological context and to assess whether the aims of the evaluation have been met.

1.3.5 The results presented will provide further information on the archaeological resource that may be impacted by the proposed development and facilitate an informed decision with regard to the requirement for, and methods of, any further archaeological works; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

2 BACKGROUND

2.1 Introduction

2.1.1 The Palaeolithic archaeological background to the Evaluation Area was assessed in a prior WSI (Wessex Archaeology 2023). A summary of the results is presented below. Additional sources of information are referenced, as appropriate.

2.2 Location and landscape context

2.2.1 The Site is located within the Tendring District, c.1.7 km to the west of Little Bromley and c.2.4 km to the east of Ardleigh. The Site is bound to the west by Grange Road, to the north and east by agricultural fields and to the south by Ardleigh Road. The Site covers an area of approximately 38 ha currently used as agricultural land.

2.2.2 The Evaluation Area is located in the northeast of the Site. The Evaluation Area covers a parcel of land of approximately 20.5 ha. The topography of the Evaluation Area is generally flat and the existing ground levels within the Site are approximately 33 m above Ordnance Datum (aOD).

2.3 Chronology

2.3.1 Palaeolithic archaeological investigations are typically undertaken with reference to geological periods (e.g. Quaternary), epochs (e.g. Pleistocene) and sub-epochs (e.g. Devensian) that reflect major climate sea-level and/or environmental changes. Here we adopt British nomenclature correlated to the Marine Isotope Stage (MIS) record to distinguish between different climatic periods, with dates given in Kya BP (thousands of years before present).

2.3.2 Marine Isotope Stages are deduced from marine palaeoclimatic records and reflect alternating warm (interglacial and interstadial) and cold (glacial and stadial) periods throughout the Quaternary (**Table 2**).

2.3.3 Where age estimates are available these are expressed in millions of years (Mya), thousands of years (Kya) and within the Holocene epoch as either years Before Present (BP), Before Christ (BC) and Anno Domini (AD). These are linked to the global Marine Isotope Stage (MIS) chronological framework.

Table 2 British Quaternary chronostratigraphy

Geological Period	Chronostratigraphy		Age (Kya)	MIS
Holocene	Holocene interglacial		11.7 – present	1
Late Pleistocene	Devensian Glaciation	Loch Lomond Stadial	11.7 – 12.9	2 – 5d
		Windermere Interstadial	12.9 – 15	
		Dimlington Stadial	15 – 26	
		Upton Warren Interstadial	40 – 43	
		Early Devensian	60 – 110	
	Ipswichian interglacial		115 – 130	5e
Middle Pleistocene		Unnamed cold stage	130 – 374	6
		Aveley interglacial		7
		Unnamed cold stage		8
		Purfleet interglacial		9
		Unnamed cold stage		10
	Hoxnian interglacial		374 – 424	11
	Anglian glaciation		424 – 478	12
	Cromerian Complex		478 - 780	13 – 19

2.4 Summary of previous work

2.4.1 Previous investigations relevant to the Palaeolithic evaluation are listed in **Table 3** and summarised below.

Table 3 Previous investigations

Report type	Title	Report no	Reference
Geoarchaeological Desk-Based Assessment	North Falls Offshore Wind Farm – Onshore Project Area Geoarchaeological Desk-Based Assessment	265330.01	Wessex Archaeology 2022

Geoarchaeological Desk-Based Assessment (GDBA; Wessex Archaeology 2022)

2.4.2 A GDBA was undertaken for the onshore project area associated with the North Falls (OSWF). This included the area of the current Site. The purpose of the GDBA was to consider the distribution of Quaternary deposits and provide an initial assessment of their

possible archaeological potential. This included an assessment of the Pleistocene deposits and their potential to contain Palaeolithic archaeology.

2.4.3 The GDBA utilised BGS archive boreholes, mapping of superficial deposits, analysis of Lidar data and consideration of previous relevant archaeological discoveries to define nine Geoarchaeological Character Zones (GCZs) based on variations in the Quaternary geology, linked to the assessment of their archaeological potential.

2.4.4 The evaluation area is located in GCZ 9. The Quaternary stratigraphy identified as likely underlying GCZ 9 included the Ardleigh Gravel (MIS 16–14) of the Kesgrave Sands and Gravels, overlain by deposits of Pleistocene Brickearth and/or Pleistocene to Holocene Head/Colluvium. The Ardleigh Gravels were identified as having potential to contain nationally significant *in situ* (high significance) or reworked (moderate significance) Lower Palaeolithic archaeology, and in places to contain deposits (organic sediments, fine-grained alluvial silts and clays) with potential to preserve palaeoenvironmental evidence.

2.4.5 The archaeological and palaeoenvironmental potential of any overlying Brickearth in GCZ 9 was determined as unknown, although broad potential to contain Palaeolithic archaeology was identified. The significance of any archaeology from the Head-Brickearth would be dependent on taphonomic history and date. Palaeoenvironmental potential of Head-Brickearth is variable, however, where calcareous deposits occur these can include molluscs and vertebrates.

2.4.6 Head deposits reflect the downslope reworking of sediments, which can incorporate reworked Palaeolithic artefacts. Additionally, they can contain and seal archaeological layers associated with minimally disturbed/in situ archaeology. Similarly, Holocene colluvium is a slope deposit which can contain reworked archaeology of multiple dates but can also bury archaeological features and layers.

2.5 Pleistocene deposits and Palaeolithic archaeological context

2.5.1 The solid geology underlying the Site is mapped by the British Geological Survey (BGS GeoIndex) as Palaeogene deposits broadly classified as belonging to the Thames Group (56.0-47.8 Mya) (**Figure 2**).

2.5.2 Based on a review of BGS mapping (BGS GeoIndex) (**Figure 3**) and the previous GDBA (Wessex Archaeology 2022), the following Quaternary deposits could potentially occur in the Evaluation Area:

- Kesgrave Sands and Gravels (Pleistocene)
- Brickearth (Pleistocene)
- Head/Colluvium (Pleistocene and/or Holocene)

2.5.3 Relevant background information on these deposits, including their broad potential to preserve Palaeolithic archaeology and palaeoenvironmental datasets, and previous discoveries of archaeological and palaeoenvironmental records associated with them, is outlined below.

Kesgrave Sands and Gravels

2.5.4 The Kesgrave Sands and Gravels are pre-Anglian (MIS 12; 478-424 Ka) sediments associated with the River Thames. At the time of their deposition this river system flowed south eastwards from Wales and the West Midlands, eastwards through the middle Thames valley, north eastwards into East Anglia, then progressively eastwards to a

contemporaneous shoreline in Suffolk and Essex (Bridgland 1994, Bridgland and Allen 1996, Rose et al. 1999).

2.5.5 Terraces associated with this river system were formed between c. 1.81 Ma and 460 Ka (late Early to early Middle Pleistocene), forming the older Sudbury and younger Colchester Formations, until they were overridden by the Anglian ice sheet (Rose et al 1999). On the basis of their altitude and position, Whiteman (1992) identified 10 terrace landforms associated with the Sudbury and Colchester Formations. The deposits underlying the Five Estuaries OSWF and North Falls OSWF Scheme belong to the Colchester Formation (c. 860-460 Ka) **Table 4** provides a summary of the lithostratigraphy of deposits mapped as Kesgrave sands and Gravels by the BGS in Essex.

Table 4 Kesgrave Sands and Gravels stratigraphy (after Bridgland and Allen 1996; Bridgland et al. 1990; 1999; and Westaway 2014)

High-Level East Essex Gravel (HEEG)				**Thames**	**Thames/Medway Confluence**
Postulated Marine Isotope Stage (MIS)	**Southend area**	**Dengie Peninsula**	**Mersea Island**	**Tendring Peninsula**	**Tendring Peninsula**
MIS 12-11-10 MIS 11	Southchurch Gravel Southend Channel	Asheldham Lower and Upper Gravel Ashheldham Channel	Mersea Island Gravel		Wigborough Channel Clacton Channel
MIS 12 (Anglian Ice)	Chalkwell Gravel	Caidge Gravel		Upr St Osyth Gravel	Upr Holland Gravel
MIS 12 (early)				Lwr St Osyth Gravel	Lwr Holland Gravel
MIS 13 MIS 13 MIS 14	Canewdon Gravel	St Lawrence Gravel		Wivenhoe Upper Gravel Wivenhoe Interglacial deposits Wivenhoe Lower Gravel	Cooks Green Gravel
MIS 14 MIS 15 MIS 16	Belfairs Gravel Ashingdon Gravel	Mayland Gravel		Ardleigh Upper Gravel Ardleigh Interglacial deposits Ardleigh Lower Gravel	Colluvium Little Oakley Silts & Sands
MIS 16	Oakwood Gravel			Waldringfield Gravel	(Offshore)
MIS 18	Daws Heath Gravel				(Offshore)
MIS 20/22	Claydon Gravel				(Offshore)

2.5.6 Based on their location, the deposits of the Kesgrave Sands and Gravels underlying the Site have been assigned to the Ardleigh Gravel Member of the Colchester Formation (Wessex Archaeology 2022). The Ardleigh Gravels consist of a complex sequence of cold-climate gravels, with intervening geoarchaeologically significant temperate-climate organic-rich deposits (Ardleigh Interglacial deposits). At the type-site for the Ardleigh Gravels, these organic deposits have been highlighted as containing a diverse animal and plant assemblage. These rich assemblages are likely associated with lower energy channels eroding into the cold climate sands and gravels (Rose et al. 1999). The stratigraphy of the Ardleigh Gravel Member, encompassing an Upper and Lower Gravel and intervening Interglacial deposits, is highlighted in **Table 4**.

2.5.7 The Palaeolithic archaeological potential of the Ardleigh Gravel Member is poorly understood, but the deposits have broad potential to contain nationally rare evidence of Lower Palaeolithic activity predating the Anglian Glaciation. The nearest Palaeolithic findspot to the Site (2.07 km to the south) comprises an isolated find noted as a small broken Lower Palaeolithic handaxe recovered at Badley Hall, Great Bromley. Although the artefact does not have a recorded depositional context, its condition has been assessed as rolled and stained (Wymer 1985), indicating that it originates from Pleistocene fluvial deposits.

2.5.8 Additionally, a nationally significant collection of Lower Palaeolithic artefacts is associated with the Wivenhoe/Cooks Green Gravel at Daking's Pit, located 8.5 km southeast of the Site. Five handaxes, eight cores and 17 flakes were collected in the early 1930s from Daking's Pit (Warren 1933). An additional 39 Palaeolithic artefacts were recovered from the site following a further excavation of the gravels by Wymer (1985). The Wivenhoe/Cooks Green Gravel is temporally constrained to MIS 14–13 (563–478 Ka) and therefore the timing of deposition may overlap with the Upper Ardleigh Gravels (MIS 16–14; 676–524 Ka).

Brickearth

2.5.9 The BGS maps deposits of clay, silt and sand overlying the Kesgrave Sands and Gravels across the Site. These overlying sediments, recorded by the BGS as 'Coversand', are referred to here as Brickearth.

2.5.10 Brickearth is a generic term used to describe Pleistocene sediments that have been deposited by a wider range of depositional processes, including aeolian (wind-blown), colluvial (slope) and alluvial (transported by water). The Brickearth deposits in the area of the Site are likely to include an aeolian (loess) component, but may also include deposits formed through both colluvial and alluvial processes.

2.5.11 O'Connor (2015) describes the basal element of the Brickearth throughout much of the Tendring District as a thin, fine sand (Coversand). Overlying this is a predominantly silty deposit (loess), usually less than 0.75 m thick but reaching over 1.0 m in thickness at Walton (O'Connor 2015). In places the Brickearth contains small stones worked upwards from the underlying gravels due to frost action (O'Connor 2015).

2.5.12 Coversands and loess are Pleistocene wind-blown sediment, predominantly transported in periglacial conditions close to the margins of ice sheets (Antoine et al 2003). Where dated, the majority of cover sands and loess in southern England are Late Devensian (MIS 2) between 18.8–14.6 Ka (e.g. Parks and Rendell 1992; Bateman 1998). Older deposits principally dated to MIS 6 and MIS 12 are known, however.

2.5.13 Primary coversands and loess is directly lain down as windblown sediment. These have often been subsequently reworked downslope by colluvial processes. In both instances

these deposits can contain or bury stabilisation horizons (which can be associated with soil formation) that may be associated with minimally disturbed Palaeolithic archaeology and palaeoenvironmental evidence. Calcareous brickearth sequences can preserve palaeoenvironmental evidence, including molluscs and vertebrates.

Slope deposits (Head)

2.5.14 Although not mapped by the BGS in the area of the Site, BGS boreholes from the region (BGS GeoIndex) record gravelly clays and silts overlying the Kesgrave Sands and Gravels, in particular in areas of steeper topography at the sides of and within dry or stream valleys. These are likely to be deposits reworked down-slope by colluviation, solifluction and/or water run-off, and are often referred to by the BGS as Head deposits.

2.5.15 Head is defined as Pleistocene slope deposits containing sediments reworked downslope from earlier formations through colluvial and/or solifluction processes (alternate freeze-thawing). Head deposits are therefore most widely recorded at the base of slopes and along river valleys.

2.5.16 These slope deposits may also include Holocene colluvium. Colluvium represents unconsolidated material which has been deposited downslope by either rainwash, sheetwash and/ or slow continuous downslope creep during the Holocene. Colluviation is likely in areas of topographic relief where soil instability has been brought on by activities such as clearance of woodland, agricultural activity and soil degradation, leading to downslope movement of sediment.

2.5.17 Slope deposits can include archaeology reworked downslope within these sediments. More significantly they can also seal stratigraphy, including stable land surfaces and buried soil horizons associated with minimally disturbed/in situ archaeological layers, features and/or lithic scatters. The palaeoenvironmental potential of these slope deposits is generally low, except where calcareous units occur which can preserve evidence such as molluscs and vertebrate remains.

3 AIMS AND OBJECTIVES

3.1 Overarching aims

3.1.1 The overarching aims (or purpose) of the Palaeolithic evaluation, in compliance with the CIfA' *Standard and guidance for archaeological field evaluation* (CIfA 2014a), were to:

- provide information about the archaeological potential of Pleistocene deposits in the evaluation area; and
- inform either the scope and nature of any further Palaeolithic archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.2 Overarching objectives

3.2.1 In order to achieve the above aims, the overarching objectives of the evaluation were to:

- establish the broad presence/absence, nature and distribution of Pleistocene deposits within the evaluation area;
- establish the potential of Pleistocene deposits to preserve any Palaeolithic archaeology;

- to establish the potential of Pleistocene deposits to preserve paleoenvironmental evidence;
- establish the potential of the Pleistocene deposits for scientific dating;
- to place the results of the evaluation within a wider archaeological context, including consideration of the possible significance of archaeological resource in relation to national and regional research priorities and agendas, and
- to make recommendations for further work, where appropriate, including for Stage 3 assessment of retained samples (see **Table 1**).

3.3 Specific objectives

3.3.1 Following consideration of the Palaeolithic archaeological background to the evaluation (**section 2**), the following specific objectives of the evaluation were identified:

- to establish, within the constraints of the evaluation, the potential of the Kesgrave Sands to preserve significant Palaeolithic archaeology, and to contain units preserving significant palaeoenvironmental evidence, and
- to determine the depositional process(es) associated with any deposits overlying the Kesgrave Sands and Gravels, and to assess their archaeological, palaeoenvironmental and dating potential.

4 FIELDWORK METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2023a) and in general compliance with the standards outlined in relevant CIfA and Historic England guidance (CIfA 2020a, Historic England 2015).

4.1.2 Any significant variations to these methods were agreed in writing with the Historic Environment Consultant, Place Services, and the client, prior to being implemented.

4.1.3 The evaluation comprised the excavation, investigation and recording of 11 machine dug test pits.

4.2 Setting out of interventions

4.2.1 All interventions were set out using GNSS in the positions shown in **Figure 1**. Prior to fieldwork commencing the client provided information regarding the presence of any below/above-ground services, and any ecological, environmental or other constraints.

4.2.2 Before excavation began the evaluation area was walked over and visually inspected to identify, where possible, the location of any below/above-ground services. All intervention locations were scanned before and during excavation with a Cable Avoidance Tool (CAT) to verify the absence of any live underground services.

4.3 Test Pits

Excavation methods

4.3.1 The test pits were excavated using 360º mechanical excavator with a toothless bucket. Machine excavation was under the constant supervision and instruction of a geoarchaeological specialist experienced in interpreting Pleistocene sediments and identifying Palaeolithic lithic artefacts, who recorded and number the sequence of

sedimentary units as excavation progressed following standard descriptive practices. The textural characteristics (grain-size, consolidation, colour, material and sedimentary structures) of sedimentary units were recorded, and the shape and nature of their lithostratigraphic contacts (dip, conformity and overall geometry).

4.3.2 Machine excavation proceeded in level spits of approximately 50-100 mm, respecting the interface between sedimentary units, until either the solid geology was exposed, or further excavation became impractical.

4.3.3 Test pits were entered to the maximum safe depth (usually c. 1.2 m) to record the upper stratigraphy. After excavation progressed beyond this depth, recording took place without entering the test pit.

4.3.4 Sediment samples of at least 100 litres were taken at regular intervals in stratigraphic succession through the Pleistocene stratigraphy in each test pit and sieved on-site through a 10 mm mesh to investigate whether artefacts and/or macro vertebrate faunal remains were present. When sediments encountered were not suitable for dry-sieving (i.e. too clayey), excavation proceeded in shallower spits of c. 50 mm, looking carefully for the presence of any archaeological or geoarchaeological evidence, and the spit samples carefully investigated by hand (using archaeological trowels) for any archaeological or geoarchaeological evidence.

4.3.5 The potential for deposits to preserve paleoenvironmental evidence and any requirements for sedimentological sampling was assessed for each Pleistocene sediment unit by the monitoring geoarchaeological specialist. No deposits suitable for sampling were encountered and no samples were taken.

4.3.6 Consideration was given to the suitability of any sediment units for luminescence dating. Deposits suitable for luminescence were identified but occurred at depths that were not accessible for sampling.

4.3.7 No human remains were uncovered.

Recording

4.3.8 The test pits were recorded in the form of a measured sketch of sections of at least one face and accompanying geoarchaeological descriptions and interpretations. Descriptions included information such as:

- *Depth*
- *Texture*
- *Composition*
- *Colour*
- *Inclusions*
- *Structure*
- *Shape and nature of contacts between deposits*

4.3.9 Interpretations included, where possible, probable depositional environments and formation processes.

4.3.10 All samples for artefact sieving were individually numbered. The location, size, stratigraphic context, purpose and whether retained or processed on-site were recorded.

4.3.11 A full photographic record was made using digital cameras equipped with an image sensor of not less than 10 megapixels. This recorded both the detail and the general context of the principal lithostratigraphic features of the sediments, and the evaluation areas as a whole. Digital images are subject to managed quality control and curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image set. Photographs were taken of all areas, including access routes, to provide a record of conditions prior to and on completion of the evaluation.

Reinstatement

4.3.12 Test pits were immediately backfilled on completion using excavated materials in the order in which they were excavated. No further reinstatement was carried out.

4.4 Survey

4.4.1 The real time kinematic (RTK) survey of all as dug test pits was carried out using a Leica GNSS connected to Leica's SmartNet service. All survey data was recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSGM15 and OSTN15, with a three-dimensional accuracy of at least 50 mm.

4.5 Monitoring

4.5.1 The client informed the Historic Environment Consultant, Place Services, of the start of the evaluation. The Historic Environment Consultant monitored the evaluation on behalf of the LPA.

5 POST-EXCAVATION METHODS

5.1 Deposit modelling

5.1.1 All written and drawn records from the evaluation were collated and checked for consistency. Where possible, probable depositional environments, formation processes and chronostratigraphic context have been considered.

5.1.2 A written description was made of all deposits, ordered by intervention and lithostratigraphy. Details of all lithostratigraphic contexts are provided in tables in **Appendix 1**.

5.1.3 The data has been utilised to provide a representative deposit model for the evaluation area. The key aims of the modelling were to provide a lithostratigraphic framework for the evaluation area and model the horizontal and vertical distribution of different lithostratigraphic units. This data could provide the basis for a Geoarchaeological Landscape Characterisation (GLC) for the Site, once subsequent phases of evaluation are complete.

5.1.4 The deposit modelling was undertaken following the guidelines in Historic England (2020).

5.1.5 All available data points were entered into industry standard geological utilities software (Rockworks™ 23). Each stratigraphic unit was given a colour and pattern allowing cross correlation and grouping of the different sedimentary units. The grouping of these deposits is based on lithological descriptions, which define distinct depositional environments referred to as 'stratigraphic units' (e.g., Bedrock, Alluvium and Made Ground)

5.1.6 Sedimentary units from the boreholes were classified into seven stratigraphic units: (1) Bedrock (2) Fluvial Sands and Gravels (3) Sands (4) Head (5) Brickearth (6) Colluvium (7) Topsoil. The classified data for groups 1 to 7 were then input into a database within the RockWorks 23™ program.

5.1.7 Two-dimensional stratigraphic profiles ('transects') of selected interventions across the evaluation area have also been generated using RockWorks 23™ (**Figure 7** and **8**).

5.1.8 Models of surface height and/or thickness were generated using an inverse-distance weighted (IDW) algorithm for the stratigraphic units present within the evaluation area. These include a model of surface heights of the (2) Fluvial Sands and Gravels (**Figure 7**) and a thickness plot for the (3) Sands and (4) Head (**Figure 8**).

5.1.9 Where data points are not uniformly distributed over the area of investigation the reliability of the models is variable. In order to account for this, the modelling algorithm has been adjusted to include a maximum distance cut-off filter, so that only those areas for which sufficient stratigraphic data is present will be included in the model. A maximum distance cut-off filter equivalent to a 100m radius around each data point is applied to the models from the present site.

5.2 Finds evidence

5.2.1 All retained finds were washed, weighed, counted and identified. They were recorded to a level appropriate to the aims and objectives of the evaluation.

5.2.2 Finds have been suitably bagged and boxed in accordance with the guidance given by the relevant museum and generally in accordance with the standards of the CIfA (2020b).

5.3 Palaeoenvironmental, sedimentological and scientific dating samples

5.3.1 No palaeoenvironmental, sedimentological and scientific dating samples were taken during the evaluation.

6 RESULTS

6.1 Deposit modelling

6.1.1 Data points used to create the model consisted of records from the 11 test pits, augmented with a review of five BGS archive boreholes (BGS GeoIndex), one of which was within the site boundary (TM02NE14/B). The dataset provides good coverage of deposits to a depth of 3.0 m below ground (bgl), and demonstrates the lateral and vertical changes in lithostratigraphy to this depth across the Site.

6.1.2 The lithostratigraphy present in the interventions is listed and summarized below. The specific lithologies and lithostratigraphic succession encountered in each intervention are outlined in **Appendix 1**.

6.1.3 The generalised lithostratigraphic sequence encountered comprised:

- Bedrock (Palaeogene)
- Fluvial Sands and Gravels (Kesgrave Sands and Gravels) (Pleistocene)
- Sands (Pleistocene)

- Head (Pleistocene)
- Head-Brickearth (Pleistocene)
- Colluvium (Holocene)
- Topsoil (Recent)

Bedrock

6.1.4 BGS borehole data (TM02NE14/B) suggests that bedrock comprising Palaeogene clays, silts and sands of the London Clay formation occur beneath the Site at approximately 10 m bgl. Bedrock was not reached in any of the test pits.

*Fluvial Sands and Gravels (**Figure 4**)*

6.1.5 The earliest Quaternary deposits identified in the Evaluation Area are Pleistocene Fluvial Sands and Gravels. These coarse-grained deposits were recorded in all 11 test pits in thicknesses of between 0.20 m (TP206) and 2.40 m (TP211). The upper surface of these Sands and Gravels ranged in depth of between 0.50 m bgl (34.74 m OD; TP211) and 3.20 m bgl (32.47 m OD; TP203). These belong to the Kesgrave Sands and Gravels.

6.1.6 The Sands and Gravels largely comprised fine to coarse (5-60mm), with few cobble-sized (<70mm), sub-angular to sub-rounded flint gravel clasts in a light yellowish brown fine to coarse sand matrix. Rare, rounded quartzite clasts, likely reworked from earlier marine deposits, were occasionally recorded. Sub-horizontal bedding structures were often observed, however in instances where only the upper surface of this deposit was excavated, no clear structure was recorded (**Appendix 1**).

6.1.7 Although typically described as clast supported, sandier units were occasionally observed within these deposits. In TP204, a 0.70 m thick unit comprising slightly gravelly fine to medium sands was recorded underlying a coarser gravel-rich deposit between 2.60 and 3.30 m bgl.

6.1.8 The Sands and Gravels are characteristic of high energy deposition in a braided river channel system, with occasional intervening sand banks and bars as represented by sandier units.

*Sands (**Figure 5**)*

6.1.9 A clear, sub-horizontal contact separates the Sands and Gravels from the overlying unit, collectively termed as ‘Sands’. These deposits differ lithologically from the underlying coarser Sands and Gravels as they are typically fine-grained, containing rare to very occasional fine to medium (<20mm) flint clasts. This unit was recorded in six test pits (TP201–TP206) at depths of between 0.90 m bgl (34.56 m OD; TP204) and 3.20 m bgl (32.47 m OD; TP203). The Sands are recorded as structureless and range from moderately well-sorted to well-sorted.

6.1.10 The Sands were most likely deposited through low-energy water flow. These Sands are interpreted as the basal deposit within localised hollows/gullies incised into the surface of the underlying Fluvial Sands and Gravels.

*Head (**Figure 5**)*

6.1.11 Fine to coarse (5-40mm) subangular to angular flint gravels in a reddish to yellowish brown coarse sandy, and occasionally clayey, matrix, were recorded in nine test pits. In five test

pits (TP202-TP206), this deposit stratigraphically overlies units interpreted as Sands, whereas in the remaining four test pits (TP207-TP210) it directly overlies the Sands and Gravels (**Appendix 1**).

6.1.12 The thickness of this deposit ranges from 0.20 m (TP204) to 2.17 m (TP206) and it was recovered at depths of between 0.50 m bgl (34.97 m OD; TP208) and 2.55 m bgl (33.12 m OD; TP203). The main lithological component of this deposit is gravel, however sandier units were also observed. In TP206, a clayey sand unit containing occasional angular to sub-angular flint clasts was recorded stratigraphically overlying gravel-rich units between 0.70 m bgl and 1.15 m bgl.

6.1.13 These clayey, sandy gravels and gravelly sands are characteristic of sediments that have been remobilised down-slope through colluviation and/or solifluction processes resulting from seasonal freeze-thaw processes in a periglacial environment. These sediments are collectively referred to as 'Head' and, along with the Sands, are interpreted as part of the fills within localised hollows/gullies incised into the surface of the underlying Fluvial Sands and Gravels.

6.1.14 The sequence of erosion (lows in the top of the Fluvial Sands and Gravels), low energy waterflow (Sands) and slope deposits (Head) suggest an initial phase(s) of erosion and incision into the surface of the Fluvial Sands and Gravels forming hollows and channels, followed by a period(s) of low energy alluvial deposition, followed by infilling of the hollows/gullies through slope processes likely initiated by landscape instability associated with limited vegetation cover.

*Brickearth (**Figure 6**)*

6.1.15 In all but a single test pit (TP208) deposits characterised as slightly sandy silty clay, silty sand and sandy silt with occasional fine to coarse (2-40 mm) angular to subangular flint clasts were recorded. The thickness of these deposits ranged from 0.20 m (TP211) to 1.20 m (TP201) and they were observed at a depth of between 0.30 m (TP202, TP204, TP205, TP209 and TP211) and 1.70 m bgl (TP201). These deposits were collectively interpreted as Brickearth.

6.1.16 Rare to occasional rooting was observed in this deposit. This rooting is most likely associated with modern plant development, with the penetration extending into the Brickearth.

6.1.17 Although predominantly fine-grained, these deposits often contain angular to subangular flint clasts. The fine-grained component is likely to derive from wind-blown sediments ('coversands' / 'loess'). However the lack of evidence for structures clearly indicative of primary aeolian deposition (e.g. limons a doublets) and the frequent presence of coarse gravel components, suggests this Head-Brickearth consists of windblown sediments which have subsequently been remobilised downslope through slope processes (colluviation, solifluction etc.).

Colluvium

6.1.18 Dark brown, structureless, slightly sandy silt and silty clay with rare to occasional subangular to subrounded flint clasts and heavy rooting were observed in four test pits (**Appendix 1**). This upper surface of this deposit was uniformly recorded across the evaluation area at 0.30 m bgl, extending to 0.50 m bgl in three test pits and 0.65 m bgl in TP203. In the majority of interventions, this deposit stratigraphically overlies Brickearth, however in a single test pit (TP208) it was underlain by Head.

6.1.19 These silts and clays occur at the top of the Quaternary stratigraphic sequence and are typically overlain by recent Topsoil. They are collectively interpreted as Holocene Colluvium and reflect the downslope remobilisation of sediments resulting from landscape instability brought on by a lack of vegetation cover due to Holocene landscape-use and agricultural practices.

Topsoil

6.1.20 Recent topsoil with frequent roots capped the Quaternary stratigraphy in all test pits. The Topsoil ranged in thickness between 0.30 m and 0.35 m.

*Transect 1 and 2 (**Figures 7** and **8**)*

6.1.21 Cross sections 1 and 2 each cover an area of approximately 400 m with four test pits included in Transect 1 and six in Transect 2. The former also includes a single BGS archive borehole (TM02NE14/B) which extends to a depth of c. 11.0 m bgl (**Figure 7**; Transect 1). The Quaternary stratigraphy observed across the two cross-sections comprises Fluvial Sands and Gravels, Sands, Head, Brickearth, Colluvium and Topsoil.

6.1.22 The lowermost deposit recorded across all interventions comprised Fluvial Sands and Gravels, the maximum depth of which was established in TM02NE14/B (c. 10.30 m bgl). Topographic variation in the upper surface of these deposits is demonstrated in both transects, with a steep decline in elevation from 34.74 m OD (TP211) to 33.10 m OD (TP207) over a distance of c. 150 m. These deep hollows/gullies incised into the surface of the underlying terrace deposits are clearly illustrated, with later infill comprising Sands, Head and Brickearth. Two distinct topographic lows are observed in the surface of the fluvial deposits (Transect 2), suggesting that multiple hollows/gullies extend across the evaluation area.

6.1.23 Colluvial deposits are sparse across the evaluation area and are defined as localised overlying Head and Brickearth. These deposits are recorded at a broadly equivalent elevation across the evaluation area and are collectively capped by recent Topsoil.

*Surface elevation and thickness plots (**Figures 9** and **10**)*

6.1.24 The position of the topographic lows associated with the surface of the Pleistocene Fluvial Sands and Gravels identified in Transect 1 and 2 (**Figures 7 and 8**) is illustrated by a surface elevation model for the Fluvial Sands and Gravels (**Figure 9)** and a thickness plot of the overlying Sands and Head (**Figure 10**). These outputs demonstrate that the incised hollows/gullies broadly trend from south to north through the centre of the Evaluation Area.

Lithostratigraphic framework

6.1.25 Based on the deposit modelling, an initial lithostratigraphic framework for the Quaternary deposits present in the Site can be provided. This framework is summarised in **Table 5**.

Table 5 Lithostratigraphic framework for the Site

Lithostratigraphic unit	MIS	Geological Period	Archaeological Period	Comment
Fluvial Sands and Gravels	MIS 16–14	Early Middle Pleistocene	Lower Palaeolithic	
Sands		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	

Lithostratigraphic unit	MIS	Geological Period	Archaeological Period	Comment
Fluvial Sands and Gravels	MIS 16–14	Early Middle Pleistocene	Lower Palaeolithic	
Head		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	
Brickearth		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	
Colluvium	MIS 1	Holocene		
Topsoil				

6.2 Archaeology

6.2.1 A possible flint flake, a small number of burnt natural flint clasts and two fragments of bone were recovered during the evaluation. All were recovered from samples taken for artefact assessment from the test pits (**Table 6**).

Table 6 Archaeology from test pits

Test Pit	Context	Lithostratigraphic unit	Flint Artefacts	Burnt Flint	Bone
208	20806	Fluvial Sands and Gravels		1 burnt	
201	20105	Sands			2 refitting pieces of bone
205	20503	Head	1 possible flake		
207	20703	Brickearth		3 burnt; 1 possible burnt	

6.2.2 The possible flint flake was recovered from Head deposits in TP 205 (sample 260, context 20503). This is a small flake (27x27x7mm) retaining characteristics typical of anthropogenic origin. It is in an abraded, glossy, and edge damaged condition with a pronounced reddish and cream surface staining. The abraded condition of the piece suggests that it has been reworked into the Head from the underlying fluvial Sands and Gravels.

6.2.3 A distinct platform and bulb of percussion are present, although the former appears to consist of a natural (but non-cortical) surface, and the latter has been substantially removed by the detachment of a large eraillure. The dorsal surface is formed of one large flake scar and several small, deep scars which are superimposed on this and limited to the proximal region of the flake in the manner of purposeful platform preparation. The surface ripples are rather ephemeral, but it appears that all scars originate from the same platform as the final piece.

6.2.4 Although these are features typically resulting from flint knapping, there remains some doubt regarding their generation. The natural platform need not contradict human agency but can also be explained in terms of natural processes within a large body of shifting gravel, where pressure can cause a convincing flake removal from an unmodified surface. This

process would also be likely to remove a ‘nested’ set of flakes which all run in the same direction, and would also account for the small, deep proximal dorsal scars which can be generated by crushing of the platform edge. Given that both interpretations seem consistent with the evidence, it is difficult to assert with full confidence that this is an object produced by human agency.

6.2.5 Burnt natural flint clasts were recovered from the Fluvial Sands and Gravels and Brickearth. Such burning can result from human activity but could also relate to natural burning.

6.2.6 Two small, refitting fragments of animal bone were recovered from the Sands in TP 201 (sample 285, context 20105). Their size prevents a detailed identification, but they are fragments of a long bone shaft, and the lack of trabecular material indicates they derive from a bird. Their well-preserved condition and lack of mineralisation raises the possibility that that this bone is intrusive to the sediment sample, potentially through bioturbation or having been incorporated into the assessed sample from the upper part of the stratigraphy during excavation.

6.3 Palaeoenvironmental, sedimentological and scientific dating samples

6.3.1 The sequence of Quaternary deposits identified during the evaluation were collectively considered to have low palaeoenvironmental potential. No fine grained or organic deposits with palaeoenvironmental potential were identified within the Fluvial Sands and Gravels or Sands. No evidence for calcareous perseveration of molluscs and vertebrate remains were identified in the Head or Brickearth. Therefore, no samples for palaeoenvironmental assessment were taken.

6.3.2 Sand layers and lenses were identified within the Head and Sands that are suitable for luminescence dating. However, theses sediments occurred at depths exceeding the maximum depth of entry to the test pits and no samples could be taken. Sand units also occurred within the Fluvial Sands and Gravels; however, given their correlation with the Ardleigh Gravels of the Kesgrave Sands and Gravels (MIS 16–14; 676–524 Ka), these are beyond the age limits of current luminescence dating techniques.

7 DISCUSSION

7.1 Introduction

7.1.1 The evaluation has successfully characterised the Pleistocene deposits present within the Evaluation Area and assessed their Palaeolithic archaeological potential. The results of the evaluation have been used to provide a Geoarchaeological Landscape Characterisation (GLC) for the Site. The GLC works on the same principles as a Historic Landscape Characterisation (English Heritage 2004) and Landscape Character Assessment (Natural England 2014), but in this case largely considers the shallow buried and outcropping superficial geological elements of the landscape.

7.1.2 The GLC considers variations in the Quaternary geology across the Site, sub-dividing the site into different Geoarchaeological Characterisation Zones (GCZs). The GLC provides assessment of the Palaeolithic archaeological potential of Pleistocene deposit in each GCZ. It provides a framework for more precisely determining Palaeolithic archaeological potential at a scale which can most effectively inform future decision making, including requirement for further archaeological works; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

7.2 Geoarchaeological Character Zones

7.2.1 The Pleistocene stratigraphy is consistent across the Evaluation Area, and can be characterised within a single Geoarchaeological Character Zone (GCZ 1). Further evaluation work will determine if deposits in other areas of the Site can be separated into distinct GCZs. Details of the Pleistocene deposits present in GCZ 1 are summarised in **Table 7**.

Table 7 Geoarchaeological Character Zones

GCZ	Lithostratigraphic unit	MIS	Geological Period	Archaeological Period	Depth of deposits (m bgl)
1	Fluvial Sands and Gravels	MIS 16–14	Early Middle Pleistocene	Lower Palaeolithic	0.50–3.30+
	Sands		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	1.30–3.20
	Head		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.60–2.55
	Head-Brickearth		?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.30–1.70

GCZ 1

7.2.2 The earliest Pleistocene deposits identified in GCZ 1 consist of high energy fluvial sands and gravels, likely belonging to the Ardleigh Gravels of the Kesgrave Sands and Gravels (MIS 16–14; 676–524 Ka) of the River Thames. Test pits evaluated the upper c. 3.0 m of these deposits. BGS borehole date from the area (TM02NE14/B) suggest that c. 10.0 m of Pleistocene deposits of the Ardleigh Gravels likely occur beneath GCZ 1. It is unclear whether the lower, unevaluated, units of this stratigraphy are similarly all high energy fluvial Sands and Gravels, or whether sediments occur a greater depth that reflect different depositional regimes (e.g. finer-grained deposits associated with more stable channels).

7.2.3 The surface of the Ardleigh Gravels has been truncated and incised into by hollows/gullies. These occur across GCZ 1, but are deepest through the centre of the zone, following a broadly north to south orientation. These hollows/gullies are infilled with Sands likely reflecting low energy water run-off, and sequences of clayey, sandy gravels and gravelly sands (Head) reflecting slope processes (colluviation and solifluction). The deposits infilling the hollows/gullies in the Ardleigh Gravels are Pleistocene (being sealed by Brickearth) and are younger than the Ardleigh Gravels. However, their specific age is uncertain; they may post-date the Ardleigh Gravel by a considerable period. These deposits have not previously been identified in the area and are not recognised by the BGS mapping.

7.2.4 The youngest Pleistocene sediments in GCZ 1 comprise Brickearth. These deposits likely have significant aeolian components but have been reworked through colluviation and/or solifluction; they are the equivalent of ‘Coversands’ mapped by the BGS. They seal the Ardleigh Gravels, Sands and Head deposits and are therefore younger. However, no chronology is currently available to date the Brickearth.

7.3 Assessment of archaeological potential and significance

7.3.1 The results of the evaluation allows assessment of the Palaeolithic archaeological potential of deposits in GCZ 1.

7.3.0 An archaeological potential rating has been assigned to the Pleistocene deposits, representing a measure of probability. This has been determined via the application of professional judgement, informed by the evidence from the site itself and equivalent deposits in the surrounding area. Potential to preserve significant paleoenvironmental remains and material suitable for scientific dating is included within this assessment. '*Potential'* is expressed on a four-point scale, assigned in accordance with the following criteria:

- **High** Situations where evidence is known or strongly suspected to be present within deposits and which are likely to be well preserved.
- **Moderate** Includes cases where there are grounds for believing that evidence may be present, but for which conclusive evidence is not currently available.
- **Low** Circumstances where the available information indicates that evidence is unlikely to be present, or that their state of preservation is liable to be severely compromised.
- **Unknown** Cases where currently available information does not provide sufficient evidence on which to provide an informed assessment with regard to the potential for material to be present.

7.3.1 The relative '*Significance'* of known and potential archaeological evidence has been determined in accordance with the criteria set out in **Table 8.** These criteria are related to national (e.g. EH 2008) and regional (Medleycott 2011) research themes and priorities.

Table 8 Generic schema for classifying the significance of archaeological assets (based on HE 2015)

Significance	Categories
Very High	World Heritage Sites (including nominated sites) Assets of recognised international importance Assets that contribute to international research objectives
High	Scheduled Monuments Non-designated assets of national importance Assets that contribute to national research agendas
Moderate	Assets that contribute to regional research objectives
Low	Assets compromised by poor preservation and/or poor contextual associations Assets with importance to local interest groups
Negligible	Little or no archaeological or geoarchaeological interest
Unknown	The importance of the asset has not been ascertained from available evidence

7.3.2 The archaeological potential of deposits in GCZ 1 is summarized in **Table 9** and discussed below.

Table 9 Palaeolithic archaeological potential

GCZ	Lithostratigraphic unit	Geological Period	Archaeological Period	Depth m bgl	Archaeological / palaeoenvironmental potential	Archaeological Significance
1	Ardleigh Gravels	Early Middle Pleistocene	Lower Palaeolithic	3.30+	?Moderate / Uncertain	Uncertain
	Ardleigh Gravels (Fluvial Sands and Gravels)	Early Middle Pleistocene	Lower Palaeolithic	0.50–3.30+	Moderate / Low	Moderate
	Sands	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	1.30–3.20	?Low-Moderate / Low	Unknown
	Head	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.60–2.55	?Low-Moderate / Low	Unknown
	Brickearth	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.30–1.70	Low / Low	Moderate

Fluvial Sands and Gravels

7.3.3 The investigations have evaluated the upper c. 3.0 m of what is likely to be a 10.0 m thick sequence of Pleistocene fluvial deposits belonging to the Ardleigh Gravel. A single possible flake which may be reworked from these deposits was recovered from the overlying Head.

7.3.4 The results of the evaluation demonstrate that the upper 3.0 m of the Ardleigh Gravel has the potential to contain reworked Lower Palaeolithic artefacts in low densities. Any such artefacts would add to a very limited current dataset that demonstrates a human presence in the region during the period prior the Anglian glaciation (>MIS 12) and within the period during their deposition (MIS 16–14; 676–524 Ka). Such evidence can be classed as of moderate significance for national and regional research themes and priorities. The palaeoenvironmental potential of the coarse high energy units of the Ardleigh Gravel is low.

7.3.5 The Ardleigh Gravel beneath 3.0 m bgl could not be evaluated and have therefore been assessed as having unknown archaeological and palaeoenvironmental potential.

Sands and Head

7.3.6 Previous unrecognised deposits infilling gullies/hollows incised into the Ardleigh Gravel occur across GCZ 1. These contain a basal Sand and overlying slope deposits (Head). These Sands and Head have been evaluated across the zone. No artefacts were recovered from these sediments. Burnt unworked flint clasts were sporadically identified in the Head, which may be indicative of human activity, but could result from natural burning.

7.3.7 The lack of chronology for these deposits provides uncertainty when judging archaeological potential; chronology would establish what archaeology could occur in these sequences. Sand units within these deposits are suitable for luminescence. Based on this assessment, the Palaeolithic archaeological potential of the Sands and Head has been assessed as possibly Low to Moderate. The Sands and Head have generally low palaeoenvironmental potential; two bone fragments, likely bird bone, were recovered from the Sands, however, these may be intrusive and later than the deposits.

Brickearth

7.3.8 A sequence of generally fine-grained Brickearth sediments are the youngest Pleistocene deposits in GCZ 1, sealing the underlying stratigraphy. These Brickearth deposits likely have a significant reworked aeolian competent, which has been redeposited through slope processes (colluviation, solifluction etc). No archaeology was recovered from these deposits and the lithostratigraphy indicates that any archaeology within these sediments is likely to reworked to some degree; no stabilisation horizons were identified which may indicate potential for buried stable surfaces that could preserve minimally disturbed/in situ archaeology. The palaeoenvironmental potential of the Brickearth was assessed as Low, with no indication of calcareous units that could preserve molluscs or vertebrate remains.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 The evaluation has successfully characterised the Pleistocene deposits present within the Evaluation Area. A consistent sequence of Pleistocene deposits was identified enabling the deposits to be grouped within a single Geoarchaeological Character Zone (GCZ 1) of a Geoarchaeological Landscape Characterisation (GLC).

8.1.2 The Pleistocene deposits comprised Fluvial Sands and Gravels, the surface if which has been incised into by hollows/gullies infilled with basal Sands and overlying slope deposits (Head). These sediments are sealed by Pleistocene Brickearth.

8.1.3 The Fluvial Sands and Gravels likely belong to the Ardleigh Gravels of the Kesgrave Sands and Gravels (MIS 16–14; 676–524 Ka) of the River Thames. The evaluation investigated the upper c. 3.0 m of these deposits, which comprise high energy fluvial sediments, likely deposited by a braided river. BGS borehole data suggests that c. 10.0 m of Pleistocene deposits of the Ardleigh Gravels occur in GCZ 1. The palaeoenvironmental potential of these coarse fluvial sediments is low.

8.1.4 It is currently unclear whether the remaining unevaluated c. 7.0 m of the Ardleigh Gravel beneath the test pits in GCZ 1 reflect sediments lain-down through similar high energy fluvial processes. To reflect this uncertainty deposits of the Ardleigh Gravel beneath 3.0 m bgl have therefore been assessed as having unknown archaeological and palaeoenvironmental potential. Regardless, these lower deposits are beyond the depth of direct archaeological evaluation. However, if they contained fine-grained and/or organic sediments with palaeoenvironmental potential, these could be assessed through boreholes.

8.1.5 The hollows/gullies incised into the Ardleigh Sands and Gravels have been demonstrated to be deepest through the centre of GCZ 1, following a broadly north to south orientation. The Sands infilling these low points likely reflect low energy water run-off, with the Head resulting from slope processes (colluviation and solifluction). The specific age of the Sands and Head is uncertain; they may post-date the Ardleigh Gravel by a considerable period. The deposits infilling these low points in the surface of the Ardleigh Gravel have not previously been recognised.

8.1.6 No artefacts were recovered from these deposits. Burnt unworked flint clasts were sporadically identified in the Head, which may be indicative of human activity, but could result from natural burning. The lack of chronology for these newly identified deposits provides uncertainty when judging Palaeolithic archaeological potential. Based on this assessment the Palaeolithic archaeological potential has been assessed as Low-Moderate; their palaeoenvironmental potential has been assessed as Low.

8.1.7 The youngest Pleistocene sediments in GCZ 1 comprise Brickearth. These deposits likely have significant aeolian components but have been reworked through colluviation and/or solifluction; they are the equivalent of 'Coversands' mapped by the BGS. The specific age of the Brickearth is uncertain. No archaeology was recovered from these deposits and the lithostratigraphy indicates that any archaeology within these sediments is likely to reworked to some degree; no stabilisation horizons were identified with potential for buried stable surfaces that could preserve minimally disturbed/in situ archaeology. Based on this assessment their archaeological potential is assessed as Low; similarly, their palaeoenvironmental potential is Low.

8.2 Recommendations

8.2.1 The Palaeolithic archaeological potential of the Pleistocene deposits in GCZ 1 have been characterised. The upper c. 3.0 m of the of the Ardleigh Gravels may contain reworked Lower Palaeolithic artefacts of significance to the Palaeolithic settlement history of the region but given their likely low density and the artefact sampling already carried out as part of the evaluation, no further work is recommended.

8.2.2 The Ardleigh Gravels below 3.0 m bgl that occur in the Site cannot be directly archaeologically evaluated. The principal area of archaeological uncertainty regarding these lower deposits is whether they contain fine-grained and/or organic sediments with palaeoenvironmental potential. Should deposits of the Ardleigh Gravels at depths beyond 3.0 m bgl be impacted on by development proposals, it is recommended that they are assessed for the presence of such fine-grained and/or organic sediments. This could be achieved through a geoarchaeological watching brief on any Ground Investigation (GI) boreholes.

8.2.3 The Palaeolithic archaeological potential of deposits overlying Ardleigh Gravels in GCZ 1 is limited. However, as deposits infilling hollows/gullies incised into the Ardleigh Gravel have not previously been identified and are undated, there is some uncertainty regarding their Palaeolithic archaeological potential. Should these deposits be impacted on by development proposals, it is recommended that they are further investigated as part of post consent archaeological mitigation works, with provision for the recovery of luminescence samples for dating.

9 ARCHIVE STORAGE AND CURATION

9.1 Museum

9.1.1 The archive resulting from the evaluation is currently held at the offices of Wessex Archaeology in Salisbury. Colchester Museum has agreed in principle to accept the archive on completion of the project. Deposition of any finds with the museum will only be carried out with the full written agreement of the landowner to transfer title of all finds to the museum.

9.2 Preparation of archive

Physical archive

9.2.1 The archive, which includes paper records, graphics, artefacts and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Colchester Museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014c; SMA 1995).

9.2.2 All archive elements are marked with the **site code LAWGR23**, and a full index will be prepared. The physical archive currently comprises the following:

- 01 cardboard boxes or airtight plastic boxes of artefacts and ecofacts, ordered by material type

- 01 files/document cases of paper records

Digital archive

9.2.3 The digital archive generated by the project will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata.

9.3 Selection strategy

9.3.1 It is widely accepted that not all the records and materials (artefacts and palaeoenvironmental data) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e. the retained archive should fulfil the requirements of both future researchers and the receiving Museum.

9.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4, CIfA 2022) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

9.3.3 Project-specific proposals for selection are presented below. These proposals are based on recommendations by Wessex Archaeology's internal specialists and will be updated in line with any further comment by other stakeholders (museum, local authority). The selection strategy will be fully documented in the project archive.

9.3.4 Any material not selected for retention may be used for teaching or reference collections by Wessex Archaeology.

Finds

9.3.5 It is recommended that the possible flake recovered during the evaluation be retained, whilst all other material is documented is disposed of.

Documentary records

9.3.6 Paper records comprise site registers (other pro-forma site records are digital), drawings and reports (Written Scheme of Investigation, client report). All will be retained and deposited with the project archive.

Digital data

9.3.7 The digital data comprise site records (tablet-recorded on site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although site photographs will be subject to selection to eliminate poor quality and duplicated images, and any others not considered directly relevant to the archaeology of the site.

9.3.8 Wessex Archaeology follows national guidelines on selection and retention (SMA 1993; Brown 2011, section 4). In accordance with these, and any specific guidance prepared by the museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum and is fully documented in the project archive.

9.4 Security copy

9.4.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

9.5 OASIS

9.5.1 An OASIS (online access to the index of archaeological investigations) record (http://oasis.ac.uk) has been initiated, with key fields completed

9.5.2 (**Appendix 2**). A .pdf version of the final report will be submitted following approval by the Historic Environment Consultant at Place Services on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

10 COPYRIGHT

10.1 Archive and report copyright

10.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

10.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research, or development control within the planning process.

10.2 Third party data copyright

10.2.1 This document, the evaluation report and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material.

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APPENDICES

Appendix 1 Test pit summaries

The stratigraphic succession encountered in each test pit are outlined below. Both heights and coordinates were taken at the centre of each trench. Depth bgl = below ground level

Site Code: **231916**	**Site Name:** **Five Estuaries Onshore OnSS**	**Test Pit ID:** **TP 201**
Coordinates (NGR) X: **608617.2917**	**Coordinates (NGR) Y:** **229178.9391**	**Level (top):** **35.31 m OD**
Length: **4.00 m**	**Width:** **2.00 m**	**Depth:** **3.30 m bgl**

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20101	Loose light brown friable silty clay with modern rooting. Occasional fine to coarse (2-25mm) subangular to subrounded flint gravel clasts. **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.31-35.01	
20102	Mid brown firm sandy silt with heavy rooting. Rare fine (<10mm) subangular flint gravel clasts. **Sharp sub-horizontal contact**	Colluvium	0.30-0.50	35.01-34.81	
20103	Light greyish brown gravelly sandy silt. Gravel is angular to subrounded flint clasts. **Sharp sub-horizontal contact**	Brickearth	0.50-0.90	34.81-34.41	283
20104	Light grey mottled orangish brown sandy silt. Structureless. **Sharp sub-horizontal contact**	Brickearth	0.90-1.70	34.41-33.61	284 285
20105	Light yellowish brown fine to medium sand. Moderately well sorted. Rare flint fine to medium (10-20mm) subangular to subrounded flint gravel clasts. **Sharp sub-horizontal contact**	Sands	1.70-2.00	33.61-33.31	286 287
20106	Mid orangish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (10-70mm) subangular to subrounded flint clasts. Occasional rounded tertiary and subrounded quartz clasts. Moderately well sorted. Structureless.	Fluvial sand and gravel	2.00-3.30	33.31-32.31	288 289 290 291

Site Code: **231916**	**Site Name:** **Five Estuaries Onshore OnSS**	**Test Pit ID:** **TP 202**
Coordinates (NGR) X: **608571.8055**	**Coordinates (NGR) Y:** **229098.9781**	**Level (top):** **35.40 m OD**
Length: **3.50 m**	**Width:** **2.00 m**	**Depth:** **3.00 m bgl**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
20201	Loose friable silty clay with frequent rooting **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.40-35.10	
20202	Light yellowish brown fine sandy silt. Occasional angular to subangular flint clasts. Structureless. Moderately well sorted. **20 degrees sharp sub-horizontal contact**	Brickearth	0.30-0.60	35.10-34.80	
20203	Reddish brown gravelly sandy silt. Gravel is angular to subangular flint clasts. Poorly sorted. Poorly consolidated. **Sharp sub-horizontal contact**	Head	0.60-1.30	34.80-34.10	275
20204	Light yellowish brown fine to medium sand. Occasional fine (<10mm) subrounded to subangular flint gravel. **Sharp sub-horizontal contact**	Sands	1.30-1.60	34.10-33.80	276 277
20205	Mid orangish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (10-70mm) subangular to subrounded flint clasts with occasional rounded tertiary and quartz clasts. Poorly sorted. Unconsolidated.	Fluvial sand and gravel	1.60-3.00	33.80-32.50	278 279 280 281 282

Site Code: 231916	Site Name: Five Estuaries Onshore OnSS	Test Pit ID: TP 203
Coordinates (NGR) X: 608474.6625	Coordinates (NGR) Y: 229169.6892	Level (top): 35.67 m OD
Length: 3.50 m	Width: 2.00 m	Depth: 3.20 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20301	Light brownish grey sandy silty clay. Occasional subrounded to angular flint gravel clasts. Frequent rooting. Structureless. Poorly consolidated. **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.67-35.37	
20302	Light yellowish brown silty clay. Rare fine to medium (10-20mm) angular to subangular flint gravel clasts. Occasional rooting. Moderately consolidated. Structureless. **Sharp sub horizontal contact**	Colluvium	0.30-0.65	35.37-35.02	221
20303	Mid brownish red to light reddish yellow fine sand. Rare to occasional horizons of sandy clay. Occasional fine to coarse (10-40mm) angular to subangular flint gravel clasts. Moderately consolidated. Heavily rooted. **Diffuse contact**	Brickearth	0.65-1.00	35.02-34.67	222
20304	Light bluish grey to light reddish yellow clayey sand. Sand is fine to medium. Rooted to c. 1.60m. Gravel unit at 2.20m containing fine to coarse (5-40mm) subangular to subrounded flint clasts. Structureless. Poorly sorted. **Sharp sub-horizontal clear contact**	Head	1.00-2.55	34.67-33.12	223 224 225 226
20305	Light reddish brown fine sand with very occasional fine to medium (10-20mm) subangular to subrounded flint gravel clasts. Frequent light grey pockets of fine to medium fine sand. Moderately consolidated **Sharp sub-horizontal contact**	Sands	2.55-3.20	33.12-32.47	227 228
20306	Reddish brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse (10-20mm) subrounded to subangular flint gravel in a coarse sand matrix. Moderately sorted.	Fluvial sand and gravel	3.20+	32.47	229

Site Code: 231916	Site Name: Five Estuaries Onshore OnSS	Test Pit ID: TP 204
Coordinates (NGR) X: 608491.2399	Coordinates (NGR) Y: 229015.643	Level (top): 35.46 m OD
Length: 4.00 m	Width: 2.00 m	Depth: 3.30 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20401	Light brown silty clay with frequent rooting. Occasional angular to subrounded flint clasts. **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.46-35.16	
20402	Light orangish brown fine sandy silt with rare flint clasts and heavily rooted. Structureless **Sharp sub-horizontal contact**	Brickearth	0.30-0.70	35.16-34.76	266
20403	Light brownish grey sandy gravel. Sand is coarse. Gravel is fine to coarse (5-30mm) subangular to subrounded flint clasts. Rare rounded flint clasts. Poorly sorted. Moderately consolidated. **Sharp sub-horizontal contact**	Head	0.70-0.90	34.76-34.56	267
20404	Orangish brown firm silty sand with flint gravel. Occasional iron staining. Structureless. Moderately consolidated **Diffuse contact**	Sands	0.90-1.60	34.56-33.86	268
20405	Light orangish to reddish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (10-60mm) subangular to subrounded flint clasts. Rare rounded clasts. Moderately well sorted. **Sharp sub horizontal contact**	Fluvial sands and gravels	1.60-2.60	33.86-32.86	269 270 271 272
20406	Light yellowish brown sand. Sand is fine to medium. Occasional fine to medium (10-15mm) rounded to subrounded flint clasts. Rare rounded tertiary and quartz clasts. Moderately well sorted.	Fluvial sands and gravels	2.60-3.30	32.86-32.16	273 274

Site Code: **231916**	**Site Name:** **Five Estuaries Onshore OnSS**	**Test Pit ID:** **TP 205**
Coordinates (NGR) X: **608391.9572**	**Coordinates (NGR) Y:** **229054.6742**	**Level (top):** **35.50 m OD**
Length: **4.00 m**	**Width:** **2.00 m**	**Depth:** **3.00 m bgl**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
20501	Light brown silty clay with frequent rooting. Rare flint gravel clasts **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.50-35.20	
20502	Light reddish to orangish brown silty sand. Frequent rooting. Structureless. **Sharp sub-horizontal contact**	Brickearth	0.30-0.65	35.20-34.85	
20503	Grey mottled orangish brown firm slightly sandy clayey silt. Occasional fine to coarse (2-30mm) subrounded to subangular flint clasts. Becoming sandier with depth. **Sharp sub-horizontal contact**	Head	0.65-1.90	34.85-34.60	259 260 261
20504	Interbedded light grey to orangish brown sand and gravel. Sand is medium to coarse. **Sharp sub-horizontal contact**	Sands	1.90-2.20	34.60-34.30	262
20505	Light yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (10-60mm) subangular to rounded flint clasts. Moderately well sorted.	Fluvial sands and gravels	2.20-3.00	34.30-33.50	263 264 265

Site Code: 231916	**Site Name:** Five Estuaries Onshore OnSS	**Test Pit ID:** TP 206
Coordinates (NGR) X: 608343.6029	**Coordinates (NGR) Y:** 229139.1981	**Level (top):** 35.50 m OD
Length: 4.00 m	**Width:** 2.00 m	**Depth:** 3.00 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20601	Light greyish brown slightly sandy silty clay. Sand is fine to coarse. Occasional fine to coarse (10-30mm) angular to subangular flint gravel clasts. Structureless. **Sharp sub-horizontal contact**	Topsoil	0.00-0.33	35.50-35.17	
20602	Mid greyish yellow slightly sandy silty clay. Occasional fine to coarse (10-30mm) angular to subangular flint gravel clasts. **Sharp sub-horizontal contact**	Brickearth	0.33-0.70	35.17-34.80	201
20603	Mid yellowish clayey sand. Sand is coarse. Occasional fine to coarse (3-30mm) flint gravel. **Sharp sub-horizontal contact**	Head	0.70-1.15	34.80-34.35	202 203
20604	Mid reddish brown sand. Frequent fine to coarse (10-40mm) angular flint clasts. Structureless. Poorly consolidated **Sharp sub-horizontal contact**	Head	1.15-1.30	34.35-34.20	204
20605	Mid brownish red gravelly sand. Sand is coarse. Gravel is fine to medium (5-15mm) angular and subangular flint clasts. Moderately sorted. Poorly consolidated **Diffuse contact**	Head	1.30-1.50	34.20-34.00	205
20606	Mid yellowish red slightly clayey gravelly sand. Sand is coarse. Gravel is fine to medium (5-20mm) angular to subangular flint clasts. Structureless. Poorly consolidated **Sharp sub-horizontal contact**	Head	1.50-1.80	34.00-33.70	206 207
20607	Slightly clayey sandy gravel. Gravel is fine to coarse (5-70%) angular to subangular with few subrounded flint clasts. Structureless. Poorly consolidated **Sharp sub-horizontal contact**	Head	1.80-2.50	33.70-33.00	208 209 210

20608	Light reddish yellow sand. Sand is fine to medium. Very occasional fine to coarse (10-30mm) subangular flint clasts. **Sharp sub-horizontal contact**	Sands	2.50-2.80	33.00-32.70	211
20609	Sandy gravels (complete description of sediment unit not recorded)	Fluvial sands and gravels	2.80-3.00	32.70-32.50	

Site Code: 231916	**Site Name:** Five Estuaries Onshore OnSS	**Test Pit ID:** TP 207
Coordinates (NGR) X: 608338.3222	**Coordinates (NGR) Y:** 228954.711	**Level (top):** 35.34 m OD
Length: 4.00 m	**Width:** 2.00 m	**Depth:** 3.00 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20701	Light brown silty clay with frequent rooting. Rare flint gravel clasts **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.34-35.04	
20702	Light orangish grey to brown silty clay. Rare fine to medium (10-20mm) subangular to subrounded flint gravel clasts. Structureless. **Sharp sub-horizontal contact**	Colluvium	0.30-0.50	35.04-34.84	
20703	Mid brownish red to light reddish yellow fine sand. Rare to occasional horizons of sandy clay. Occasional fine to coarse (10-40mm) angular to subangular flint gravel clasts. Moderately consolidated. Heavily rooted. **Sharp sub-horizontal contact**	Brickearth	0.50-0.80	34.84-34.54	212
20704	Orangish brown sandy gravel. Sand is coarse. Gravel is angular to subrounded. Poorly sorted. Poorly consolidated. Structureless. **Sharp sub-horizontal contact**	Head	0.80-1.80	34.54-33.54	213 214 215 216 217
20705	Light grey sandy gravel. Sand is coarse. Gravel is fine to coarse (5-50mm) subangular to subrounded flint clasts. Rare rounded flint clasts. Structureless.	Fluvial sands and gravels	1.80-2.30	33.54-33.04	218

Site Code: 231916	**Site Name:** Five Estuaries Onshore OnSS	**Test Pit ID:** TP 208
Coordinates (NGR) X: 608231.6587	**Coordinates (NGR) Y:** 229058.8651	**Level (top):** 35.47 m OD
Length: 4.00 m	**Width:** 2.00 m	**Depth:** 3.00 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
20801	Greyish brown loose silty clay. Frequent rooting. Rare fine to coarse (10-30mm) subangular flint clasts. **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.47-35.17	
20802	Light orangish grey to brown silty clay. Rare fine to medium (10-20mm) subangular to subrounded flint gravel clasts. Structureless. **Sharp sub-horizontal contact**	Colluvium	0.30-0.50	35.17-34.97	
20803	Orangish to reddish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (10-40mm) angular to subangular flint clasts. Rare subrounded clasts. Structureless. Poorly consolidated **Diffuse contact**	Head	0.50-1.00	34.97-34.47	234 235
20804	Brown mottled orangish red sandy gravel. Sand is coarse. Gravel is subangular flint clasts. **Diffuse contact**	Head	1.00-1.30	34.47-34.17	236
20805	Yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (2-40mm) with rare cobble-sized (<70mm) subangular to subrounded flint clasts. Moderately well sorted **Sharp sub-horizontal contact**	Fluvial sands and gravels	1.30-2.30	34.17-33.17	237 238 239
20806	Light yellowish brown sand. Sand is fine to medium. Rare fine to medium (5-15mm) subrounded flint clasts.	Fluvial sands and gravels	2.30-2.90	33.17-32.57	240 241

Site Code: **231916**	**Site Name:** **Five Estuaries Onshore OnSS**	**Test Pit ID:** **TP 209**
Coordinates (NGR) X: **608180.1461**	**Coordinates (NGR) Y:** **229110.1991**	**Level (top):** **35.43 m OD**
Length: **4.00 m**	**Width:** **2.00 m**	**Depth:** **2.90 m bgl**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
20901	Light grey loose silty clay. Frequent rooting. Rare fine to coarse (10-30mm) subangular flint clasts **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.43-32.43	
20902	Light brownish grey slightly sandy silty clay. Structureless. **Sharp sub-horizontal contact**	Brickearth	0.30-1.00	32.43-31.73	249 250
20903	Orangish brown sandy gravel. Sand is coarse. Gravel is angular to subrounded. Poorly sorted. Poorly consolidated. Structureless. **Sharp sub-horizontal contact**	Head	1.00 1.50	31.73-31.23	251
20904	Reddish brown sandy gravel. Sand is coarse. Gravel is subrounded and subangular **Diffuse contact**	Head	1.50-1.80	31.23-30.93	252 253
20905	Light grey sandy gravel. Sand is coarse. Gravel is fine to coarse (5-50mm) subangular to subrounded flint clasts. Rare rounded flint clasts. Structureless.	Fluvial sands and gravels	1.80-2.90	30.93-29.83	254 255 256 257

Site Code: **231916**	**Site Name:** **Five Estuaries Onshore OnSS**	**Test Pit ID:** **TP 210**
Coordinates (NGR) X: **608350.7348**	**Coordinates (NGR) Y:** **228827.5882**	**Level (top):** **35.00 m OD**
Length: **4.00 m**	**Width:** **2.00 m**	**Depth:** **2.40 m bgl**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
21001	Brownish grey silty clay. Occasional fine to coarse (10-30mm) subangular to subrounded flint gravel clasts. **Sharp sub-horizontal contact**	Topsoil	0.00-0.35	35.00-34.65	
21002	Grey slightly sandy silt. Rare subangular to subrounded flint gravel clasts. Rare rooting **Diffuse contact**	Brickearth	0.35-0.65	34.65-34.35	
21003	Reddish brown clayey sandy gravel. Gravel is fine to coarse (10-40mm) subangular flint clasts. Poorly sorted. Poorly consolidated **Diffuse contact**	Head	0.65-1.00	34.35-34.00	229
21004	Yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (2-40mm) subangular to subrounded flint gravel. Rare rounded tertiary and quartz clasts. Moderately sorted	Fluvial sands and gravels	1.00-2.40	34.00-32.60	230 231 232 233

Site Code: 231916	Site Name: Five Estuaries Onshore OnSS	Test Pit ID: TP 211
Coordinates (NGR) X: 608202.749	Coordinates (NGR) Y: 228892.4071	Level (top): 35.24 m OD
Length: 4.00 m	Width: 2.00 m	Depth: 2.90 m bgl

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21101	Greyish brown friable silty clay. Frequent rooting. Rare fine to coarse (10-30mm) subangular flint clasts **Sharp sub-horizontal contact**	Topsoil	0.00-0.30	35.24-34.94	
21102	Orangish brown firm sandy silt. Frequent rooting. **Sharp sub-horizontal 20 degrees contact**	Brickearth	0.30-0.50	34.94-34.74	
21103	Dark reddish brown sandy gravel. Sand is coarse. Gravel is angular to subangular flint gravel **Diffuse contact**	Fluvial sands and gravels	0.50-1.60	34.74-33.64	242 243 244
21104	Yellowish brown sandy gravel. Sand is coarse. Gravel is subangular to subrounded flint clasts. Rare rounded clasts. Structureless. **Sharp sub-horizontal contact**	Fluvial sands and gravels	1.60-2.00	33.64-33.24	245
21105	Yellowish brown sand. Sand is fine to medium. Rare flint gravel clasts. **Sharp sub-horizontal contact**	Fluvial sands and gravels	2.00-2.30	33.24-32.94	246
21106	Yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (2-40mm) with occasional cobble-sized (<70mm) subangular to subrounded flint clasts. Moderately sorted. Structureless	Fluvial sands and gravels	2.30-2.90	32.94-32.34	247 248

Appendix 2 OASIS form

OASIS Summary for wessexar1-517235

OASIS ID (UID)	wessexar1-517235
Project Name	Evaluation at Five Estuaries OSWF & North Falls OSWF Onshore Substation Area
Sitename	Five Estuaries OSWF & North Falls OSWF Onshore Substation Area
Sitecode	LAWGR23
Project Identifier(s)	231916
Activity type	Evaluation
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	Wessex Archaeology
Project Dates	15-May-2023 - 19-May-2023
Location	Five Estuaries OSWF & North Falls OSWF Onshore Substation Area NGR : TM 08639 29215 LL : 51.92234629854591, 1.032739973504795 12 Fig : 608639,229215
Administrative Areas	Country : England County : Essex District : Tendring Parish : Lawford
Project Methodology	Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm (OSWF) Ltd (‘the Client’) to undertake a Palaeolithic archaeological evaluation through a program of test pitting at the proposed location for the onshore substation (OnSS) associated with the Five Estuaries and North Falls OSWF (‘the Site’). The Site is located north of Little Bromley Road, Little Bromley, Tendring, Essex and is centred on NGR 608143, 228898 (TM 08639 29215) (Figure 1). The OnSS will consist of the ONSS complex, connected to the offshore OSWF arrays via an Onshore and Offshore Export Cable Corridor. The OnSS will additionally connect to a National Grid Substation located to the west of the Site via another section of underground cable. Landscaping and planting will also be undertaken in the onshore substation area following works as part of the proposals. . The Palaeolithic evaluations reported on represent an initial phase of work that investigated 20.5 hectares (ha) of land located in the north-east of the Site (‘the Evaluation Area’) (Figure 1). Further evaluation works are planned to be carried out across the remaining area of the Site.

Project Results	A consistent sequence of Quaternary deposits was identified across the evaluation Area enabling the deposits to be grouped within a single Geoarchaeological Character Zones (GCZ 1) of a Geoarchaeological Landscape Characterisation (GLC). The Pleistocene deposits comprised Fluvial Sands and Gravels, the surface if which has been incised into by hollows/gullies infilled with a basal Sands and slope deposits (Head). These sediments were sealed by Pleistocene Brickearth. The Fluvial Sands and Gravels likely belonging to the Ardleigh Gravels of the Kesgrave Sands and Gravels (MIS 16–14; 676–524 Ka) of the River Thames. The evaluation investigated the upper c.3.00 m of these deposits, which comprised high energy fluvial sediments, likely deposited by a braided river. BGS borehole date suggests that c.10.00 m of the Ardleigh Gravels occur. It is unclear whether the lower, unevaluated, units of this stratigraphy are similarly all high energy fluvial deposits or whether sediments occur a greater depth that reflect different depositional regimes (e.g. finer-grained deposits associated with more stable channels). The upper 3.00m of the Ardleigh Gravels have potential to sporadically contain reworked Lower Palaeolithic artefacts (a possible fake likely reworked form these deposits were recovered from overlying Head). The palaeoenvironmental potential of these coarse fluvial sediments is low. The hollows/gullies incised into the Ardleigh Sands and Gravels are infilled with a basal Sand and slope deposits (Head). The Sands reflect low energy water fun-off/ponding, with the Head resulting from slope processes (colluviation and solifluction). The specific age of the Sands and Head is uncertain; they may post-date the Ardleigh Gravel by a considerable period. These deposits have not previously been recognised in the area. No artefacts were recovered from these sediments. Burnt, unworked flint clasts were sporadically identified in the Head, which may be indicative of human activity, but could result from natural burning. The lack of chronology for these newly identified deposits provides uncertainty when judging Palaeolithic archaeological potential. Based on this assessment the Palaeolithic archaeological potential has been assessed as possibly Low-Moderate; their palaeoenvironmental potential is Low. The youngest Pleistocene sediments comprise Brickearth. These deposits likely have significant aeolian components but have been reworked through colluviation and/or solifluction. The specific age of the Brickearth is uncertain. No archaeology was recovered from these deposits and the lithostratigraphy indicates that any archaeology within these sediments is likely to reworked to some degree; no stabilisation horizons were identified with potential for buried stable surfaces that could preserve minimally disturbed/in situ archaeology. Based on this assessment their Palaoelithic archaeological potential is assessed as Low; similarly their palaeoenvironmental potential is Low Recommendations for further targeted Palaoelithic archaeological work in the Evaluation Area are provided. Although the upper c. 3.00m of the of the Ardleigh Gravels may contain occasional reworked Lower Palaeolithic artefacts of significance to the Palaeolithic settlement history, given their likely low density and the artefact sampling already carried out as part of the evaluation, no further work on these deposits in this area of the Site are recommended. The principal area of archaeological uncertainty regarding unevaluated deposits of the Ardleigh Gravels below 3.00 m bgl is whether they contained fine-grained and/or organic sediments with palaeoenvironmental potential. Should deposits of the Ardleigh Gravels at depths beyond 3.00 m bgl be impacted on by development proposals, it is recommended that they are assessed for the presence of such fine-grained and/or organic sediments. This could be achieved through a geoarchaeological watching brief on any Ground Investigation (GI) boreholes, or through a targeted geoarchaeological boreholes. The Palaeolithic archaeological potential of deposits overlying Ardleigh Gravels in GCZ 1 is limited. However, to mitigate against uncertainties regarding the Palaeolithic archaeological potnetial of newly identified deposits infilling hollows/gullies incised into the Ardleigh Gravel, it is recommend that a stepped test pit is excavated through these deposits to directly record and sample a sequence through these deposits, with

	provision for the recovery of luminescence samples for dating.
Keywords	
Funder	Private or public corporation Five Estuaries Offshore Wind Farm
HER	Essex HER - unRev - STANDARD
Person Responsible for work	Nina Olofsson
HER Identifiers	
Archives	Physical Archive, Documentary Archive, Digital Archive - to be deposited with Colchester & Ipswich Museum Sevice (Colchester Collection); Digital Archive - to be deposited with Archaeology Data Service Archive;

Report generated on: 11 Jul 2023, 09:19

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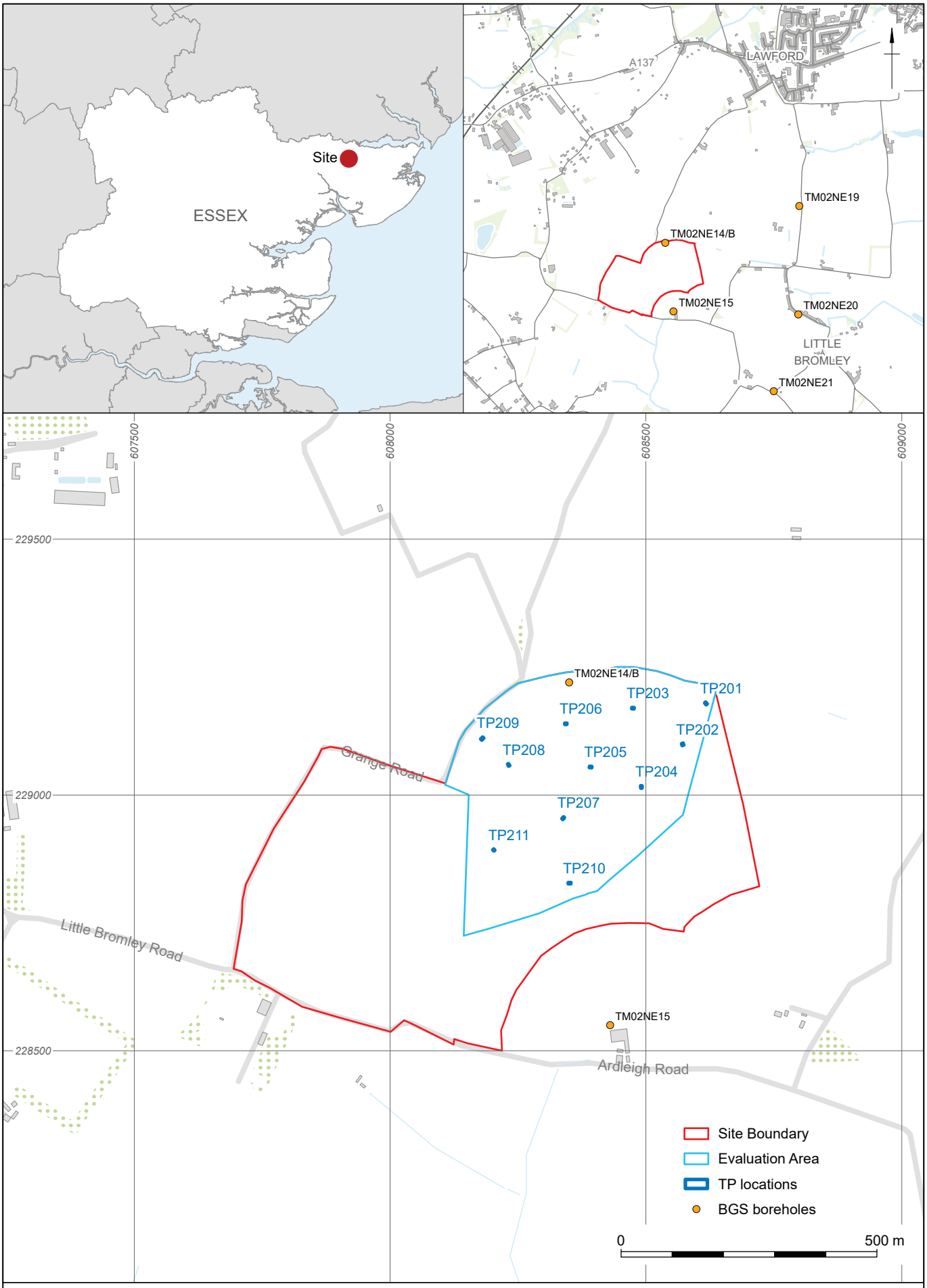
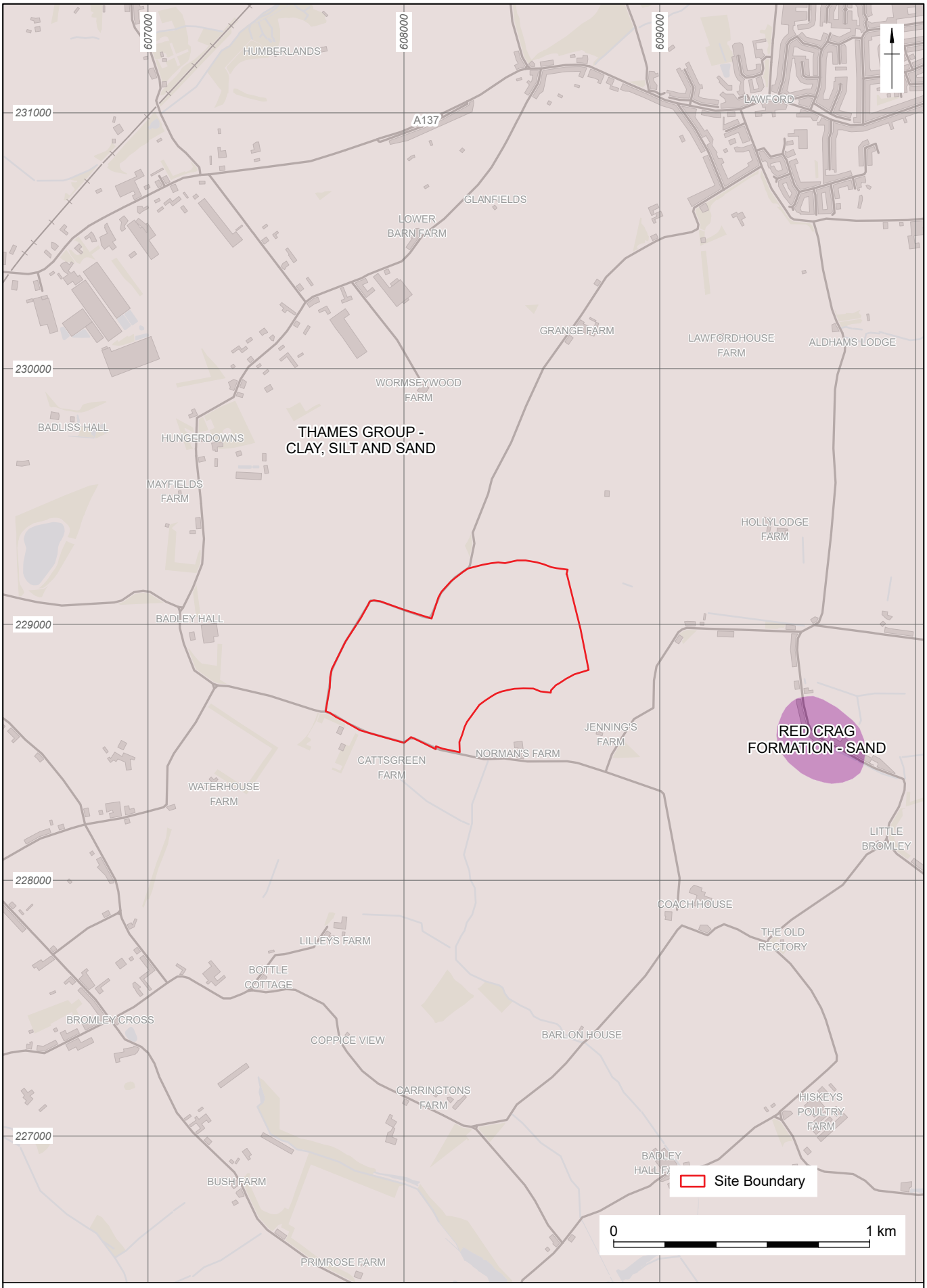


Coordinate system: OSGB 1936 British National Grid

Date: 17/07/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 1: Site location and plan



Date: 03/07/2023	Created by: KJF	Revision: 0	Scale: 1:20,000 at A4

Figure 2: Bedrock Geology

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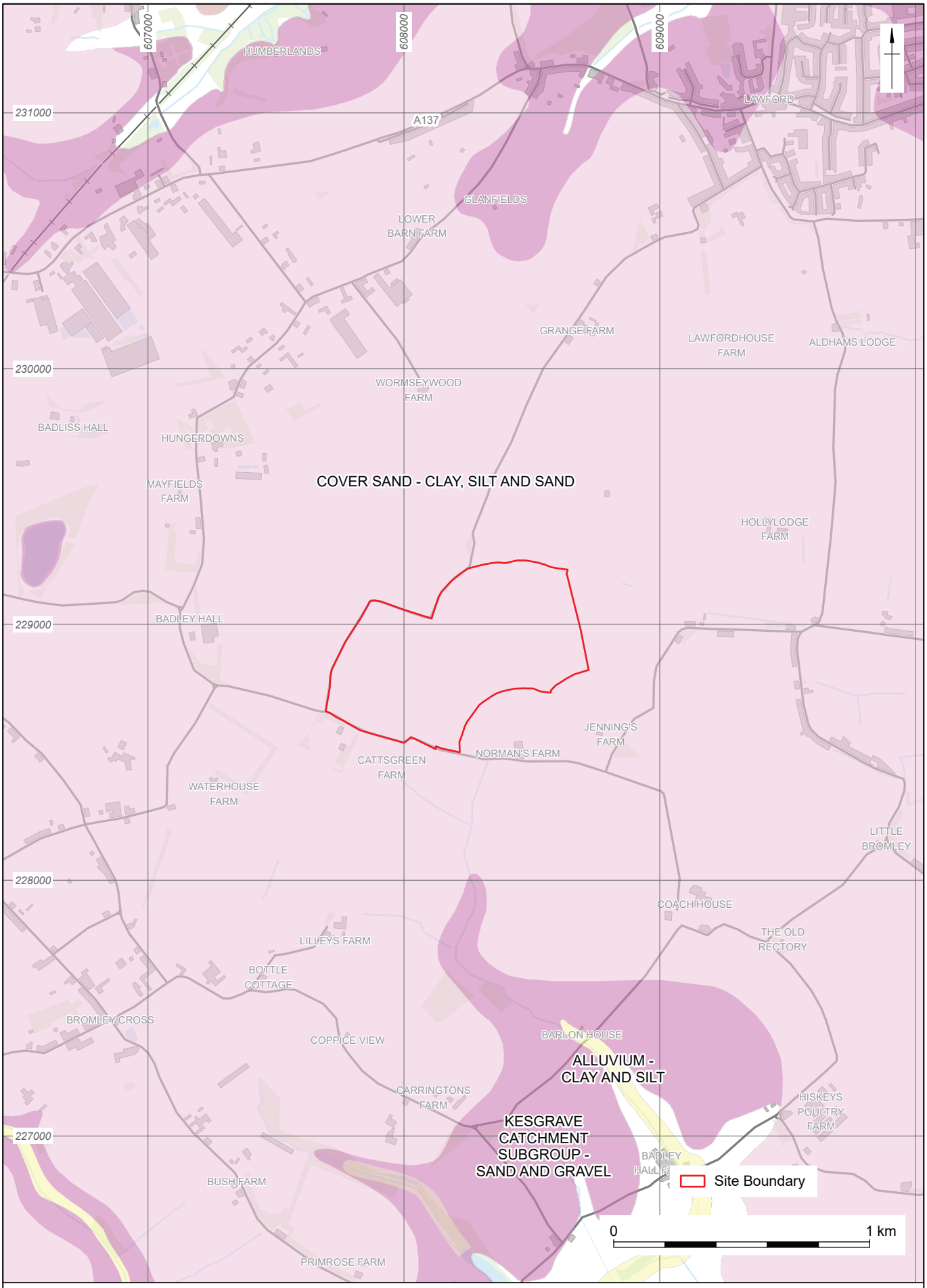


Coordinate system: OSGB 1936 British National Grid

Date: 03/07/2023	Created by: KJF	Revision: 0	Scale: 1:20,000 at A4

Figure 3: Superficial Geology

Figure 4: TP202 north-east facing section, 0.00-2.90m

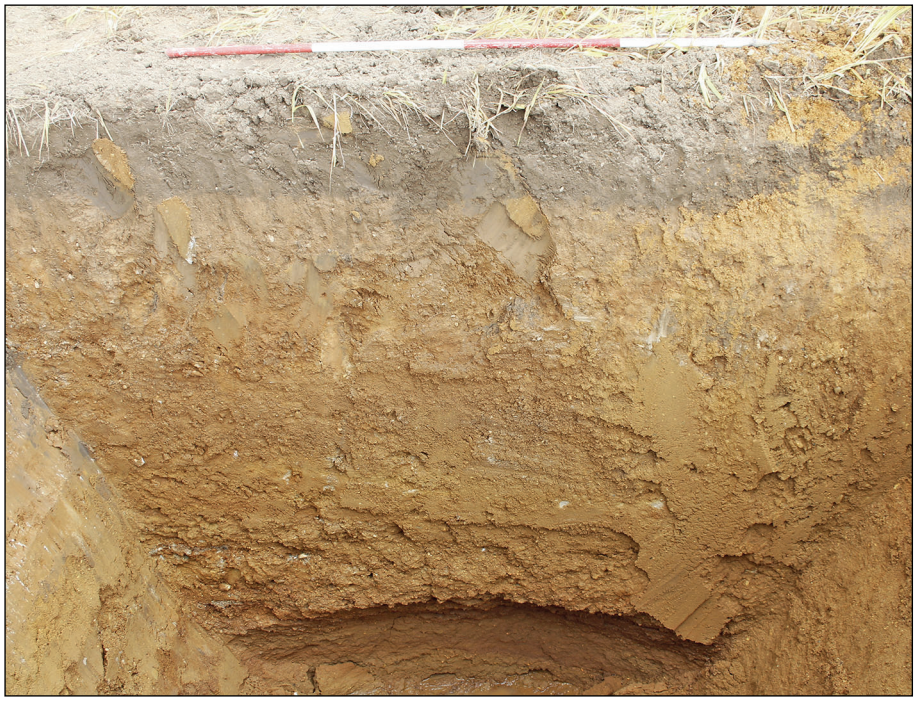


Figure 5: TP206 south facing section, 0.00-2.90m

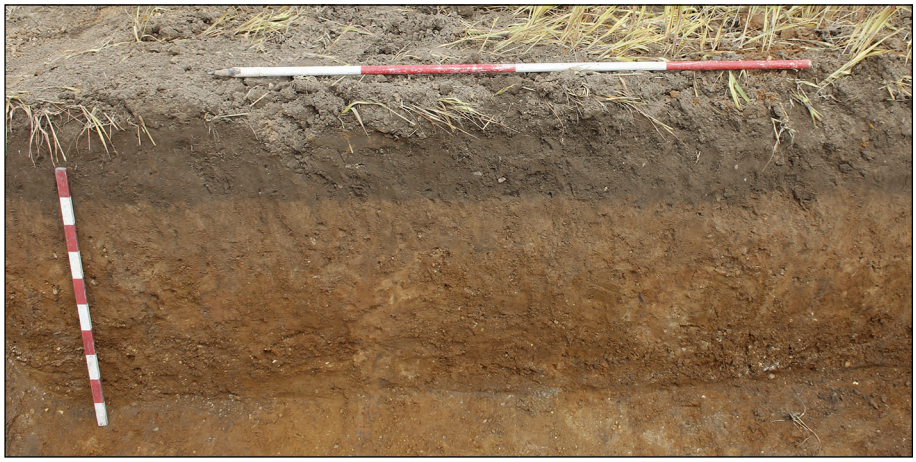
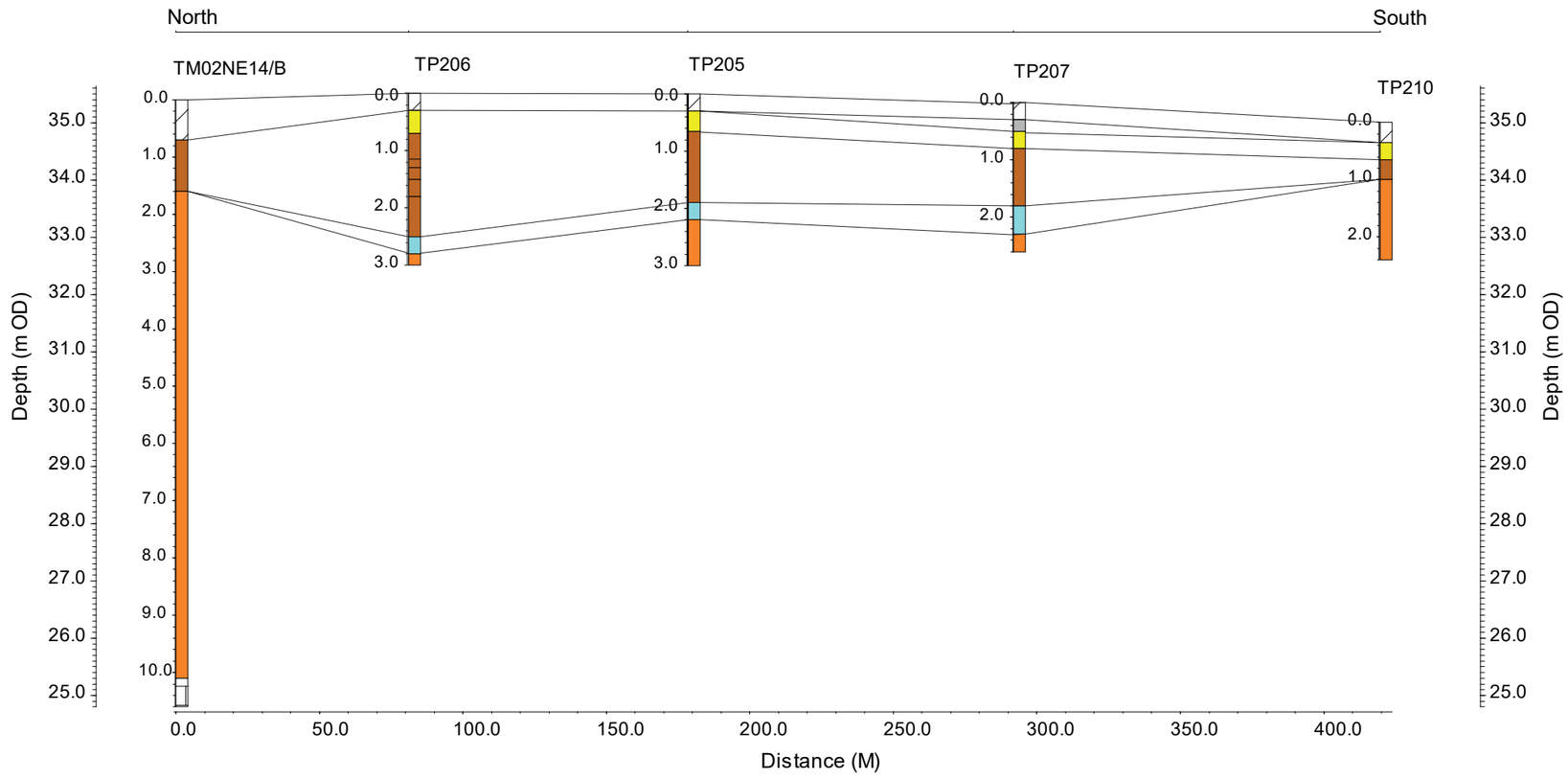
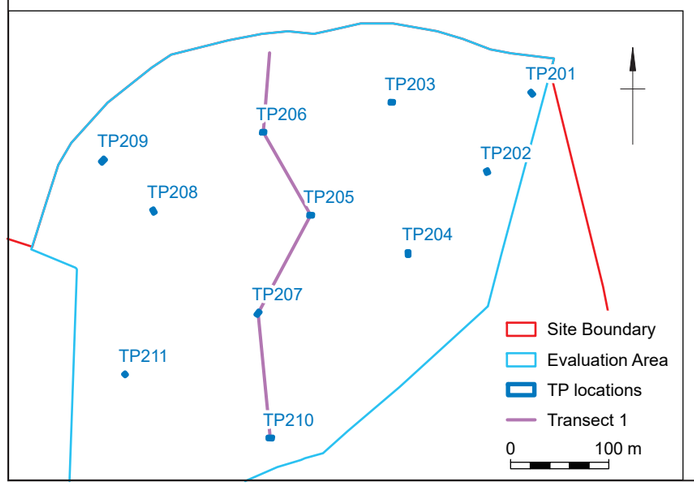


Figure 6: TP206 south facing section, 0.00-1.20m





Stratigraphy
Topsoil
Colluvium
Brickearth
Head
Sands
Fluvial Sands and Gravels
Bedrock

Coordinate system: OSGB 1936 British National Grid

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Figure 7: Transect 1

South-west

North-east

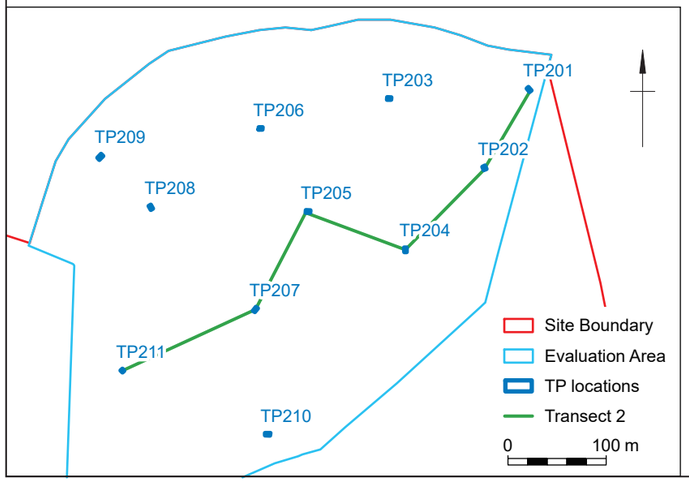
TP211 TP207 TP205 TP204 TP202 TP201

Depth (m OD)

35.0 34.0 33.0

0.0 50.0 100.0 150.0 200.0 250.0 300.0 350.0 400.0 450.0 500.0 550.0

Distance (m)



Stratigraphy

- Topsoil
- Colluvium
- Brickearth
- Head
- Sands
- Fluvial Sands and Gravels
- Bedrock

Coordinate system: OSGB 1936 British National Grid

Date: 30/06/2023	Created by: KJF	Revision: 0	Scale: Inset 1:6,250 at A3

Figure 8: Transect 2

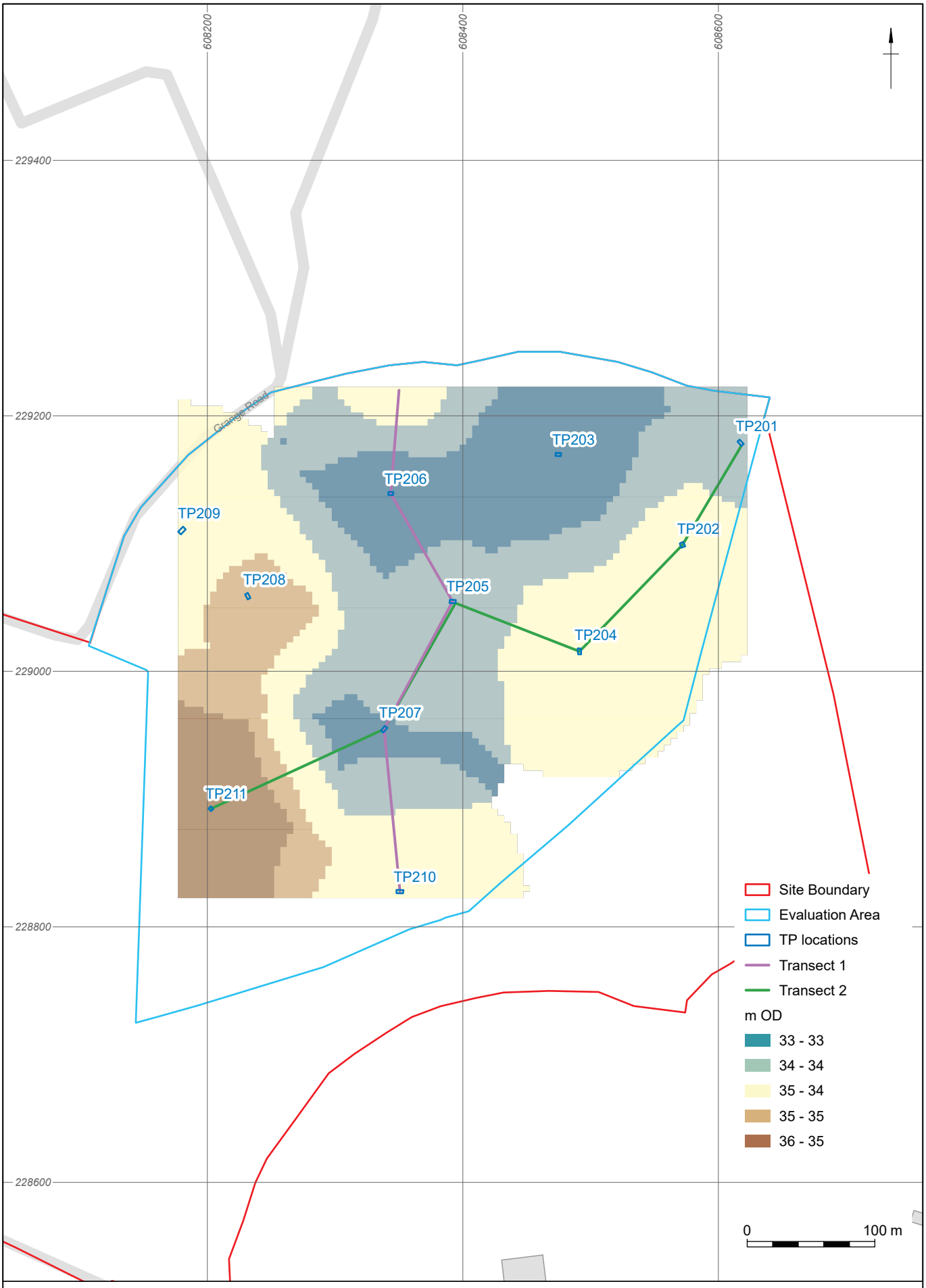


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Figure 9: Surface of Fluvial Sands and Gravels

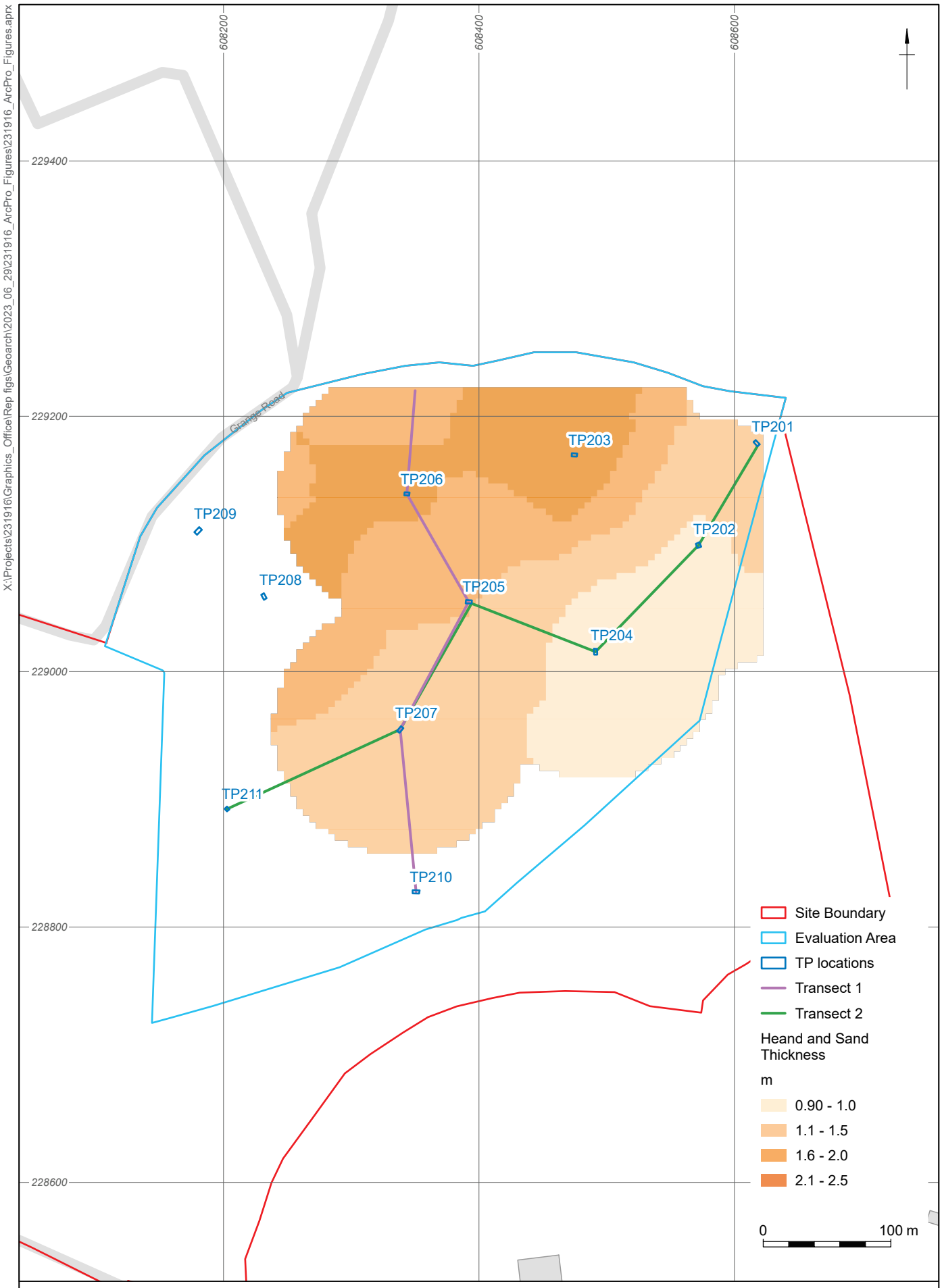

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Figure 10: Thickness of Head and Sands

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FS 606559

NORTH FALLS

Offshore Wind Farm

sse Renewables | RWE

HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

To contact please email contact@northfallsoffshore.com

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