FIVE ESTUARIES
OFFSHORE WIND FARM

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Five Estuaries Offshore Wind Farm Onshore Substation Area

Palaeolithic Geoarchaeological Evaluation – Phase 2

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Summary

Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm Ltd and North Falls Offshore Wind Farm Ltd to undertake a Palaeolithic geoarchaeological evaluation through a programme of test pitting at the proposed location of an onshore substation for the wind farm projects ('the Site'). The Site is located north of Little Bromley Road, Little Bromley, Tendring, Essex and is centred on National Grid Reference (NGR) TM 08143 28898.

A staged approach has been taken to determining the Palaeolithic geoarchaeological potential of the Site. A Geoarchaeological Desk-based Assessment (GDBA) for the onshore cable route of the wind farm projects (Wessex Archaeology 2022a) included the area of the present Site. An initial phase of evaluation (11 machine-dug test pits) was carried out in the north of the Site and reported on (Wessex Archaeology 2023b). This report relates to a second phase of evaluation (19 test pits) in the south-west and south of the Site.

The combined phases of evaluation have characterised the Quaternary deposits in the Site and mapped their lateral and horizontal extent. This has enabled the provision of a Geoarchaeological Landscape Characterisation (GLC) that divides the Site into two Palaeolithic Geoarchaeological Character Zones (GCZs). The geoarchaeological potential of deposits in each GCZ has been assessed. The evaluation has demonstrated that the earliest Pleistocene deposits in the site belong to the Ardleigh Gravel of the Kesgrave Sands and Gravels (MIS 16-14; 676-524 Kya), of the River Thames. These occurred across the Site (both GCZ 1 and GCZ 2). The upper c. 3.0 m of these deposits has been evaluated, which typically comprised high energy fluvial deposits, likely deposited in a braided river. These deposits were extensively sampled for artefacts. No archaeology was recovered. The palaeoenvironmental potential of these deposits was assessed as generally low, with the exception that finer-grained silts were locally present in GCZ 2. These have greater potential and samples suitable for palaeoenvironmental assessment were taken.

Across both GCZ 1 and 2, the Ardleigh Gravel was overlain by Pleistocene slope deposits comprising Head-Gravel and Head-Brickearth. The archaeological and palaeoenvironmental potential of these sediments has been assessed as generally low. In GCZ 2 a gully incised into the top of the Ardleigh Gravel was infilled with a basal Sand and overlying Head-Gravel. Although no archaeology was recovered from these deposits, they have not previously been identified in the area, are poorly understood and are undated. This raises some uncertainties regarding their Palaeolithic geoarchaeological potential and their significance as a geoarchaeological resource.

The combined Phase 1 and 2 evaluation of the Site has characterised much of the Palaeolithic geoarchaeological resource present and demonstrated generally low potential for significant Palaeolithic geoarchaeological evidence. The evaluation has however delimited selected Pleistocene deposits in the Site where data is insufficient to fully characterise the Palaeolithic geoarchaeological resource and, dependent on detailed development proposals, further investigations may be required as part of geoarchaeological mitigation and/or the production of a management strategy. These are:

- The Ardleigh Gravel, and any underlying deposits, beneath 3.20m bgl in GCZ 1 and GCZ 2;
- Localised fine-grained deposits in the Ardleigh gravel < 3.20m bgl in GCZ 2, and
- Deposits, particularly Sands, infilling a gully in GCZ 1.

Recommendations for further Palaoelithic geoarchaeological work that may be required are provided. These include recommendations for palaeoenvironmental assessment of the localised fine-grained deposits within the Ardleigh Gravel sampled during Phase 2 of the evaluation.

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The fieldwork was directed by Dr Jack Oughton and Dr Andrew Shaw, with the assistance of Miriam Weinbren and Hayley Hawkins. This report was written by Dr Jack Oughton and edited by Dr Andrew Shaw. Figures were prepared by Kitty Foster. The report was reviewed by Dr Daniel Young. The project was managed by Dr Daniel Young on behalf of Wessex Archaeology.

Five Estuaries Offshore Wind Farm
Onshore Substation Area

Palaeolithic Geoarchaeological Evaluation – Phase 2

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm and North Falls Offshore Wind Farm Ltd (the 'Client') to undertake a second phase of Palaeolithic geoarchaeological evaluation through a program of test pitting of a c. 20 hectares (ha) parcel of land located just north of Little Bromley Road, Little Bromley, Tendring, Essex ('the Site'). The evaluation area was centred on National Grid Reference (NGR) 608639 229215 (TM 08639 29215) (**Figure 1**).

1.1.2 The evaluation was carried out at the proposed location of an onshore substation (OnSS) associated with the offshore wind farm (OSWF) projects. The OnSS will consist of the substation buildings, connected to the offshore wind farm 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 OnSS area as part of the proposals.

1.1.3 A staged approach has been taken to determining the Palaeolithic geoarchaeological potential of the Site. A Geoarchaeological Desk-based Assessment (GDBA) for the onshore cable route of the wind farm projects (Wessex Archaeology 2022a) included the area of the Site. An initial phase of evaluation was subsequently carried out in the north of the Site **(Figure 1**) and reported on (Wessex Archaeology 2023b). This report related to a second phase of evaluation of the south-west and south of the Site (the 'Evaluation Area') (**Figure 1**). The Phase 2 evaluation was carried out between 10th October and 18th October 2023.

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

1.2 Scope of works

1.2.0 The prior GDBA (Wessex Archaeology 2022a) identified the likely presence of landforms associated with Pleistocene geological deposits within the Evaluation Area. Such geological deposits may have potential to contain Palaeolithic archaeology, as well as environmental remains reflective of past human activity, landscapes and environments.

1.2.1 Assessment of the archaeological resource associated with Pleistocene deposits is 'deposit-led', with the aim to provide lithostratigraphic and chronostratigraphic frameworks and to assess the archaeological and palaeoenvironmental records associated with different deposits. A multidisciplinary 'geoarchaeological' approach combining archaeological, geological, geophysical and palaeoenvironmental investigative techniques is required.

1.2.1 The agreed program of the Phase 2 Palaeolithic geoarchaeological evaluation works comprised the excavation, investigation and recording of 19 machine-dug test pits.

1.2.2 All evaluation works undertaken were in accordance with Written Schemes of Investigation (WSI) which detailed the aims, objectives, methodologies and standards to be employed (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.

1.3 Scope of document

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

1.3.1 The presented results will provide further information on the Palaeolithic geoarchaeological 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 geoarchaeological works; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

1.3.2 To help frame Palaeolithic geoarchaeological 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: Geoarchaeological deposit model and Desk-based Assessment (GDBA)	A geoarchaeological deposits model and desk-based assessment (GDBA) examines a range of information (published and unpublished ("grey literature"), geological mapping, Ground Investigation data, historic maps etc.) to inform on the geoarchaeological potential of deposits within a Site The GDBA may include a Geoarchaeological Landscape Characterisation (GLC) which divides the Site into different zones (Geoarchaeological Characterization Zones – GCZs) based on variations in deposits and potential. The GDBA establishes the requirements for and scope of Stage 2 geoarchaeological field investigations. Should Stage 2 work be required, appropriate and proportionate recommendations for each GCZ are provided. The GDBA highlights any areas of a Site where Pleistocene deposits with possible Palaeolithic geoarchaeological potential may occur.
Stage 2: Palaeolithic geoarchaeological evaluation	Field evaluation to establish the Palaeolithic geoarchaeological potential of Pleistocene deposits within a defined Evaluation Area, which informs on the requirements and scope of Stage 3 palaeoenvironmental assessment and/or Stage 4 mitigation. The principal methods of evaluation are through targeted machine-dug test pits and boreholes. An 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 geoarchaeological 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 geoarchaeological 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 geoarchaeological mitigation	Based on the results of the Stage 2 and 3 investigations Palaeolithic geoarchaeological mitigation may be required to offset development impacts. Mitigation may include targeted geoarchaeological sampling for palaeoenvironmental assessment and scientific dating, potentially alongside archaeological excavation. 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.

2 BACKGROUND

2.1 Introduction

2.1.0 Background on the Site and the local Palaeolithic resource was assessed in a prior Geoarchaeological Desk-based Assessment (GBDA) Wessex Archaeology 2022a), with information relevant to the current program of works summarised in a WSI (Wessex Archaeology 2023a). This information is outlined below.

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 bounded to the west by Grange Road, to the north and east by agricultural fields and to the south by Ardleigh Road. The Site covers 38 ha and is currently used as agricultural land.

2.2.1 The Evaluation Area is located to the south and west of the Site. The topography of the Evaluation Area is generally flat and existing ground levels within the Evaluation Area are approximately 35 m above Ordnance Datum (OD).

2.3 Chronology

2.3.1 Palaeolithic geoarchaeological 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 thousands of years before present (Kya).

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 Previous investigations

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

Table 3 Previous investigations relevant to the evaluation

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 2022a
Phase 1 Palaeolithic Archaeological Evaluation	Five Estuaries Offshore Wind Farm Onshore Substation Area, Essex	231916.04	Wessex Archaeology 2023b

Geoarchaeological Desk-based Assessment (Wessex Archaeology 2022a)

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 present 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.

Palaeolithic Archaeological Evaluation (Wessex Archaeology 2023b)

2.4.7 A prior phase of Palaeolithic evaluation was carried out in the north of the Site. This comprised 11 machine-dug test pits. The evaluation found a consistent sedimentary sequence of Quaternary deposits across the Site.

2.4.8 The basal Quaternary deposits were high energy Pleistocene fluvial sands and gravels of the Ardleigh Gravel (MIS 16-14; 676-524 Kya). The upper 3.0m of these sediments were evaluated. British Geological Survey (BGS) boreholes suggest that approximately 10 m of these deposits may be present within the Site, above London Clay Formation bedrock.

2.4.9 A gully was recorded incised into the fluvial sands and gravels, which were infilled with a basal Sand, possibly deposited through water run-off or slope deposits, overlain by coarser deposits (Head-Gravel), likely formed via slope processes, including periglacial solifluction. These deposits were of an undetermined age, but Pleistocene burnt, unworked flint was identified from the Head-Gravel within the gully.

2.4.10 The Sand and Head Gravel were post-dated by Head-Brickearth deposits. How these were deposited was uncertain, but they are likely to include colluvial and possibly aeolian sediments. No archaeology was recovered from these deposits.

2.4.11 In places colluvial clay silts of likely Holocene date were also identified.

2.5 Pleistocene deposits and Palaeolithic archaeological context

2.5.1 The solid geology underlying the Site is mapped by the BGS (GeoIndex) as Palaeogene deposits broadly classified as belonging to the Thames Group (56.0-47.8 Mya) (**Figure 2**). Descriptions in historic boreholes suggests that the bedrock in the area of the Site is London Clay Formation.

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

- Kesgrave Sands and Gravels (Pleistocene)
- Head-Gravel (Pleistocene)
- Head-Brickearth / Coversand (Pleistocene)

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, Allen et al 2022).

2.5.5 Terraces associated with this river system were formed between c. 1.81 Mya and 460 Kya (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 Kya). **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 Bridgeland and Allen 1996; Bridgeland et al 1990; 1999; and Westaway 2014)

High-Level East Essex Gravel				**Thames**	**Thames-Medway confluence**
Postulated MIS	**Southend area**	**Dengie Peninsula**	**Mersea Island**	**Tendring Peninsula**	**Tendring Peninsula**
MIS 12-11-10	Southchurch Gravel	Asheldham Lower and Upper Gravel	Mersea Island Gravel		Wigborough Channel
MIS 11	Southend Channel	Asheldham Channel			Clacton Channel
MIS 12 (Anglian Ice)	Chalkwell Gravel	Caigde Gravel		Upper St Osyth Gravel	Upper Holland Gravel
MIS 12 (early)				Lower St Osyth Gravel	Lower Holland Gravel
MIS 13	Canewdon Gravel	St Lawrence Gravel		Wivenhoe Upper Gravel	Cooks Green Gravel

MIS 13				Wivenhoe Interglacial deposits	
MIS 14				Wivenhoe Lower Gravel	
MIS 14	Belfairs Gravel	Mayland Gravel		Ardleigh Upper Gravel	Colluvium
MIS 15				Ardleigh interglacial deposits	Little Oakley Silts and Sands
MIS16	Ashingdon Gravel			Ardleigh Lower Gravel	
MIS 16	Oakwood Gravel			Waldringfield Gravel	(Offshore)
MIS 18	Daws Heath Gravel				
MIS 20/22	Claydon Gravel				

2.5.6 The deposits of the Kesgrave Sands and Gravels underlying the Site belong to the Ardleigh Gravel Member of the Colchester Formation (Wessex Archaeology 2022a). 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 (2.1 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 Kya) and therefore the timing of deposition may overlap with the Upper Ardleigh Gravels (MIS 16–14; 676–524 Kya).

Head-Gravel

2.5.9 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.

2.5.10 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.

2.5.11 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.

2.5.12 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.

Head-Brickearth/Coversand

2.5.13 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. These deposits are often more generally referred to as Head-Brickearth, with Coversands within such sequences relating specifically to sand sized wind-blown sediments.

2.5.14 Head-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.

2.5.15 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).

2.5.16 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 Kya (e.g. Parks and Rendell 1992; Bateman 1998). Older deposits principally dated to MIS 6 and MIS 12 are known, however.

2.5.17 Primary coversands and loess are 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 Head-Brickearth sequences can preserve palaeoenvironmental evidence, including molluscs and vertebrates.

3 AIMS AND OBJECTIVES

3.1 Overarching aims

3.1.1 The overarching aims (or purpose) of the evaluation, in compliance with the CIfA' *Standard and guidance for archaeological field evaluation* (CIfA 2020a), were to:

- provide information about the Palaeolithic geoarchaeological potential of the evaluation area;
- inform either the scope and nature of any further Palaoelithic geoarchaeological 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:

- to establish the broad presence/absence, nature and distribution of Pleistocene deposits within the evaluation area;
- to establish the potential of Pleistocene deposits to preserve Palaeolithic archaeology;
- to establish the potential of Pleistocene deposits to preserve paleoenvironmental evidence;
- to establish the potential of the Pleistocene deposits for scientific dating;
- to place the results of the evaluation within a wider archaeological and geoarchaeological context, including consideration of the possible significance of archaeological and geoarchaeological resources 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 and Gravels 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 will be undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2023a) and in general compliance with the standards outlined in the relevant CIfA and Historic England guidance (CIfA 2020a, Historic England 2015). Any significant variations to these methods were agreed in writing with the Historic Environment Consultant, Place Services, and the client, prior to being implemented.

4.1.2 The evaluation comprised the excavation, investigation and recording of 19 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** (see Phase 2). 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 a 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 at the maximum safe depth (c. 1.2m) 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 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.

4.3.6 No human remains were uncovered during the evaluation.

Recording

4.3.7 The test pits were recorded in the form of a measured sketch sections of at least one face and accompanying geoarchaeological descriptions and interpretations.

4.3.8 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 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 Stratigraphic evidence

5.1.1 All written and drawn records from the evaluation have been collated, 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 geoarchaeological deposits, ordered by intervention and lithostratigraphy. Details of all lithostratigraphic contexts are provided in the geoarchaeological test pit logs in **Appendix 1**.

5.2 Deposit modelling

5.2.0 The data has been utilised to provide an updated deposit model for the Quaternary deposits in the Site, expanding on that provided by the initial Phase of evaluation (Wessex Archaeology 2023b).

5.2.1 Deposit modelling identifies the range of Quaternary deposits that may be present in a defined area and maps their lateral extent and depth The deposit modelling has been

carried out in accordance with *Deposit modeling and archaeology: guidance for mapping buried deposits* (Historic England 2020).

5.2.2 Only lithostratigraphic records with sufficiently detailed descriptive terminology and location data (including surface elevation) were included in the model. In total 32 deposit records were used in the deposit modelling.

5.2.3 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)

5.2.4 Sedimentary units from the boreholes were classified into five stratigraphic units: (1) topsoil, (2) Head-Brickearth, (3) Sands, (4) Head-Gravel and (5) Ardleigh Gravel. The classified data for groups 1 to 5 were then input into a database within the RockWorks 23™ program.

5.2.5 Models of surface height and thickness were generated using an inverse-distance weighted (IDW) algorithm for the stratigraphic units present within the evaluation area. These include surface plots for the Ardleigh Gravel (**Figure 4**) and thickness plots for the Sands (**Figure 5**), Head-Gravel (**Figure 6**) and Head-Brickearth (**Figure 7**).

5.2.6 Two-dimensional stratigraphic profiles ('transects') of selected interventions across the evaluation area have also been generated using RockWorks 23™. These include east-west Transect 1 (**Figure 8**), Transect 3 (**Figure 10**) and Transect 4 (**Figure 11**) and north-south Transect 2 (**Figure 9**).

5.2.7 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 150m radius around each data point is applied to the models from the present site.

5.3 Finds evidence

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

5.3.2 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).

5.4 Palaeoenvironmental, sedimentological and scientific dating samples

5.4.1 Two samples suitable for palaeoenvironmental assessment were obtained during the evaluation. These will be utilised in accordance with the staged approach outlined in **Table 1**. These samples represent fine-grained deposits present within TP225, which occurred at 2.75-2.90m bgl. The two samples represent samples from the upper interface of these deposits (2.75m bgl) and bulk samples from 2.80-2.90m bgl.

5.4.2 Recommendations for Stage 3 sample assessment of retained samples (see **Table 1**) are made in **Section 8**.

5.4.3 No scientific dating samples were taken during the evaluation.

6 RESULTS

6.1 Introduction

6.1.1 This section outlines the results of the evaluation. It includes summaries of the deposits identified during both this and the previous phase of evaluation (Wessex Archaeology 2022a), integrated within an updated deposit model for the Site, an assessment of any archaeological finds recovered and reviews of any palaeoenvironmental, sedimentological and/or scientific dating samples retained.

6.2 Deposits

6.2.0 The lithostratigraphy of deposits encountered during the evaluation is listed and summarised below. The specific lithologies and lithostratigraphic succession encountered in each intervention are outlined in **Appendix 1**.

6.2.1 The generalised lithostratigraphic sequence encountered within the Evaluation Area comprised:

- Topsoil (Recent)
- Colluvium (Holocene)
- Head-Brickearth (Pleistocene)
- Head-Gravel (Pleistocene)
- Sands (Pleistocene)
- Ardleigh Gravel (Pleistocene)

6.2.2 The distribution of the deposits is illustrated by deposit modelling outputs, comprising three transects (**Figures 4**–**7**), a Digital Elevation Model (DEM) of the surface of the Ardleigh Gravel (**Figure 8**), and thickness plots of the Sands, Head-Gravel and Head-Brickearth (**Figures 9–11**).

Ardleigh Gravel

6.2.3 The earliest Quaternary deposits identified in the Site are the Pleistocene fluvial sands and gravels. These coarse-grained deposits were recorded in all 30 test pits, appearing at depths between 33.59m OD (TP228) and 34.54m OD (TP224), with an average appearance at depths of 34.15m OD. These deposits belong to the Ardleigh Gravel of the Kesgrave Sands and Gravels. While these deposits were not bottomed within the test pits, within archive BGS boreholes in the wider area they have a thickness of 6.40-8.50m.

6.2.4 The Ardleigh Gravel largely comprised of reddish-brown to yellowish-brown sandy gravels to sands. Sands were typically medium to coarse. Gravel clasts were typically fine to coarse flint, predominantly subangular to subrounded, but occasionally low relative concentrations of rounded or angular clasts are present. Mudstone clasts, reworked from local Palaeogene bedrock, were rarely present within the gravels. Gravels were typically matrix supported, but coarser grained gravels were occasionally clast supported. These deposits were typically moderately well to moderately poorly sorted. Sub-horizontal fluvial bedding structures were often observed within these sands and gravels.

6.2.5 The fluvial sands and gravels are characteristic of high energy deposition in a braided river system, with occasional intervening sand banks and bars as represented by the sandier units.

6.2.6 Within TP225 a reddish-brown to yellowish-brown fine sandy clayey silt was present within the Ardleigh Gravel at 32.59–32.44m OD. This represents an interval in which a lower energy environment was present, possibly reflecting a finer grained channel fill or overbank floodplain deposits.

6.2.7 Transects through the deposits and a Digital Evaluation Model (DEM) of the surface of the Ardleigh Gravel (**Figure 8**) demonstrate that in the north of the Site (Phase 1 Evaluation Area), post-deposition they have been eroded and incised into by a significant gully/valley form (c. 300m in width) and most evident in bTP203 and TP206 (see **Figures 4** and **5**).

Sands

6.2.8 A clear, sub-horizontal contact separates the Sands and Gravels from the oldest overlying unit, collectively termed as 'Sands'. These deposits differ lithologically from the underlying coarser Sands and Gravels as they are typically fine-medium sands 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 0.90m bgl (34.56m OD; TP204) and 3.20m bgl (32.47m OD; TP203), and only recorded in the Phase 1 area. The Sands were structureless and ranged from moderately well-sorted to well-sorted.

6.2.9 The mode of deposition of the Sands is uncertain but may have been through low-energy water flow, potentially with a colluvial input.

6.2.10 Transects (**Figures 4**–**6**), a DEM of the surface of the Ardleigh Gravel (**Figure 8**) and a thickness plot for the Sands (**Figure 9**) demonstrate that the distribution of the Sands was restricted to the gully incised into the Ardleigh Gravel in the north of the Site (Phase 1 Evaluation Area). These Sands are the basal deposits infilling this landform.

Head-Gravel

6.2.11 Overlying the Ardleigh Gravel and, where present the Sands, were sequences of clayey sands and gravels. These coarse-grained deposits were present across all 30 test pits, and varied in thickness between 0.12m (TP218) to 2.17m (TP206), and appeared at depths ranging from 34.15m OD (TP218) to 35.05m OD (TP219).

6.2.12 These deposits generally consisted of grey to reddish-brown clayey sandy gravels to clayey gravelly sands. Sand was typically medium to coarse. Gravel was typically fine to coarse, predominantly medium, subangular to subrounded flint. These deposits were matrix supported, and typically moderately poorly to moderately well sorted. The contact between these deposits and the underlying Ardleigh Gravel was erosive and occasionally undulating.

6.2.13 These clayey sandy gravels and clayey 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 periglacial environments. Such deposits are often referred to as 'Head' (see **Section 2.5**) and are grouped here under Head-Gravel.

6.2.14 **Figure 10** illustrates the thickness and distribution of Head-Gravel across the Site. These deposits are widespread, but the deepest sequences were found infilling the gully in the north of the Site.

Head-Brickearth

6.2.15 Overlying the Head-Gravel deposits were fine-grained deposits, present within all but a single test pit (being absent from TP208). They varied in thickness between 0.15m (TP225) to 1.20m (TP201). these sediments occurred at depths ranging from 34.60m OD (TP230) to 35.34m OD (TP219).

6.2.16 The deposits generally consisted of slightly gravelly clayey sandy silts to slightly sandy clayey silts. Sand was fine and gravel was typically fine to medium subangular flint. These sediments are equivalent with 'Coversands' mapped across the area by the BGS (see **Figure 3**).

6.2.17 The fine-grained component is likely to have derived from wind-blown sediments ('Coversands'/'loess'). However, the lack of structures indicative of primary aeolian deposition and the frequent presence of gravel clasts, suggests that this consists of windblown sediments which have subsequently been remobilised through downslope processes such as solifluction, colluviation and/or water run-off (cf. 'Head-Brickearth'). As these deposits are therefore not actually windblown coversands, they are referred to here as Head-Brickearth (see **Section 2.5**).

6.2.18 Occasional modern rooting was present within the Head-Brickearth.

6.2.19 **Figure 11** illustrates the thickness and distribution of Head-Brickearth Across the Site. This occurred uniformly across the Site. A much deeper sequence of similar deposits are recorded in a BGS borehole south of the (TM02NE15). It is unclear as to what this reflects, although it may be related to a similar landform as the gully recorded in the north of the Site.

Colluvium

6.2.20 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 (TP201, TP203, TP207 and TP208). This upper surface of this deposit was uniformly recorded across the evaluation area at 0.30m bgl, extending to 0.50m bgl in three test pits and 0.65m 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-Gravel.

6.2.21 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.

6.2.22 While these deposits were observed during Phase 1 of this investigation (Wessex Archaeology 2023b), no such deposits were observed during the Phase 2 investigation. As the isolated occurrences where these sediments occurred are within the area of the gully in the north of the Site, this colluvium ay represent the final phase of infilling of low points in the landscape created by this land form.

Topsoil

6.2.23 Recent topsoil with frequent roots capped the superficial geology in all test pits. The topsoil thickness ranged from 0.30 to 0.45m.

6.3 Archaeology

6.3.1 Seven pieces of flint identified as possible artefacts were obtained from samples sieved during the Phase 2 Palaeolithic evaluation, and retained for assessment. Six were from the Ardleigh Gravel and one from the Head-Gravel.

6.3.2 Six pieces exhibit conchoidal fractures and features similar to those produced through anthropogenic flint working, however, none are definitive artefacts. The pieces are small (<30mm), platforms are natural, angles of flaking are low and the orientation of scars tend to be from the same direction as final fracture/removal. This suggests natural processes (thermal starch fractures and clast collision) are responsible.

6.3.3 The other piece, which is from the Ardleigh Gravel, is a thermal flake which has been burnt and subsequently rolled within a fluvial gravel. This suggests that the burning is contemporary with, or earlier, than the Ardleigh Gravel. Whether the burning is anthropogenic or natural in origin cannot be determined.

6.4 Palaeoenvironmental, sedimentological and scientific dating samples

6.4.1 The sequence of Quaternary deposits identified during the evaluation generally had low palaeoenvironmental potential. Localised deposits with some potential were identified, and bulk samples taken.

6.4.2 Within TP225, fine sandy clayey silts were found within the sequence of fluvial sands and gravels, at 2.75-2.90m bgl. These fine-grained deposits have potential to contain microfossil remains such as diatoms, ostracods and/or foraminifer. Samples from the boundary between the top of the deposit and the overlying sands were taken, including bulk samples from 2.80-2.90m bgl.

6.4.3 Sand layers and lenses within the Sand and Head-Gravel would be suitable for luminescence dating. The Sands were not encountered during the Phase 2 evaluation, whilst suitable deposits within the Head-Gravel were at depths exceeding the maximum depth of entry to test pits and no samples could be taken. Sands and silts also occurred within the Ardleigh Gravel but these sediments date to earlier than the age limits of currently available 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 Phase 2 evaluation can be combined with those from the first phase of evaluation (Wessex Archaeology 2023b) to provide an updated Palaeolithic Geoarchaeological Landscape Characterisation (GLC) for the Site.

7.1.2 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 buried and outcropping Quaternary, and this case specifically Pleistocene, geological elements of the landscape and their Palaeolithic geoarchaeological potential.

7.1.3 The GLC combines the results of the desk-based assessment and deposit modelling to sub-divide the Site into different Geoarchaeological Characterisation Zones (GCZs) based on the differences in Quaternary geology.

7.1.4 The Palaeolithic geoarchaeological potential of the Quaternary deposit in each GCZ is assessed. This assessment includes consideration of potential to contain geoarchaeological evidence (specifically archaeological remains and palaeoenvironmental data relevant for contextualising past settlement history) and its significance in relation to national (e.g., EH 2008) and regional (Medlycott ed. 2011) research themes and priorities.

7.1.5 This GLC provides a framework for more precisely determining the Palaeolithic geoarchaeological resource in each GCZ at a scale which can most effectively inform future decision making. This includes establishing where current data is insufficient to characterise the geoarchaeological resource and where work may be required. The information can be used to establish requirements for geoarchaeological mitigation and/or management strategies based on future detailed development proposals.

7.2 Geoarchaeological Character Zones (GCZs)

7.2.1 This GLC for the Site comprises two GCZs. These zones are illustrated on **Figure 12** and summarised in **Table 5,** and are described in more detail below.

Table 5 Geoarchaeological Character Zones

GCZ	Lithostratigraphic unit	MIS	Geological Period	Archaeological Period	Depth of deposits (m bgl)
1	Head-Brickearth	Unknown	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.30-1.70
	Head-Gravel	Unknown	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.60-2.55
	Sands	Unknown	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.90-3.20
	Ardleigh Gravel	MIS 16-14	Early Middle Pleistocene	Lower Palaeolithic	1.60-3.30+
2	Head-Brickearth	Unknown	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.27-1.00
	Head-Gravel	Unknown	?Middle to Late Pleistocene	?Lower to Middle Palaeolithic	0.45-1.80
	Ardleigh Gravel	MIS 16-14	Early Middle Pleistocene	Lower Palaeolithic	0.50-3.20+

GCZ 1

7.2.2 GCZ 1 is in the north of the site and defined by a gully incised into the Ardleigh Gravel, and containing deposits infilling that gully.

7.2.3 The earliest Pleistocene deposits identified in GCZ 1 consist of high energy fluvial sands and gravels, belonging to the Ardleigh Gravel of the Kesgrave Sands and Gravels (MIS 16-14; 676-524 Kya) of the River Thames. Test pits evaluated the upper c. 3.0m of these deposits. BGS archive boreholes from the area (TM02NE/14 and TM02NE/15) suggest that c. 9-10m of Ardleigh Gravels are likely to occur beneath GCZ 1. Only high energy, coarse fluvial sands and gravels have been recorded in this zone.

7.2.4 Subsequent to deposition, the surface of the Ardleigh Gravels has been truncated and incised into and the resulting gully is infilled with basal Sands, overlain by clayey, sandy gravels and clayey gravelly sands (Head-Gravel). How the basal Sands were deposited is uncertain, but may include low energy water flow. The overlying gravelly units are characteristic of sediments deposited through slope processes, which may include colluvial

and/or solifluction processes. The Sands only occurred in the base of the gully, whilst the Head-Gravel was more widespread, but are thickest within the gully. The age of these sediments is uncertain, and they may post-date the Ardleigh Gravels by a considerate period.

7.2.5 The youngest Pleistocene sediments in GCZ 1 comprise Head-Brickearth. These deposits likely have a significant aeolian component, but have been reworked via colluviation and/or solifluction processes. These deposits are the equivalent to the 'Coversands' mapped by the BGS, however, the lack of any distinct aeolian sedimentary structures and the presence of coarser grained clasts within the deposits indicate they have not been formed by exclusive aeolian processes. Head-Brickearth deposits seal the Head-Gravel, and are therefore younger, but no chronology is currently available to date the Head-Brickearth.

7.2.6 Within GCZ 1, occasional occurrences of Holocene colluvium overlying the Head-Brickearth were recorded.

GCZ 2

7.2.7 The Quaternary deposits in this zone exclusively consist of Pleistocene deposits of the Ardleigh Gravel and overlying Head-Gravel and Head Brickearth.

7.2.8 As in GCZ 1, the Ardleigh Gravel was principally coarse sands and gravels deposited in high energy fluvial environments. A finer-grained deposit within the Ardleigh Gravel was locally recorded within the west of the zone (Phase 2 evaluation), which reflects lower-energy fluvial deposition.

7.2.9 The Head-Gravel and Head-Brickearth are widely distributed across the zone. These deposits are analogous with those in GCZ 1.

7.3 Assessment of archaeological potential and significance

7.3.0 The two phases of Palaoelithic evaluation have allowed the Palaeolithic geoarchaeological potential of Quaternary deposits within each GCZ of the GLC to be assessed and the significance of the geoarchaeological resource to be considered. This enables informed decisions regarding future requirements for geoarchaeological field evaluation (to establish the potential and significance of the geoarchaeological resource); or the formation of a mitigation strategy (to offset the impact of the development on the geoarchaeological resource); or a management strategy.

7.3.1 A Palaoelithic geoarchaeological potential rating has been assigned to 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. The Palaoelithic geoarchaeological potential rating comprises two variables, an assessment of potential to preserve archaeological evidence and to preserve paleoenvironmental remains. '*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.

7.3.2 The relative '*Significance'* of known and potential geoarchaeological evidence has been determined in accordance with the criteria set out in **Table 6.** These criteria are related to national (e.g. EH 2008) and regional (Medlycott ed. 2011) research themes and priorities.

Table 6 Generic schema for classifying the significance of geoarchaeological 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 (for Palaoelithic assets these are likely to be contemporary with the deposits)
Moderate	Assets that contribute to regional research objectives (for Palaoelithic assets these are likely to be reworked to some degree)
Low	Assets compromised by poor preservation and/or poor contextual associations Assets with importance to local interest groups (for Palaoelithic assets these are likely to be reworked to a significant degree)
Negligible	Little or no archaeological or geoarchaeological interest
Unknown	The importance of the asset has not been ascertained from available evidence

7.3.1 The geoarchaeological potential of deposits in each GCZ is summarized in **Table 7** and discussed below.

Table 7 Assessment of Palaeolithic geoarchaeological potential and significance

GCZ	Unit	Geological Period	Archaeological Period	Depth m bgl	Archaeological potential of deposits	Paleoenvironmental potential of deposits	Geoarchaeological significance
1	Head-Brickearth	?Middle to Late Pleistocene	Unknown	0.30-0.70	Low	Low	Moderate-Low
	Head-Gravel	?Middle to Late Pleistocene	Unknown	0.60-1.50	?Low-Moderate/Low	Low	Unknown
	Sands	?Middle to Late Pleistocene	Unknown	0.90-3.20	Low	Unknown	Unknown
	Ardleigh Gravel	Early Middle Pleistocene	Lower Palaeolithic	1.60-3.20	Low	Low	High
	Ardleigh Gravel	Early Middle Pleistocene	Lower Palaeolithic	3.20+	Unknown	Unknown	High
2	Head-Brickearth	?Middle to Late Pleistocene	Unknown	0.27-1.00	Low	Low	Moderate-Low

	Head-Gravel	?Middle to Late Pleistocene	Unknown	0.45-1.80	?Low-Moderate/Low	Low	Unknown
	Ardleigh Gravel (sands and gravels)	Early Middle Pleistocene	Lower Palaeolithic	1.60-3.20	Low	Low	High
	Ardleigh Gravel (fine-grained deposits)	Early Middle Pleistocene	Lower Palaeolithic	2.75-2.90	Low	Moderate	High
	Ardleigh Gravel	Early Middle Pleistocene	Lower Palaeolithic	3.20+	Unknown	Unknown	High

Ardleigh Gravel

7.3.2 The geoarchaeological investigations across GCZ 1 and 2 have evaluated the upper c. 3.0m of what is likely to be a c. 9.0-10.0m sequence of Pleistocene fluvial deposits belonging to the Ardleigh Gravel.

7.3.3 The two-phased evaluation has investigated the archaeological potential of these deposits through controlled artefact sieving of samples of the Ardleigh gravel from 29 test pits distributed across GCZ 1 and GCZ 2. No clear artefacts have been identified, which indicates that the Palaeolithic archaeological potential of these deposits is low. Any archaeology from these deposits would relate to the earliest period of Lower Palaeolithic human occupation of Britain, with the result that any archaeology may have high significance for regional and national Palaoelithic research themes and priorities.

7.3.4 The palaeoenvironmental potential of the coarse high-energy sand and gravel units of the Ardleigh Gravel is generally low. However, fine-grained deposits that were locally present within GCZ 2 (TP225) are of moderate palaeoenvironmental potential, and may contain micropaleontological remains reflective of landscapes and environments. These may be of high significance for assessing the climatic and environmental context of Lower Palaeolithic activity in the wider region.

7.3.5 The Ardleigh Gravel beneath c. 3.2m bgl could not be evaluated and has been assessed as having an unknown archaeological and palaeoenvironmental potential.

Sands and Head-Gravel

7.3.6 Sands and Head-Gravel were recorded infilling a gully incised into the Ardleigh Gravel in GCZ 1.

7.3.7 Erosional features incised into Pleistocene terrace deposits and containing Pleistocene sediments are known from younger Pleistocene terraces of the Middle Thames (Wessex Archaeology 2022b). These range from hollows and small gullies up to significant valley forms, and are likely to be more widespread than currently documented. The associated Pleistocene deposits and their Palaeolithic geoarchaeological potential is currently poorly understood. In the Middle Thames they have been shown to contain deposits dating from immediately after the formation of a terrace, through to the Holocene, and may be capture points associated with younger Palaeolithic archaeology post-dating the terraces (Wessex Archaeology 2022b).

7.3.8 Evaluation of the Sands and overlying Head-Gravel infilling the gully in GCZ 1 did not produce archaeology (although burnt, unworked flint was recovered). This suggests that their archaeological potential may be limited, whilst their palaeoenvironmental potential was

similarly judged to be low. However, the fact that these deposits have not been recognised previously in the area and the lack of chronology for these deposits provides some uncertainty when judging geoarchaeological potential and significance. Based on this assessment, the archaeological potential of the Sands and Head-Gravel has been tentatively assessed as low and significance as unknown.

Head-Brickearth

7.3.9 Clayey sandy silts to slightly sandy clayey silts were the youngest Pleistocene deposits occurring across GCZ 1 and GCZ 2, sealing all of the underlying stratigraphy. These deposits are equivalent to 'Coversands' widely document by the BGS in the area. Although the deposits in the Site likely have a reworked aeolian component, the evaluation suggests that they have principally been deposited via slope process (colluvium/solifluction).

7.3.10 The deposits were extensively evaluated across GCZ 1 and GCZ 2 and shown to have low archaeological and palaeoenvironmental potential. The significance of any archaeology they do contain would be dependent on their age and the taphonomic history of the archaeology; *in situ*/minimally disturbed material would be of greater significance than archaeology reworked within the slope deposits, although the latter may be indicative of locations upslope where minimal disturbed material could occur.

7.3.11 The evaluation did not identify potential for buried stable surfaces that could preserve minimally disturbed/*in situ* archaeology. Overall, the Palaeolithic geoarchaeological potential of the Head-Brickearth is assessed as low, whilst the likely significance of any material is unlikely to be more than moderate.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.0 The evaluation has characterised Pleistocene deposits in the Site and mapped their lateral and horizontal extent. This has enabled the provision of Palaeolithic Geoarchaeological Landscape Characterisation (GLC) that divides the Site into two Palaoelithic Geoarchaeological Character Zones (GCZs). The Palaeolithic geoarchaeological potential of deposits in each GCZ has been assessed.

8.1.1 The evaluation has demonstrated that the earliest Pleistocene deposit in the site belong to the Ardleigh Gravel of the Kesgrave Sands and Gravels (MIS 16-14; 676-524 Kya) of the River Thames. These occurred across the Site. The evaluation investigated the upper c. 3.0 m of these deposits, which typically comprised of high energy fluvial deposits, likely deposited in a braided river environment. These deposits were extensively sampled for artefacts. No archaeology was recovered. The palaeoenvironmental potential of these deposits was assessed as generally low, with the exception that finer-grained silts were locally present in GCZ 2. These have greater potential and samples suitable for palaeoenvironmental assessment were taken.

8.1.2 Across both GCZ 1 and 2, the Ardleigh Gravel was overlain by Pleistocene slope deposits comprising Head-Gravel and Head-Brickearth. The archaeological and palaeoenvironmental potential of these sediments has been assessed as generally low. In GCZ 2 a gully was recorded incised into the top of the Ardleigh Gravel and infilled with a basal Sand and overlying Head-Gravel. Although no archaeology was recovered from these deposits, they have not previously been identified in the area, are poorly understood and are undated. This raises some uncertainties regarding the Palaoelithic archaeological potential of these deposits and the significance of them as a geoarchaeological resource.

8.2 Recommendations

8.2.1 The evaluation has characterised much of the Palaoelithic geoarchaeological resource beneath the Site and demonstrated generally low potential for significant Palaeolithic geoarchaeological evidence.

8.2.2 The evaluation has delimited selected Pleistocene deposits in the Site where data is insufficient to fully characterise the Palaeolithic geoarchaeological resource and, dependent on detailed development proposals, further investigations may be required as part of geoarchaeological mitigation and/or the production of a management strategy. These are:

- Ardleigh Gravel, and any underlying deposits, beneath 3.20m bgl in GCZ 1 and GCZ 2;
- Localised fine-grained deposits in the Ardleigh gravel < 3.20m bgl in GCZ 2, and
- Deposits, particularly Sands, infilling a gully in GCZ 1.

8.2.3 The Ardleigh Gravel and underlying sediments beneath 3.20m bgl could not be evaluated, and their Palaeolithic geoarchaeological potential is uncertain. The principal Palaeolithic geoarchaeological potential is for the presence of fine-grained and organic deposits, which can occur at depth in the Ardleigh terrace (c.f. the Ardleigh Channel or equivalent deposits; see **section 2.5**). These are a highly significant Palaoelithic geoarchaeological resource.

8.2.4 Should development proposals impact on deposits beneath 3.20m bgl, assessment for the presence of such deposits through a borehole survey is recommended. This would also enable sampling to mitigate against any potential impacts. Should any Ground Investigation (GI) works (including boreholes) be carried out in the Site, it is recommended that these are geoarchaeologically monitored to inform on the potential for finer-grained/organic deposits with geoarchaeological potential.

8.2.5 The evaluation has identified the localised presence of sediments with palaeoenvironmental potential in the top 3m of the Ardleigh Gravel. These have been sampled as part of the evaluation. It is recommended that that these samples are assessed to establish their potential for analysis. Given the localised nature of these deposits, the samples taken and a program of assessment and analysis are considered sufficient to mitigate against any development impacts. Specific recommendations for assessment are provided in **Table 8**.

Table 8 Recommendations for palaeoenvironmental assessment

Sample number	Description	Recommendations
091	Fine sandy clayey silt within fluvial sands and gravels. TP225. 2.75m bgl. Contact between fine-grained deposits and overlying sands. 1 litre sample.	Foraminifera, ostracods
092	Fine sandy clayey silt within fluvial sands and gravels. TP225. 2.75m bgl. Contact between fine-grained deposits and overlying sands. 1 litre sample.	Diatoms, pollen
093	Fine sandy clayey silt within fluvial sands and gravels. 20 litre bulk samples.	Diatoms, foraminifera, ostracods, pollen

8.2.6 There is some uncertainty regarding the geoarchaeological resource that may be associated with deposits within a gully cut into the Ardleigh Gravel in GCZ 1, particularly the basal Sands. In order to mitigate against development impacts on these sediments, a stepped geoarchaeological test pit in this area is recommended to record in detail and

geoarchaeologically sample the deposits and to facilitate a program of geoarchaeological sample assessment and 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 2020c; 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 Phase 1 evaluation is retained, whilst all other material is documented and disposed of.

Palaeoenvironmental, sedimentological and scientific dating samples

9.3.6 Samples shall be retained for the recommended palaeoenvironmental assessment. If assessment goes ahead, samples and residues shall be retained for the duration of the project.

Documentary records

9.3.7 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

9.3.8 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.

9.3.9 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 (**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 Geoarchaeological test pit logs

The stratigraphic succession encountered in each test of the Phase 2 Palaeolithic geoarchaeological evaluation are outlined below. Both heights and coordinates were taken at the centre of each trench. Depth m bgl = metres below ground level.

Site Code: 286890	**Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting**	**Test pit ID: 212**
Coordinates (NGR) X: 608138.05	**Coordinates (NGR) Y:** 228972.46	**Level (top): 35.46m OD**
Length: 5.76m	**Width: 2.42m**	**Depth: 2.90m**

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21201	Moderately firm, greyish brown slightly gravelly clayey silty sand. Sand is fine. Gravel is medium subangular to subrounded flint. Rooting present. Rare black mottling associated with iron. Structureless. Sharp to 21202	Topsoil	0.00-0.38	35.46-35.08	
21202	Slightly firm reddish brown to yellowish brown, slightly gravelly silty sand. Sand is fine. Gravel is medium subrounded to subangular flint. Structureless. Some reddish mottling associated with iron. Sharp but undulating contact with 21203 between 0.57 and 0.76m bgl.	Head-Brickearth	0.38-0.76	35.08-34.80	
21203	Moderately firm reddish brown clayey sandy gravel. Sand is medium to coarse. Gravel is fine to medium (predominantly medium), subangular (60%) to subrounded (40%) flint. Matrix supported. Moderately well sorted. Some iron nodules. Structureless	Head-Gravel	0.57-1.30	34.80-34.16	106, 107
21204	Moderately firm yellowish brown to grey very sandy gravel to sand. 30:70 gravel-sand ratio. Sub-horizontal bedding. Beds 20-40cm thick. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (45%), subrounded (45%) to rounded (10%) flint. Moderately low sphericity. Matrix supported. Moderately well sorted.	Ardleigh Gravel	1.30-2.90	34.16-32.56	108, 109, 110, 111

Site Code: 286890	**Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting**	**Test pit ID: 213**
Coordinates (NGR) X: 608098.98	**Coordinates (NGR) Y:** 228752.19	**Level (top):** 35.35m OD
Length: 6.21m	**Width: 2.39m**	**Depth: 2.70m**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
21301	Moderately firm to firm greyish brown slightly gravelly silty clay. Gravel is fine subangular flint. Rooting present. Structureless. Sharp to 21302	Topsoil	0.00-0.36	35.35-34.99	
21302	Moderately firm pale yellowish brown silty sand. Sand is fine. Structureless. Sharp but undulating contact to 21303 between 0.52 and 0.60m bgl.	Head-Brickearth	0.36-0.60	34.99-34.79	
21303	Moderately firm yellowish brown clayey sandy gravel. Sand is medium to coarse. Gravel is fine to medium (predominantly medium), subangular (65%), subrounded (30%) to rounded (5%) flint. Clasts low to moderately low sphericity. Matrix supported. Moderately well sorted. Sharp to 21304	Head-Gravel	0.52-1.12	34.79-34.23	100, 101, 102
21304	Reddish brown to yellowish brown bedded sandy gravels and sands. 15:85 gravel-sand ratio. Sub-horizontal bedding with beds 15-25cm (gravels) to 30-40cm (sands). Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (65%) to subrounded (45%) flint. Matrix supported. Moderately well sorted. Structureless.	Ardleigh Gravel	1.12-2.70	34.23-32.65	102, 103, 104, 105

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 214
Coordinates (NGR) X: 608105.95	Coordinates (NGR) Y: 228584.46	Level (top): 34.96m OD
Length: 5.17m	Width: 2.36m	Depth: 2.50m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21401	Moderately firm greyish brown slightly gravelly, silty clay. Gravel is fine to medium subangular to subrounded flint. Rooting common. Structureless. Sharp to 21402	Topsoil	0.00-0.30	34.96-34.66	
21402	Moderately firm pale grey to yellowish brown slightly sandy silt. Some brownish mottling. Structureless. Sharp to 21403	Head-Brickearth	0.30-0.50	34.66-34.46	
21403	Moderately firm yellowish brown to grey sandy clayey gravel. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular (60%), subrounded (35%) to rounded (5%) flint. Clasts moderately low sphericity. Matrix supported. Moderately well sorted. Some black speckling associated with iron nodules.	Head-Gravel	0.50-0.85	34.36-34.11	95
21404	Moderately firm reddish brown to yellowish brown bedded slightly gravelly sands to sandy gravels. 20:80 sands-gravels ratio. Sub-horizontal bedding. Beds 20-30cm thick. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (60%) to subrounded (40%) flint. Clasts moderately low sphericity. Matrix supported. Sharp to 21405	Ardleigh Gravel	0.85-2.30	34.11-32.66	96, 97, 98
21405	Moderately firm yellowish brown slightly clayey sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular (60%), subrounded (30%) to rounded (10%) flint. Clasts moderately low sphericity. Moderately well sorted. Clast supported. Strucureless	Ardleigh Gravel	2.30-2.50	32.66-32.46	99

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 215
Coordinates (NGR) X: 608067.78	Coordinates (NGR) Y: 228899.79	Level (top): 35.51m OD
Length: 5.92m	Width: 2.34m	Depth: 3.20

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21501	Moderately firm greyish brown, very slightly gravelly slightly sandy silt. Sand is fine. Gravel is fine subangular flint. Rooting common. Structureless. Sharp to 21502.	Topsoil	0.00-0.40	35.51-35.11	
21502	Moderately firm slightly sandy silt. Sand is fine. Rare subrounded medium flint clasts. Black mottling associated with iron nodules present. Structureless. Sharp but undulating boundary to 21503 between 0.68 and 0.75m bgl.	Head-Brickearth	0.40-0.75	35.11-34.80	
21503	Moderately firm to firm reddish brown clayey sandy gravels. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular (60%) to subrounded (40%) flint. Moderately low sphericity. Moderately poorly sorted. Matrix supported. Structureless. Sharp to 21504	Head-Gravel	0.68-1.25	34.80-34.26	113, 114
21504	Moderately firm yellowish brown to reddish brown sandy gravels to slightly gravelly sands. 40:60 gravel-sand ratio. Sub-horizontal bedded, with beds 30-40cm thick. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular (40%), subrounded (50%) to rounded (10%) flint. Moderately low to moderately high sphericity. Moderately well sorted. Matrix supported.	Ardleigh Gravel	1.25-3.20	34.26-32.31	115, 116, 117, 118, 119, 120

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 216
Coordinates (NGR) X: 608009.53	Coordinates (NGR) Y: 228999.24	Level (top): 35.54m OD
Length: 5.59m	Width: 2.33m	Depth: 2.90

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21601	Firm greyish brown slightly gravelly silty clay. Gravel is medium to coarse subangular flint. Some rooting present. Structureless. Sharp to 21602.	Topsoil	0.00-0.44	35.54-35.10	
21602	Yellowish brown slightly gravelly clayey sandy silt. Sand is fine. Gravel is fine to medium subangular flint to rounded flint. Some black mottling. Structureless. Sharp but undulating contact to 21603 between 0.67 and 0.86m bgl.	Head-Brickearth	0.44-0.86	35.10-34.77	61
34.77-321603	Moderately firm reddish brown to grey clayey sandy gravel to clayey gravelly sand. 50:50 gravels-sands ratio. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular (65%) to subrounded (35%) flint. Moderately well sorted. Matrix supported. Structureless. Sharp to 21604	Head-Gravel	0.67-1.50	34.77-34.04	61, 62, 63
21604	Moderately firm yellowish brown slightly clayey sandy gravel to slightly clayey gravelly sand. 60:40 gravel-sands ratio. Sub-horizontal bedding, with sands 20-30cm thick and gravels 30-40cm thick. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular (60%) to subrounded (40%) flint. Low sphericity. Moderately well sorted. Matrix supported.	Ardleigh Gravel	1.50-2.90	34.04-32.64	64, 65, 66, 67, 68

Site Code: 286890	**Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting**	**Test pit ID: 217**
Coordinates (NGR) X: 608000.98	**Coordinates (NGR) Y:** 228846.23	**Level (top):** 35.39m OD
Length: 6.44m	**Width: 2.26m**	**Depth: 2.90m**

Context Number	**Description**	**Interpretation**	**Depth m bgl**	**Depth m OD**	**Samples**
21701	Moderately firm to firm greyish brown slightly gravelly slightly sandy clayey silt. Sand is fine. Gravel is medium subangular to subrounded flint. Some iron nodules. Rooting common. Sharp to 21702.	Topsoil	0.00-0.37	35.39-35.02	
21702	Moderately soft pale grey to yellowish brown slightly gravelly slightly sandy silt. Sand is fine. Gravel is fine to medium subangular to subrounded flint. Structureless. Sharp but undulating contact with 21703 between 0.62 and 0.76m bgl.	Head-Brickearth	0.37-0.76	35.02-34.70	
21703	Moderately firm reddish brown to grey clayey sandy gravel. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular (60%) to 40%) flint. Moderately low sphericity. Moderately poorly sorted. Matrix supported. Structureless. Sharp to 21704.	Head-Gravel	0.62-1.30	34.70-34.09	121, 122, 123
21704	Moderately firm reddish brown to yellowish brown slightly gravelly sand and sandy gravel. 50:50 gravel-sand ratio. Sub-horizontal bedding 20-40cm thick. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular (65%) to subrounded (35%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Structureless.	Ardleigh Gravel	1.30-2.90	34.09-32.49	123, 124, 125, 126, 127

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 218
Coordinates (NGR) X: 608010.58	Coordinates (NGR) Y: 228634.26	Level (top): 34.98m OD
Length: 5.67m	Width: 2.37m	Depth: 2.40

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21801	Moderately firm slightly gravelly silty clay. Gravel is medium to coarse subrounded to subangular flint. Rooting present. From 0.24m bgl very firm. Structureless. Sharp to 21802.	Topsoil	0.00-0.36	34.98-34.62	
21802	Moderately firm yellowish grey to reddish grey clayey sandy silt. Sand is fine. Some black mottling. Pocket of clayey gravelly sandy silt from 0.36-0.56m bgl but not horizontally continuous. Sharp but undulating contact to 21803 between 0.55 to 0.70m bgl.	Head-Brickearth	0.36-0.70	34.62-34.15	
21803	Moderately firm reddish brown to light grey clayey sandy gravel. Sand is medium to coarse. Gravel is fine to medium (predominantly medium), subangular (60%), subrounded (35%) to rounded (5%) flint. Low sphericity. Moderately well sorted. Matrix supported. Structureless. Sharp to 21804.	Head-Gravel	0.55-0.95	34.15-34.03	
21804	Moderately firm bedded yellowish brown to reddish brown slightly gravelly, slightly clayey sands and slightly clayey sandy gravels. 35:65 gravel-sand ratio. Sub-horizontally bedded. Sand is coarse. Gravel is fine to coarse (predominantly medium) subrounded (55%) to subangular (45%) flint. Low sphericity. Moderately well sorted. Matrix supported. Sharp to 21805	Ardleigh Gravel	0.95-2.20	34.03-32.78	69, 70, 71, 72, 73
21805	Moderately firm yellowish brown silty sandy gravel. Gravel is fine to coarse, subangular (60%), subrounded (35%) to rounded (5%) flint. Low to moderately low sphericity. Moderately poorly sorted. Clast supported.	Ardleigh Gravel	2.20-2.40	32.78-32.58	74

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 219
Coordinates (NGR) X: 607951.74	Coordinates (NGR) Y: 228941.17	Level (top): 35.66m OD
Length: 5.88m	Width: 2.29m	Depth: 3.00m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
21901	Moderately firm greyish brown slightly gravelly silty clay. Gravel is medium to coarse subangular flint. Rooting present. Structureless. Sharp to 21902.	Topsoil	0.00-0.32	35.66-35.34	
21902	Moderately firm yellowish brown to reddish brown slightly gravelly sandy clayey silt. Sand is fine. Gravel is fine to medium subangular flint. Structureless. Increases in sand content with depth. Sharp to 21903.	Head-Brickearth	0.32-0.61	35.34-35.05	51
21903	Firm reddish brown clayey gravelly sand. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular to subrounded flint (90%) and sandstone (10%). From 0.88-1.20m bgl is slightly gravelly clayey sand. Sharp to 21904.	Head-Gravel	0.61-1.25	35.05-34.41	52, 53, 54
21904	Yellowish brown to reddish brown slightly clayey sandy gravel to slightly clayey sands. 60:40 gravel-sand ratio). Sub-horizontally bedded. Sand is coarse. Gravel is fine to coarse (predominantly medium/coarse), subangular (50%), subrounded (45%) to rounded (5%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Sharp to 21905	Ardleigh Gravel	1.25-1.80	34.41-33.86	55, 56
21905	Yellowish brown to reddish brown sandy gravels to sand. 55:45 gravel-sand ratio. Sub-horizontally bedded. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (65%) to subrounded (35%) flint (95%) and sandstone (5%). Low to moderately low sphericity. Moderately well sorted. Matrix supported. Structureless.	Ardleigh Gravel	1.80-3.00	33.86-32.66	57, 58, 59, 60

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 220
Coordinates (NGR) X: 607892.01	Coordinates (NGR) Y: 229026.77	Level (top): 35.47m OD
Length: 5.23m	Width: 2.44m	Depth: 2.60m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22001	Firm greyish brown slightly gravelly silty clay. Gravel is medium subangular to subrounded flint. Some rooting present. Structureless. Sharp to 22202.	Topsoil	0.00-0.40	35.47-35.07	
22002	Moderately firm light yellowish grey slightly sandy silt. Sand is fine. Occasional black mottling. Some fine rooting. Structureless. Sharp but undulating boundary to 22003 between 0.47 and 0.66m bgl.	Head-Brickearth	0.40-0.66	35.07-34.90	41
22003	Moderately firm reddish to orangish brown silty sandy gravels. Sand is coarse. Gravel is fine to coarse (predominantly medium) rounded (10%), subrounded (50%) to subangular (40%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Structureless.	Head-Gravel	0.47-0.95	34.90-34.52	41, 42
22004	Moderately firm reddish brown to yellowish brown sandy gravels to sands. Bedding sub-horizontal. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (40%), subrounded (50%) to rounded (10%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Structureless. Light grey clayey sand at 1.70-2.00m bgl on western edge of test pit, in vertical (c.30cm wide) column.	Ardleigh Gravel	0.95-2.60	34.52-32.87	43, 44, 45, 46, 47, 48, 49, 50

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 221
Coordinates (NGR) X: 607889.27	Coordinates (NGR) Y: 228847.14	Level (top): 35.34m OD
Length: 6.82m	Width: 2.39m	Depth: 2.90m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22101	Moderately firm to firm greyish brown slightly gravelly slightly sandy clayey silt. Sand is fine. Gravel is fine to medium subangular flint and subrounded brick material. Rooting abundant. Structureless. Sharp to 22102.	Topsoil	0.00-0.35	35.34-34.99	
22102	Moderately firm yellowish brown to reddish brown slightly sandy silty clay. Sand is fine. Structureless. Some rooting. Sharp to 22103.	Head-Brickearth	0.35-0.58	34.99-34.76	
22103	Moderately firm clayey gravelly sand. Sand is coarse. Gravel is fine to medium, subangular to rounded flint with moderately low to moderately high sphericity. Structureless. Sharp but undulating boundary to 22104 between 0.92 and 1.02m bgl.	Head-Gravel	0.58-1.02	34.76-34.42	135, 136
22104	Moderately loose reddish brown to yellowish brown slightly gravelly sands to sandy gravels. Sub-horizontal bedding, 60:40 gravel-sand ratio. Initial sand unit 50cm thick then beds of 20-30cm thick sands and gravels. Sand is coarse. Gravel is fine to coarse (predominantly medium) angular (5%), subangular (50%), subrounded (40%) to rounded (5%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Sharp to 22105.	Ardleigh Gravel	0.92-2.30	34.42-33.04	136, 137, 138, 139, 140, 141
22105	Moderately firm pale yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular (20%) to subrounded (80%) flint. Moderately low to moderately high sphericity. Clast supported.	Ardleigh Gravel	2.30-2.90	33.04-32.44	142, 143

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 222
Coordinates (NGR) X: 607899.43	Coordinates (NGR) Y: 228727.00	Level (top): 35.09m OD
Length: 5.41m	Width: 2.32m	Depth: 2.40

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22201	Moderately firm brownish grey slightly gravelly silty clay. Gravel is medium subrounded to subangular flint. Rooting present. Structureless. Very firm 0.18-0.30m bgl. Sharp to 22202.	Topsoil	0.00-0.30	35.09-34.79	
22202	Moderately firm yellowish brown sandy silt. Sand is fine. Red mottling, associated with iron inclusions, present. Structureless. Sharp but undulating boundary to 22203 between 0.44 and 0.56m bgl.	Head-Brickearth	0.30-0.56	34.79-34.59	
22203	Moderately firm reddish brown slightly gravelly sand. Sand is medium to coarse. Gravel is fine to medium subrounded to subangular flint. Structureless. Some black mottling associated with iron. Sharp to 22204.	Head-Brickearth	0.44-0.84	34.59-34.25	75
22204	Moderately firm light grey to reddish brown clayey gravelly sands. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular to subrounded flint. Low sphericity. Poorly sorted. Frequent medium to coarse iron nodules between 1.00-1.10m bgl. Structureless. Sharp to 22205.	Head-Gravel	0.84-1.30	34.25-33.79	76, 81
22205	Bedded moderately firm reddish brown to yellowish brown slightly gravelly sands and very sandy gravels. 20:80 gravel-sand ratio. Sub-horizontal bedding. Sand is coarse. Gravel is fine to medium (predominantly medium) subangular (60%), subrounded (30%) to rounded (10%) flint. Low to moderately low sphericity. Moderately well sorted. Matrix supported. Structureless.	Ardleigh Gravel	1.30-2.40	33.79-32.69	77, 78, 79, 80

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 223
Coordinates (NGR) X: 607879.45	Coordinates (NGR) Y: 228641.44	Level (top): 35.03m OD
Length: 6.70m	Width: 2.47m	Depth: 2.50m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22301	Light grey slightly gravelly slightly sandy silt. Gravel is fine to medium (2-15mm) subrounded flint clasts. Occasional manganese flecks. Sharp slightly undulating lower boundary to 22302.	Topsoil	0.00-0.35	35.03-34.68	
22302	Dark brownish grey mottled orangish brown slightly gravelly slightly silty sand. Sand is fine. Gravel is few (<15%) fine to coarse (2-20mm) subrounded (80%) to subangular (20%) flint clasts. Structureless. Sharp undulating boundary to 22303.	Head-Brickearth	0.35-0.55	34.68-34.48	
22303	Light grey mottled dark orangish brown clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse (2-27mm) subangular to subrounded flint. Frequent coarse pockets of manganese flecks. Thick bed of black manganese flecks at lower boundary. Sharp lower boundary.	Head-Gravel	0.55-0.94	34.48-34.09	151
22304	Mid-orangish brown very sandy gravel. Sand is fine to coarse. Gravel is fine to coarse (2-32mm) subrounded (30%) to subangular (70%) flint. Sharp slightly undulating boundary to 22305	Ardleigh Gravel	0.94-1.50	34.09-33.53	152, 153
22305	Light orangish brown slightly gravelly silty sand. Sand is fine to medium. Gravel is fine to medium (2-12mm) subrounded (40%) to subangular (60%) flint. Well sorted. Structureless. Sharp to 22306	Ardleigh Gravel	1.50-1.90	33.53-33.13	154
22306	Dark orangish brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse (2-36mm) with common cobble-sized (<80mm) subrounded 30%) to subangular (70%) flint. Occasional nodular clasts. Sub-horizontal bedding.	Ardleigh Gravel	1.90-2.50	33.13-32.53	155, 156, 157

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 224
Coordinates (NGR) X: 607801.94	Coordinates (NGR) Y: 228914.31	Level (top): 35.40m OD
Length: 6.84m	Width: 2.39m	Depth: 2.70m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22401	Moderately firm to firm greyish brown slightly gravelly slightly sandy silt. Sand is fine. Gravel is fine to medium subrounded to subangular flint and brick material. Rooting abundant. Structureless. Sharp to 22402.	Topsoil	0.00-0.35	35.40-35.05	
22402	Moderately firm yellowish brown slightly clayey sandy silt. Sand is fine. Some fine iron nodules. Structureless. Sharp but undulating boundary to 22403 between 0.55 and 0.60m bgl.	Head-Brickearth	0.35-0.60	35.05-34.82	
22403	Moderately firm reddish brown to light grey clayey sandy gravel. Sand is coarse. Gravel is fine to medium (predominantly medium) subangular (60%) to subrounded (40%) flint. Moderately low sphericity. Moderately well sorted. Matrix supported. Structureless. Sharp but undulating contact to 22404 between 0.70 and 1.02m bgl.	Head-Gravel	0.55-1.02	34.82-34.54	128, 129
22404	Moderately loose bedded yellowish brown to greyish brown slightly gravelly sands to sandy gravels. 50:50 ratio of gravels-sands. Sub-horizontally bedded, with units between 15-20cm (gravels) and 30-40cm (sands). Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (70%) to subrounded (30%) flint. Moderately low sphericity. Moderately well sorted. Matrix supported.	Ardleigh Gravel	0.70-2.70	34.54-32.70	129, 130, 131, 132, 133, 134

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 225
Coordinates (NGR) X: 607791.28	Coordinates (NGR) Y: 228789.73	Level (top): 35.34m OD
Length: 5.70m	Width: 2.56m	Depth: 2.90

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22501	Firm greyish brown slightly gravelly silty clay. Gravel is medium subangular flint. Rooting present. Structureless. Sharp to 22502.	Topsoil	0.00-0.45	35.34-34.89	
22502	Moderately firm yellowish brown to reddish brown sandy silt. Sand is fine. Some reddish mottling. Some rooting. Structureless. Sharp but undulating boundary to 22503 between 0.55 to 0.65m bgl.	Head-Brickearth	0.45-0.65	34.89-34.74	
22503	Moderately firm grey to reddish brown clayey gravelly sand. Sand is medium. Gravel is fine to coarse (predominantly medium) subangular (60%), subrounded (35%) to rounded (5%) flint. Low sphericity. Moderately poorly sorted. Matrix supported. Reddish and black mottling associated with iron nodules. Structureless. Sharp to 22504,	Head-Gravel	0.55-1.30	34.74-34.04	82, 83, 84
22504	Moderately firm reddish brown to yellowish brown sandy gravels to slightly gravelly sands. 20:80 gravel-sand ratio. Sub-horizontal bedding of 20-40cm thick units. Sand is coarse. Gravel is fine to coarse (predominantly medium-coarse) subangular (60%) to subrounded (40%) flint. Low sphericity. Moderately well sorted. Sharp to 22505	Ardleigh Gravel	1.30-2.75	34.04-32.59	85, 86, 87, 88, 89
22505	Slightly firm reddish to yellowish brown to grey sandy clayey silt. Sand is fine. Some iron staining and rare fine iron nodules. Structureless except banding associated with iron staining,	Ardleigh Gravel	2.75-2.90	32.59-32.44	91, 92, 93

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 226
Coordinates (NGR) X:	Coordinates (NGR) Y:	Level (top):

607760.41	228717.07	35.38m OD
Length: 7.16m	**Width: 2.49m**	**Depth:**

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22601	Moderately firm grey-brown slightly gravelly clayey silt. Gravel is medium subrounded to rounded flint. Structureless. Rooting common. Sharp to 22602.	Topsoil	0.00-0.36	35.38-35.02	
22602	Moderately firm yellowish brown to reddish brown slightly gravelly slightly sandy silt. Sand is fine. Gravel is fine to medium subangular to subrounded flint. Some black mottling. Structureless. Sharp to 22603.	Head-Brickearth	0.36-0.62	35.02-34.76	
22603	Mid orangish brown mottled light grey clayey sandy gravel. Sand is fine to medium. Gravel is fine to coarse (2.-26mm) subangular (80%) to subrounded (20%) flint. Common bioturbation in upper boundary. Poorly sorted. Structureless. Sharp to 22604.	Head-Gravel	0.62-1.00	34.76-34.38	144, 145
22604	Dark orangish brown mottled bluish grey very sandy gravel with thick beds of fine to coarse sands. Sand is fine to coarse. Gravel is fine to coarse (2-34mm) subrounded (40%) to subangular (60%) with rare rounded clasts. Sub-horizontal bedding. Unclear lower boundary to 22605	Ardleigh Gravel	1.00-2.30	34.38-33.08	146, 147, 148
22605	Dark orangish brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse (2-40mm) with common cobble-sized subangular (50%) to subrounded (50%) flint. Sub-horizontally. Poorly sorted.	Ardleigh Gravel	2.30-2.90	33.08-32.48	149, 150

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 228
Coordinates (NGR) X: 608609.06	Coordinates (NGR) Y: 228838.91	Level (top): 35.24m OD
Length: 5.89m	Width: 2.29m	Depth: 2.50m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22801	Moderately firm light grey slightly gravelly silty clay. Gravel is fine to medium subrounded to subangular flint. Rooting present. Structureless. Sharp to 22802.	Topsoil	0.00-0.34	35.24-34.90	
22802	Slightly firm light grey clayey silt. Gradual to 22803.	Head-Brickearth	0.34-0.57	34.90-34.67	
22803	Moderately firm clayey gravelly sand. Sand is medium to coarse. Gravel is fine to medium subangular flint. Black mottling 0.60-0.70m bgl. Structureless. Sharp to 22804	Soliflucted sands and gravels	0.57-1.16	34.67-34.08	31, 32, 33
22804	Moderately firm light grey clayey sandy gravels. Sand is medium to coarse. Gravel is fine to coarse (predominantly medium) subangular to subrounded flint. Structureless. Sharp to 22805.	Soliflucted sands and gravels	1.16-1.65	34.08-33.59	34, 35, 36
22805	Yellowish brown gravelly sands. Sand is coarse. Gravel is fine to coarse subrounded to subangular flint. Structureless. Sharp to 22805.	Ardleigh Gravel	1.65-2.00	33.59-33.24	36, 37
22806	Yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subrounded to subangular flint. Structureless.	Ardleigh Gravel	2.00-2.50	33.24-32.74	38. 39, 40

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 229
Coordinates (NGR) X: 608431.59	Coordinates (NGR) Y: 228774.30	Level (top): 35.17m OD
Length: 5.41m	Width: 2.32m	Depth: 3.00m

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
22901	Moderately firm greyish brown slightly gravelly silty clay. Gravel is fine to medium subangular to subrounded flint. Rooting present. Structureless. Sharp to 22902.	Topsoil	0.00-0.33	35.17-34.84	
22902	Slightly firm yellowish brown sandy clayey silt. Sand is fine. Some black mottling. Structureless. Sharp but undulating contact to 22903 between 0.44 and 0.67m bgl.	Head-Brickearth	0.33-0.67	34.84-34.61	
22903	Moderately firm reddish brown slightly clayey sandy gravel. Sand is medium. Gravel is fine to coarse subangular to subrounded flint (90%) and sandstone (10%). Occasional lenses of grey brown clayey sandy gravel. Gradual to 22904	Head-Gravel	0.44-0.90	34.61-34.27	20, 21
22904	Moderately firm reddish brown slightly silty sandy gravel to reddish brown sand. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular to subrounded flint (90%) and sandstone (10%). Sharp to 22905.	Ardleigh Gravel	0.90-2.35	34.27-32.82	21, 22, 23, 24, 25, 26, 27, 28
22905	Light greyish brown gravelly clayey sand. Sand is coarse. Gravel is fine to coarse subangular to subrounded flint (90%) and sandstone (10%). Structureless. Sharp to 22906	Ardleigh Gravel	2.35-2.50	32.82-32.67	28, 29
22906	Greyish brown sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular to subrounded flint (90%) and sandstone (10%). Structureless.	Ardleigh Gravel	2.50-3.00	32.67-32.17	29, 30

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 230
Coordinates (NGR) X: 608293.98	Coordinates (NGR) Y: 228715.42	Level (top): 34.87m OD
Length: 4.78m	Width: 2.48m	Depth: 2.30

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
23001	Moderately firm slightly gravelly silty clay. Gravel is fine to medium subangular flint. Rooting present. Structureless. Sharp to 23002.	Topsoil	0.00-0.27	34.87-34.60	
23002	Moderately firm greyish brown slightly sandy clayey silt. Sand is fine. Structureless. Sharp to 23003.	Head-Brickearth	0.27-0.45	34.60-34.42	
23003	Light greyish brown slightly gravelly silty sand. Sand is medium. Gravel is fine to medium subrounded flint. Reddish and brown mottling. Structureless. Sharp to 23004.	Head-Gravel	0.45-0.60	34.42-34.27	11
23004	Orangish brown to mid-brown slightly clayey sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular to subrounded flint (90%) and sandstone (10%). Some iron nodules. Lens of light whitish grey coarse sand 0.80-0.84m bgl. Sharp to 23005	Head-Gravel	0.60-1.05	34.27-33.82	11, 12, 13
23005	Greyish white to yellowish brown sand. Sand is coarse. Some iron nodules. Structureless. Sharp to 23006	Ardleigh Gravel	1.05-1.15	33.82-33.72	
23006	Reddish brown sandy gravels to sands. Sub-horizontally bedded. Sand is coarse. Gravel is fine to coarse (predominantly coarse) subangular to subrounded flint (85%) and sandstone (15%). Structureless.	Ardleigh Gravel	1.15-2.30	33.72-32.57	14, 15, 16, 17, 18, 19

Site Code: 286890	Site Name: Five Estuaries OSWF, Substation – Phase 2 test pitting	Test pit ID: 231
Coordinates (NGR) X: 608192.53	Coordinates (NGR) Y: 228622.03	Level (top): 34.99m OD
Length: 4.72m	Width: 2.35m	Depth: 2.40

Context Number	Description	Interpretation	Depth m bgl	Depth m OD	Samples
23101	Moderately firm light grey slightly sandy silty clay. Sand is fine. Rooting present. Structureless. Sharp to 23102.	Topsoil	0.00-0.36	34.99-34.63	
23102	Moderately firm pale yellowish brown slightly gravelly silty sand. Sand is medium to coarse. Gravel is fine to medium subrounded flint. Occasional iron nodules. Structureless. Sharp to 23103	Head-Brickearth	0.36-0.55	34.63-34.44	
23103	Moderately firm slightly clayey sandy gravel. Sand is medium to coarse. Gravel is fine to coarse subrounded to subangular flint (predominantly medium subrounded). Some iron nodules. Rooting rare. Sharp to 23104.	Head-Gravel	0.55-0.95	34.44-34.04	1, 2
23104	Very firm reddish orange sandy gravel. Sand is coarse. Gravel is fine to coarse (predominantly medium) subangular (60%) to subrounded (40%) flint. Iron-like matrix.	Head-Gravel	0.95-1.10	34.04-33.89	3
23105	Yellow slightly gravelly slightly clayey sands. Sand is coarse. Gravel is fine subrounded to subangular flint. Structureless. Sharp to 23106	Ardleigh Gravel	1.10-1.45	33.89-33.54	4, 5
23106	Moderately firm yellowish brown sandy gravel. Sand is coarse. Gravel is fine to coarse subrounded (70%) to subangular (30%) flint (90%), mudstone (<5%) and quartz (<5%). Becomes coarser with depth. Lens of structureless sand at 1.90-2.10m bgl.	Ardleigh Gravel	1.45-2.40	33.54-32.59	6, 7, 8, 9, 10

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, 286890
Activity type	Evaluation
Planning Id	
Reason For Investigation	Planning: Pre application
Organisation Responsible for work	Wessex Archaeology
Project Dates	15-May-2023 - 18-Oct-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/Local Authority : Essex Local Authority District : Tendring Parish : Lawford
Project Methodology	Wessex Archaeology was commissioned by Five Estuaries Offshore Wind Farm Ltd and North Falls Offshore Wind Farm Ltd to undertake a Palaeolithic geoarchaeological evaluation through a programme of test pitting at the proposed location for an onshore substation for the wind farm projects. The Site is located north of Little Bromley Road, Little Bromley, Tendering, Essex and is centred on NGR 608143, 228898 (TM 08639 29215). A staged approach has been taken to determining the Palaeolithic geoarchaeological potential of the Site. A Geoarchaeological Desk-based Assessment (GDBA) for the onshore cable route of the wind farm projects (Wessex Archaeology 2022) included the Site. An initial phase of evaluation (11 machine-dug test pits) was carried out in the north of the Site (231916). This this was followed by a second phase of evaluation (19 test pits) of the south-west and south of the Site (286890).

Project Results	The combined phases of evaluation have characterised the Quaternary deposits in the Site and mapped their lateral and horizontal extent. This has enabled the provision of Geoarchaeological Landscape Characterisation (GLC) that divides the Site into two Palaeolithic Geoarchaeological Character Zones (GCZs). The geoarchaeological potential of deposits in each GCZ has been assessed. The evaluation has demonstrated that the earliest Pleistocene deposit in the site belong to the Ardleigh Gravel of the Kesgrave Sands and Gravels (MIS 16-14; 676-524 Kya), of the River Thames. These occurred across the Site (both GCZ 1 and GCZ 2). The upper c.3.0 m of these deposits has been evaluated, which typically comprised of high energy fluvial deposits, likely deposited in a braided river. These deposits were extensively sampled for artefacts. No archaeology was recovered. The palaeoenvironmental potential of these deposits was assessed as generally, low, with the exception finer-grained silts were locally present in GCZ 2. These have greater potential and samples suitable for palaeoenvironmental assessment were taken. Across both GCZ 1 and 2, the Ardleigh Gravel was overlain by Pleistocene slope deposits comprising Head-Gravel and Head-Brickearth. The archaeological and palaeoenvironmental potential of these sediments has been assessed as generally low. In GCZ 2 a gully incised into the top of the Ardleigh Gravel was infilled with a basal Sand and overlying Head-Gravel. Although no archaeology was recovered from these deposits, they have not previously been identified in the area, are poorly understood and are undated. This raises some uncertainties regarding their Palaeolithic geoarchaeological potential and their significance as a geoarchaeological resource. The combined Phase 1 and 2 evaluation of the Site has well characterised much of the Palaeolithic geoarchaeological resource present and demonstrated generally low potential for significant Palaeolithic geoarchaeological evidence. The evaluation has delimited selected Pleistocene deposits in the Site where data is insufficient to fully characterise the Palaeolithic geoarchaeological resource and, dependent on detailed development proposals. further investigations may be required as part of geoarchaeological mitigation and/or the production of a management strategy. These are: Ardleigh Gravel, and any underlying deposits, beneath 3.20m bgl in GCZ 1 and GCZ 2; Localised fine-grained deposits in Ardleigh gravel < 3.20m bgl in GCZ 2, and Deposits, particularly Sands, infilling gully in GCZ 1 Recommendations for further Palaoelithic geoarchaeological work that may be required are provided. These include recommendations for palaeoenvironmental assessment of the localised fine-grained deposits within the Ardleigh Gravel sampled during Phase 2 of the evaluation.
Keywords	
Funder	Private or public corporation Five Estuaries Offshore Wind Farm
HER	Essex HER - unRev - STANDARD
Person Responsible for work	Nina Olofsson, Daniel Young
HER Identifiers	HER Event No - LAWGR23
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;

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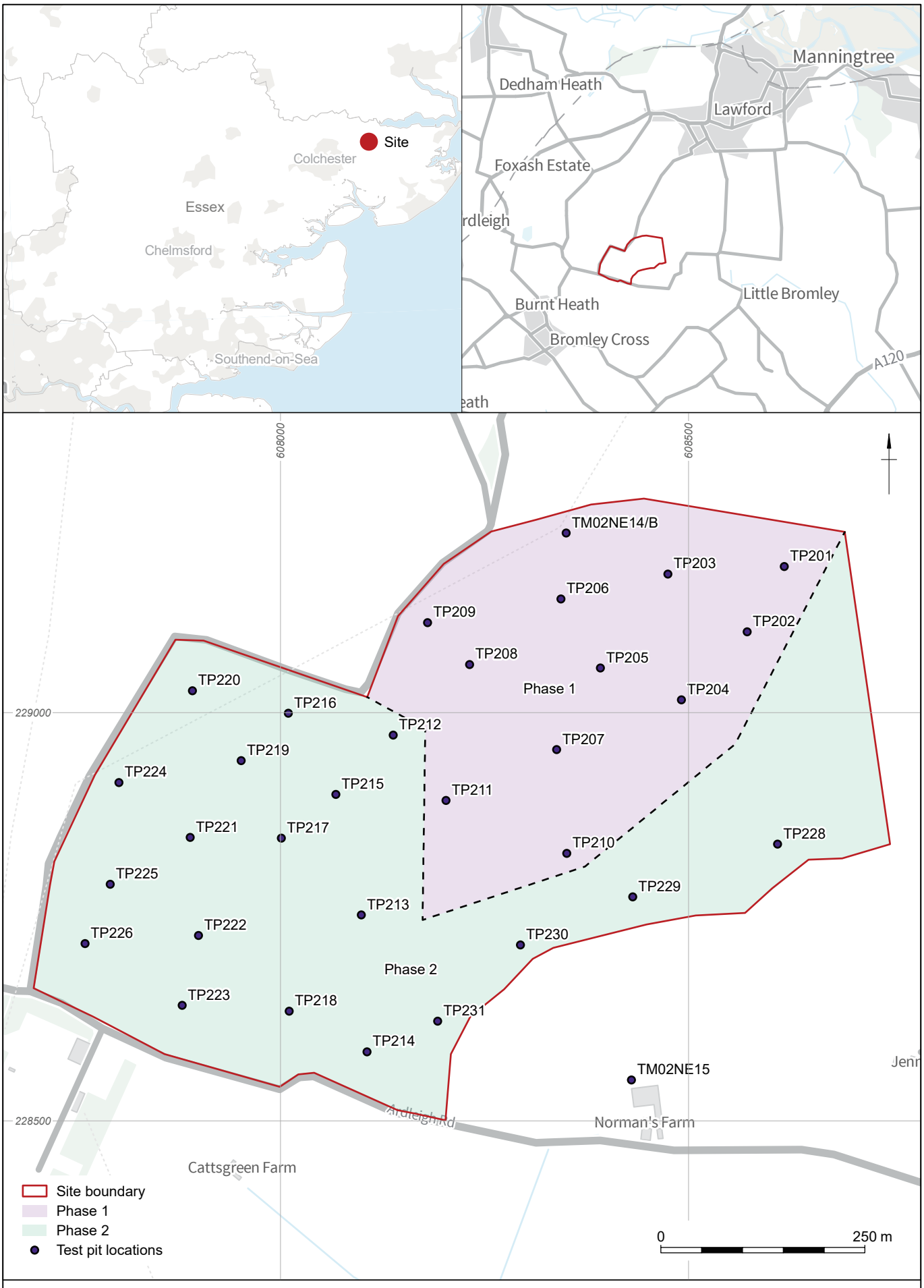
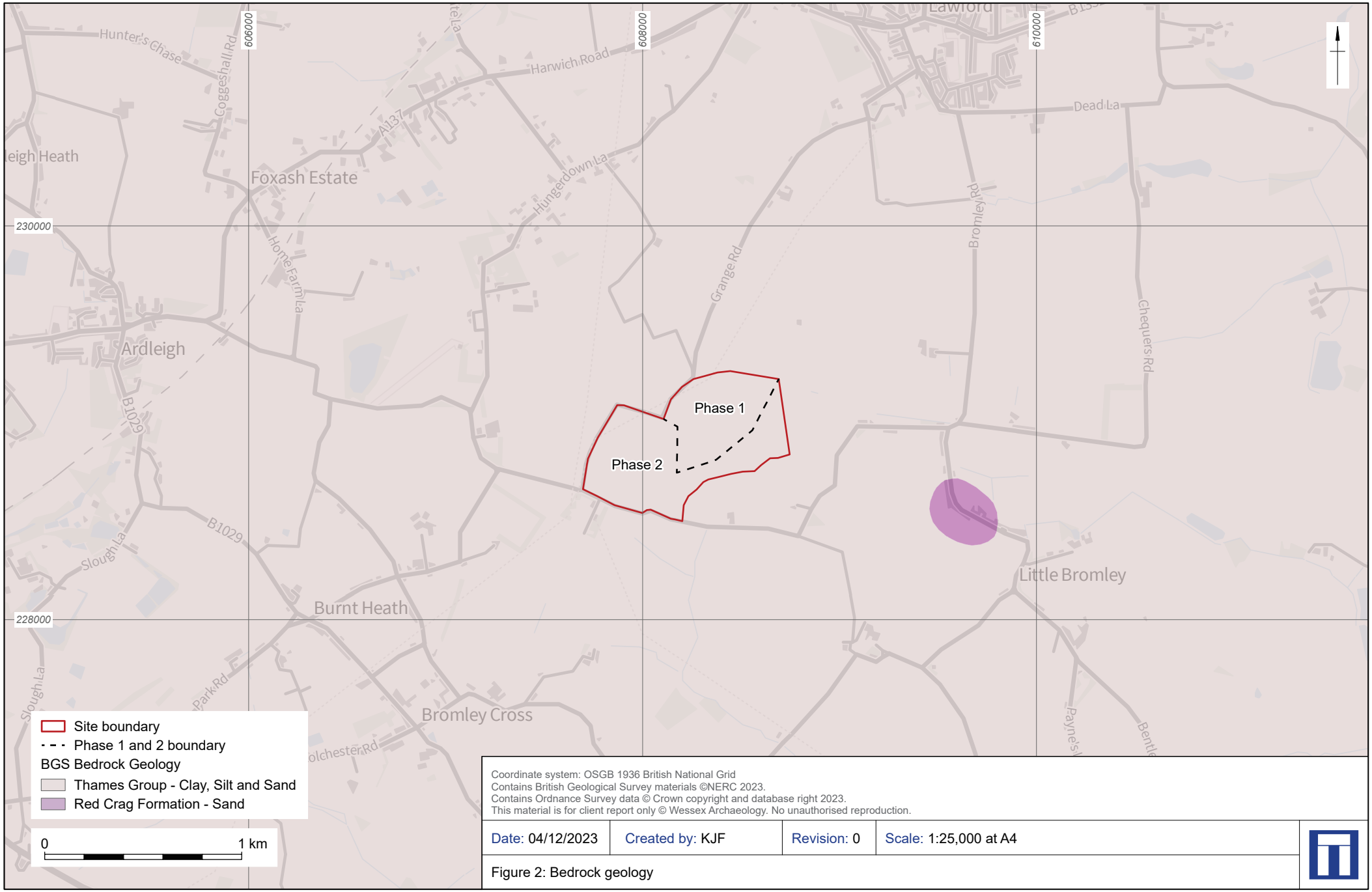


Coordinate system: OSGB 1936 British National Grid

Date: 28/11/2023	Created by: KJF	Revision: 0	Scale: 1:6,250 at A4

Figure 1: Site location and phases of evaluation



Coordinate system: OSGB 1936 British National Grid

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Figure 2: Bedrock geology

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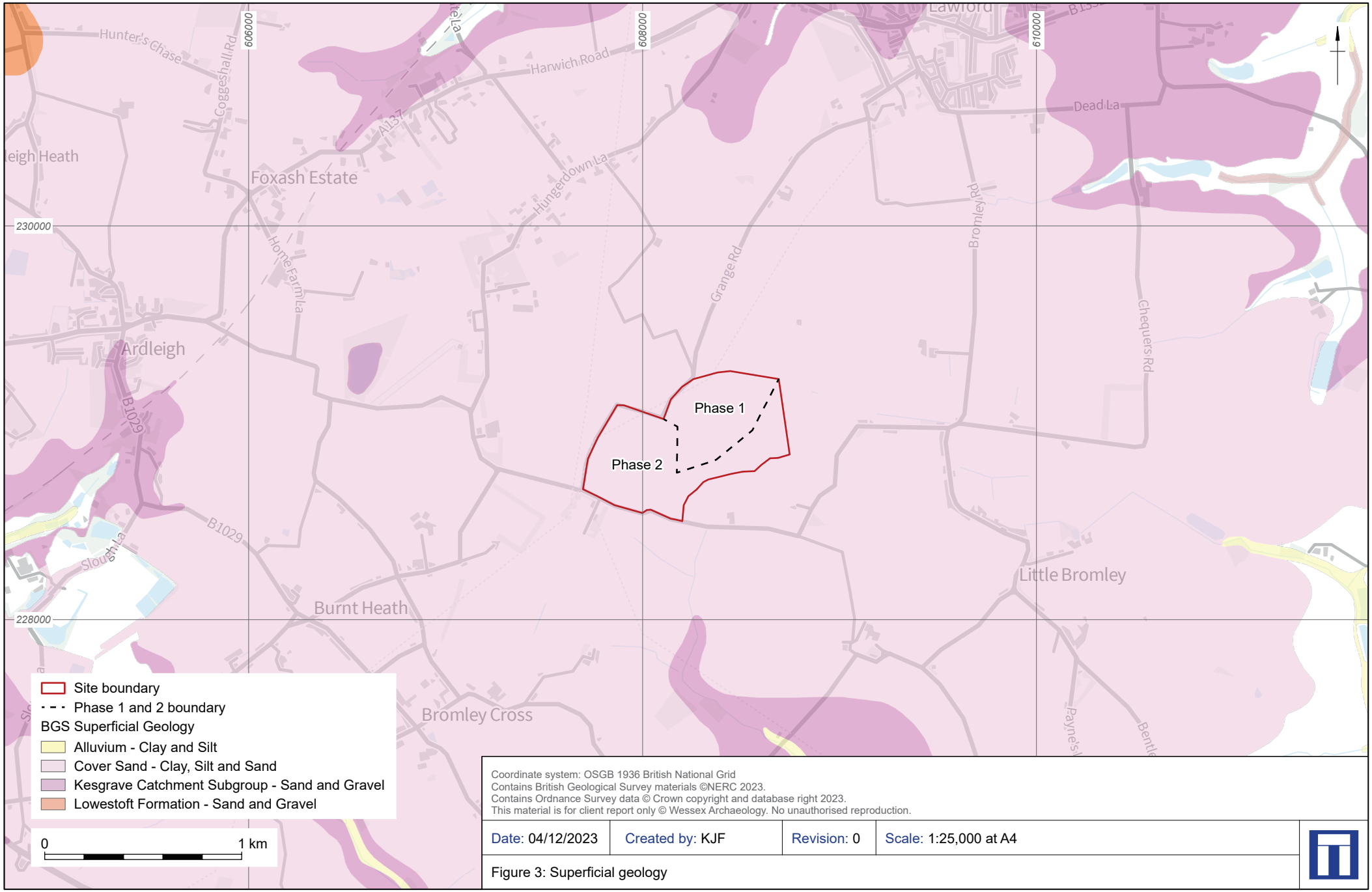

Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:25,000 at A4

Figure 3: Superficial geology

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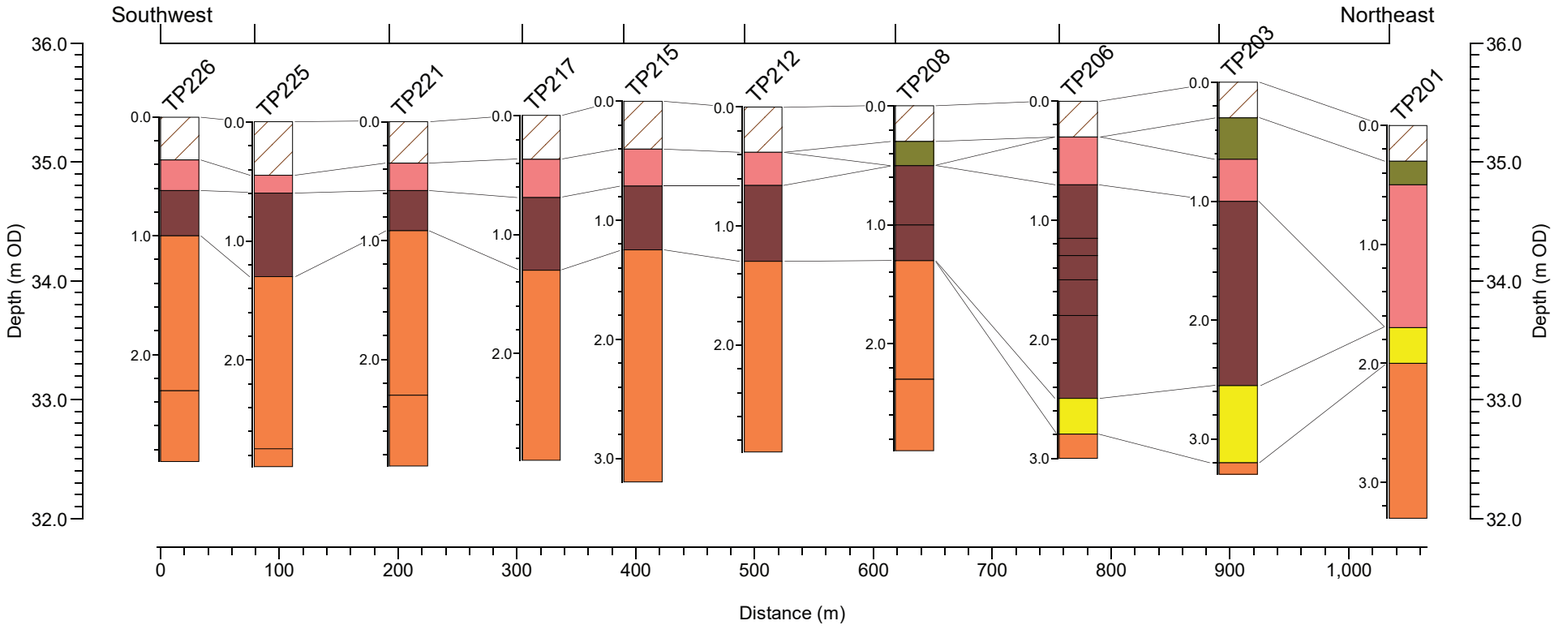

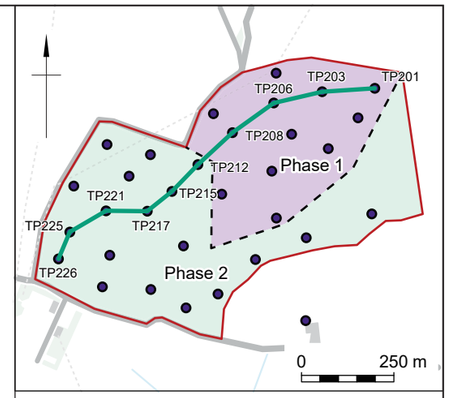

Site boundary
Phase 1
Phase 2
Test pit locations
Transect 1

Stratigraphy

- Topsoil
- Colluvium
- Head-Brickearth
- Head-Gravel
- Sands
- Ardleigh Gravel
- Bedrock
- Void

Coordinate system: OSGB 1936 British National Grid

Created by: KJF | Date: 28/11/2023

Scale: NTS at A3 | Revision: 0

Figure 4: Transect 1

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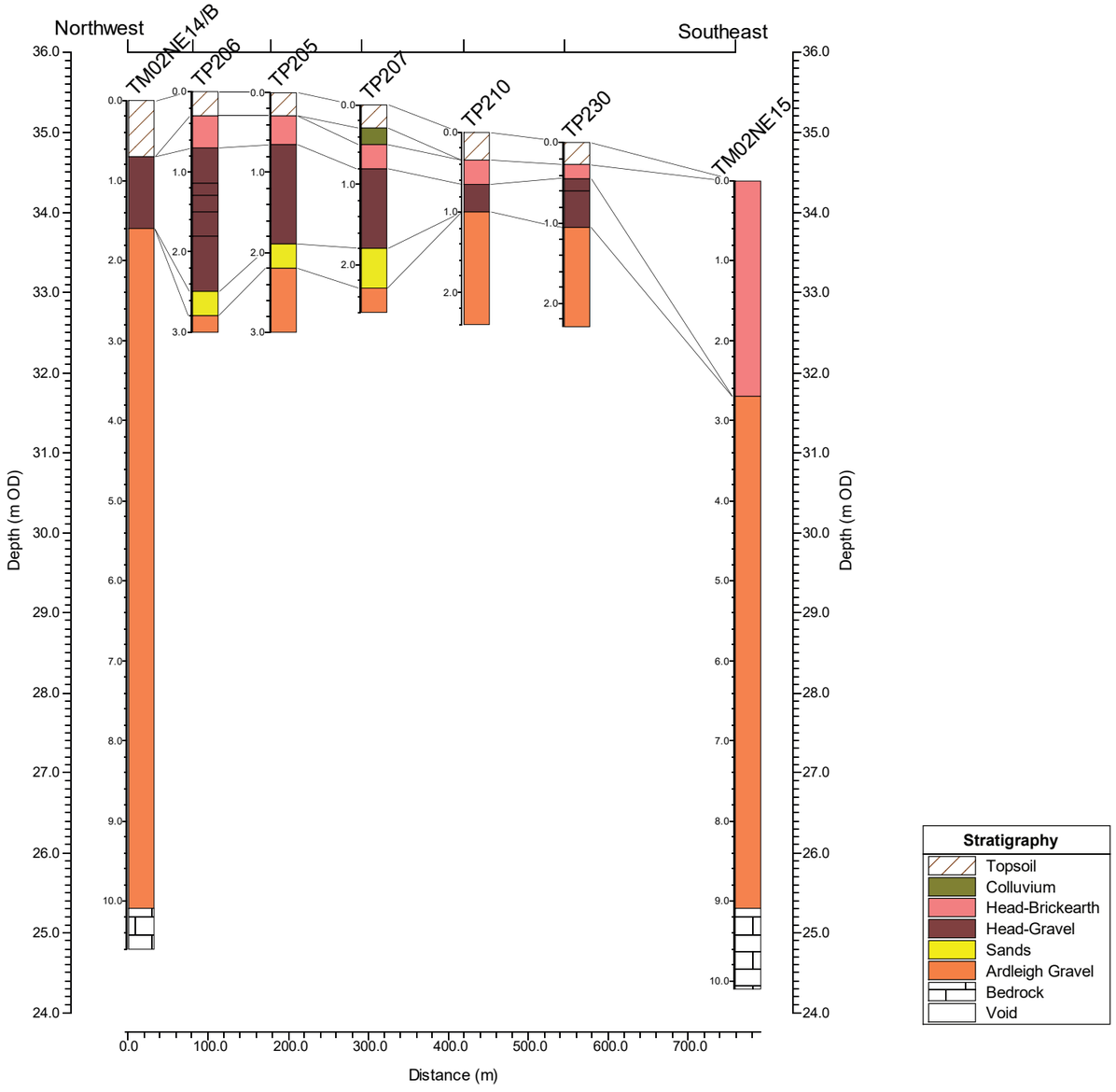
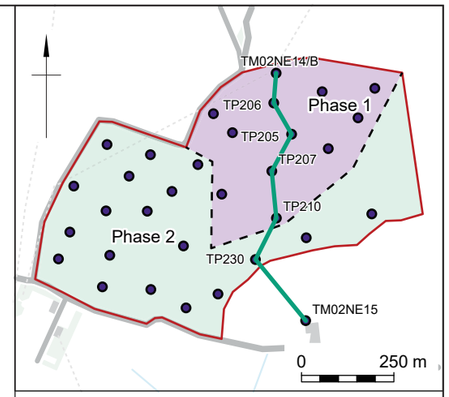


Stratigraphy

- Topsoil
- Colluvium
- Head-Brickearth
- Head-Gravel
- Sands
- Ardleigh Gravel
- Bedrock
- Void



- Site boundary
- Phase 1
- Phase 2
- Test pit locations
- Transect 2

Coordinate system: OSGB 1936 British National Grid

Created by: KJF	Date: 28/11/2023
Scale: NTS at A3	Revision: 0

Figure 5: Transect 2

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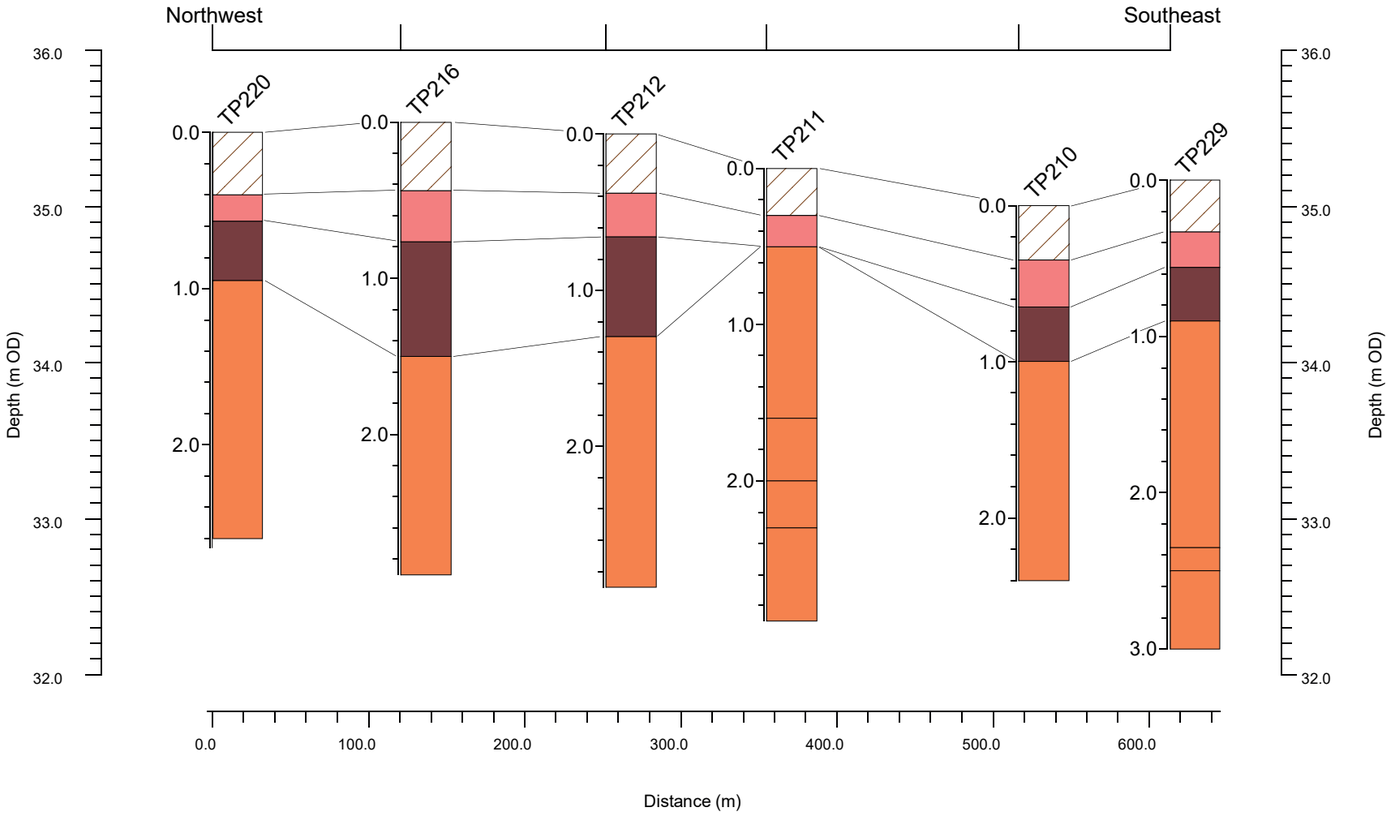
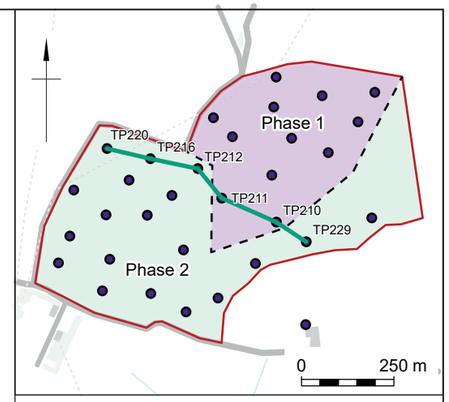




Site boundary
Phase 1
Phase 2
Test pit locations
Transect 3

Stratigraphy

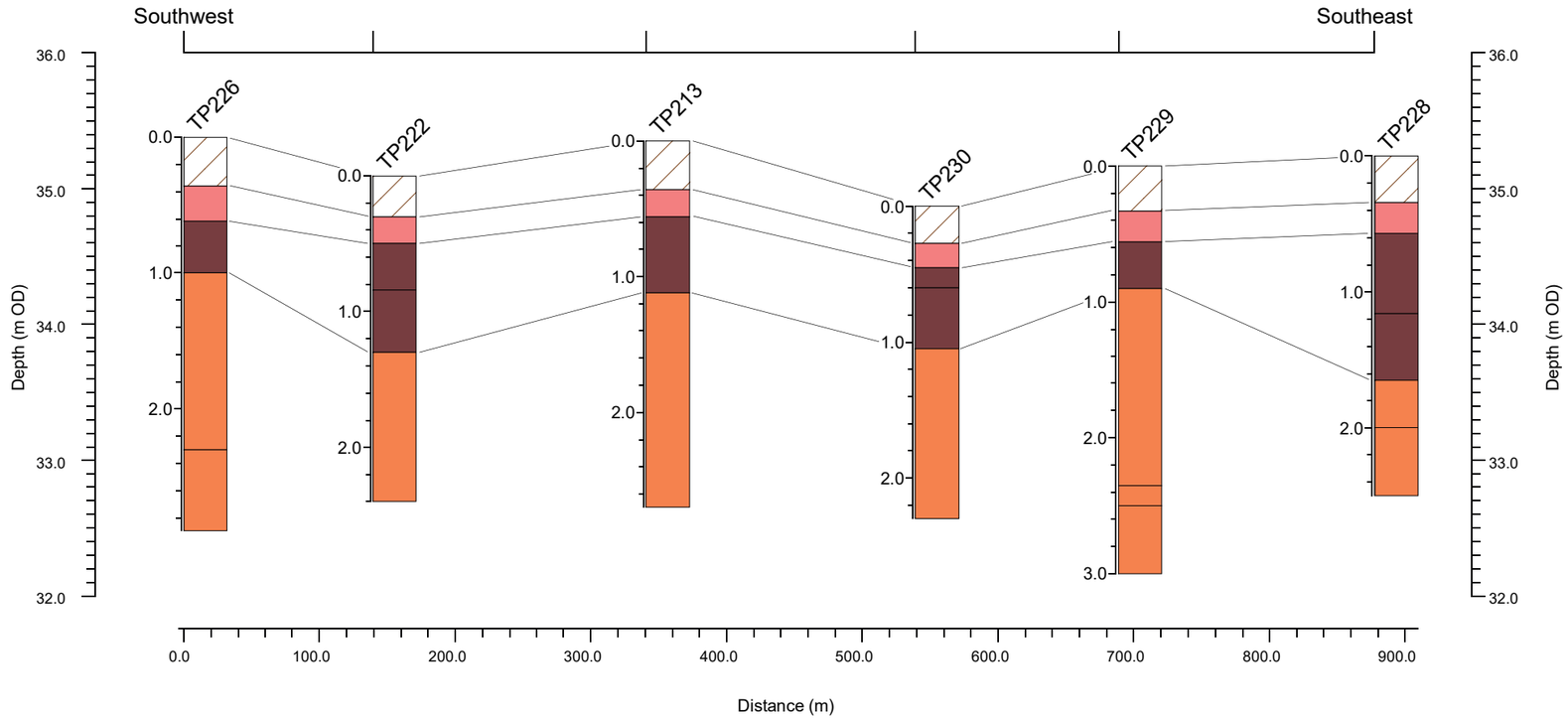
- Topsoil
- Colluvium
- Head-Brickearth
- Head-Gravel
- Sands
- Ardleigh Gravel
- Bedrock
- Void

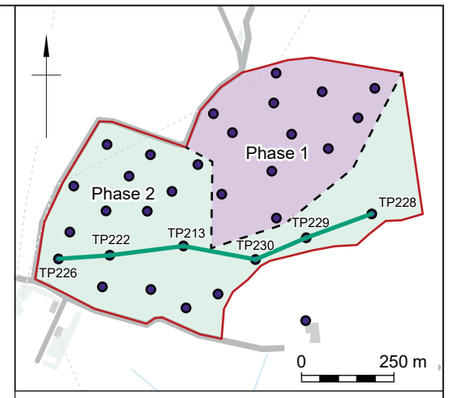
Coordinate system: OSGB 1936 British National Grid

Created by: KJF | Date: 28/11/2023

Scale: NTS at A3 | Revision: 0

Figure 6: Transect 3





Site boundary
Phase 1
Phase 2
Test pit locations
Transect 4

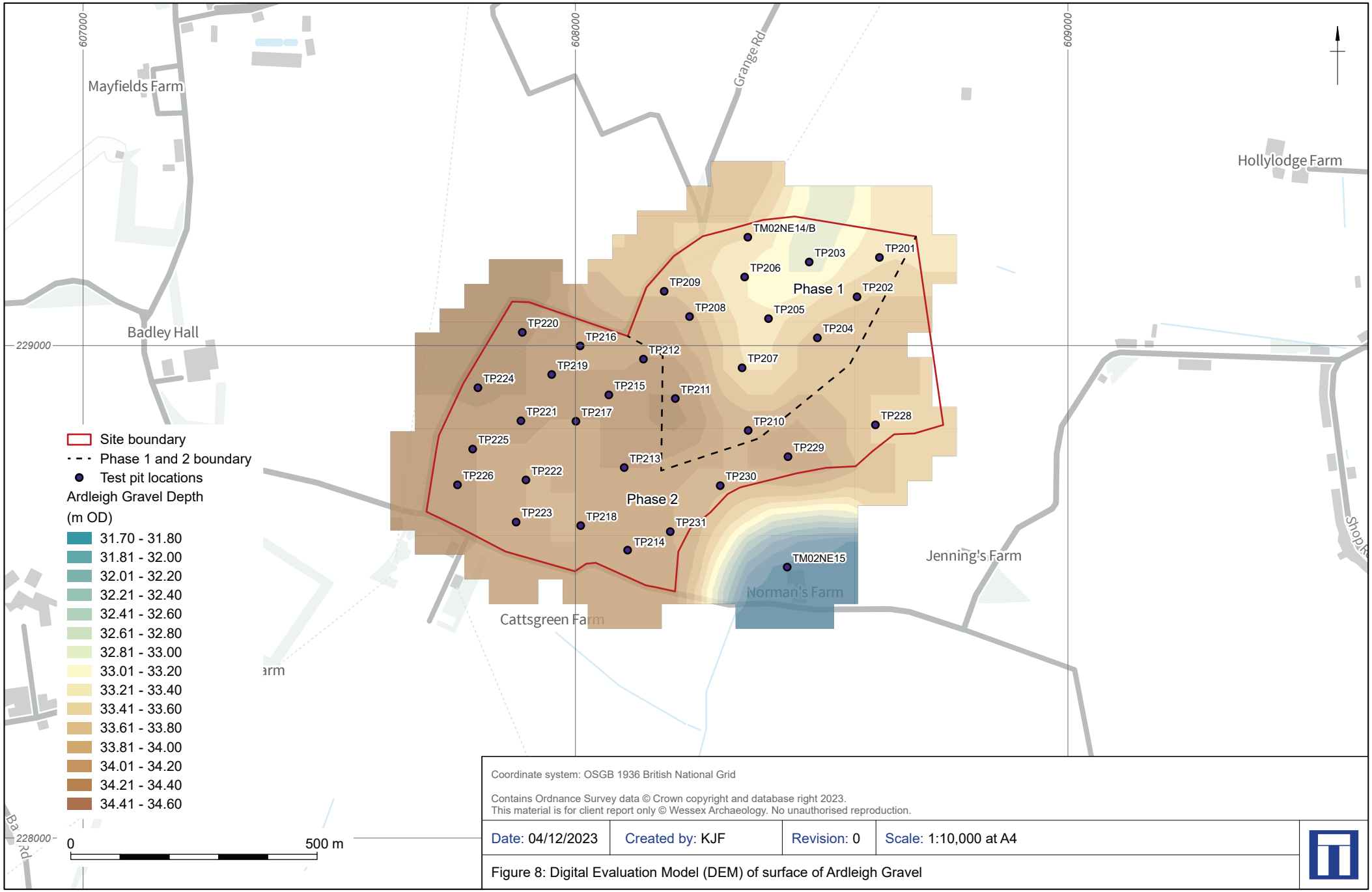
Stratigraphy

- Topsoil
- Colluvium
- Head-Brickearth
- Head-Gravel
- Sands
- Ardleigh Gravel
- Bedrock
- Void

Coordinate system: OSGB 1936 British National Grid

Created by: KJF	Date: 28/11/2023	
Scale: NTS at A3	Revision: 0	

Figure 7: Transect 4



Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 8: Digital Evaluation Model (DEM) of surface of Ardleigh Gravel

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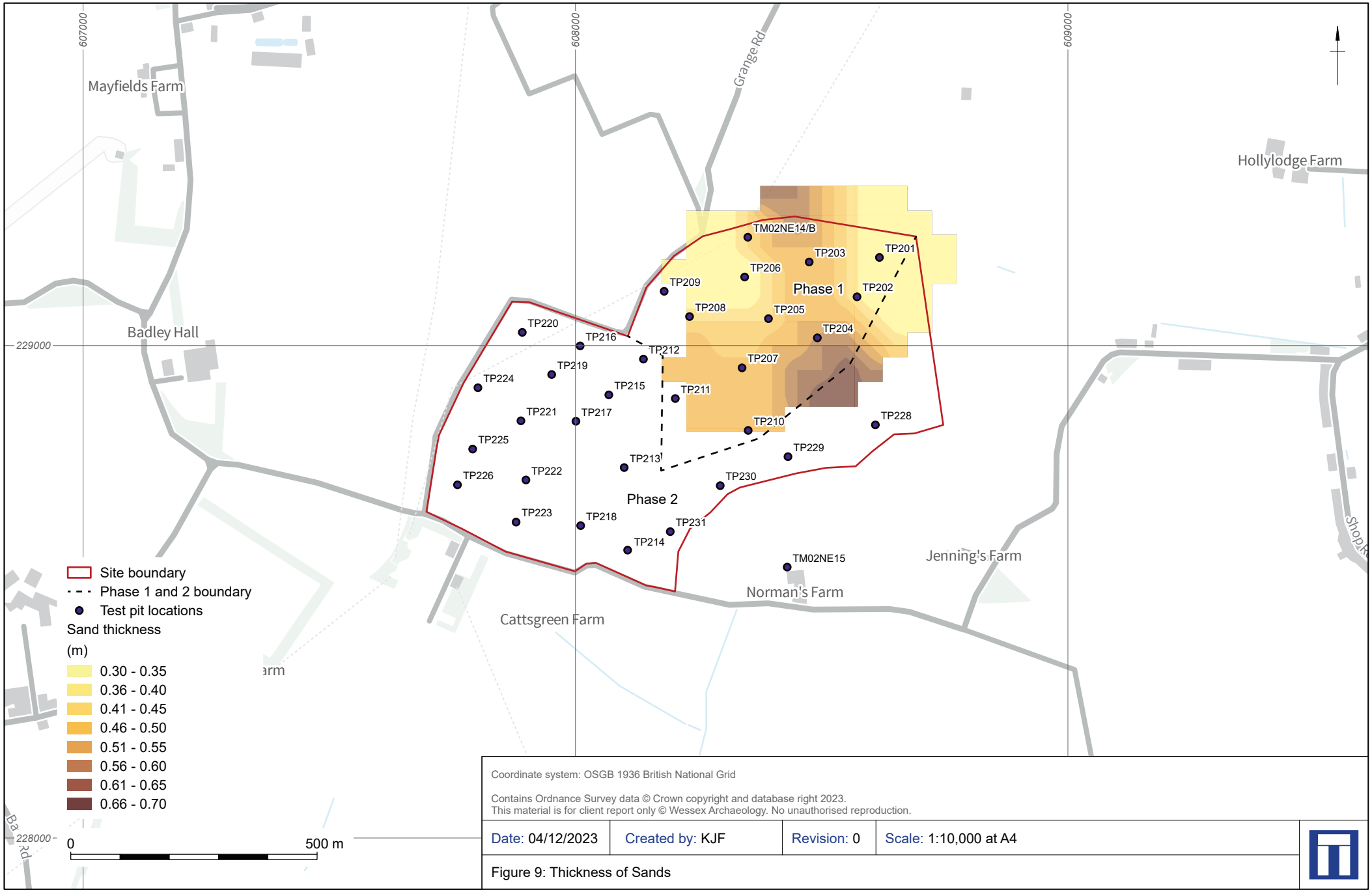

Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 9: Thickness of Sands

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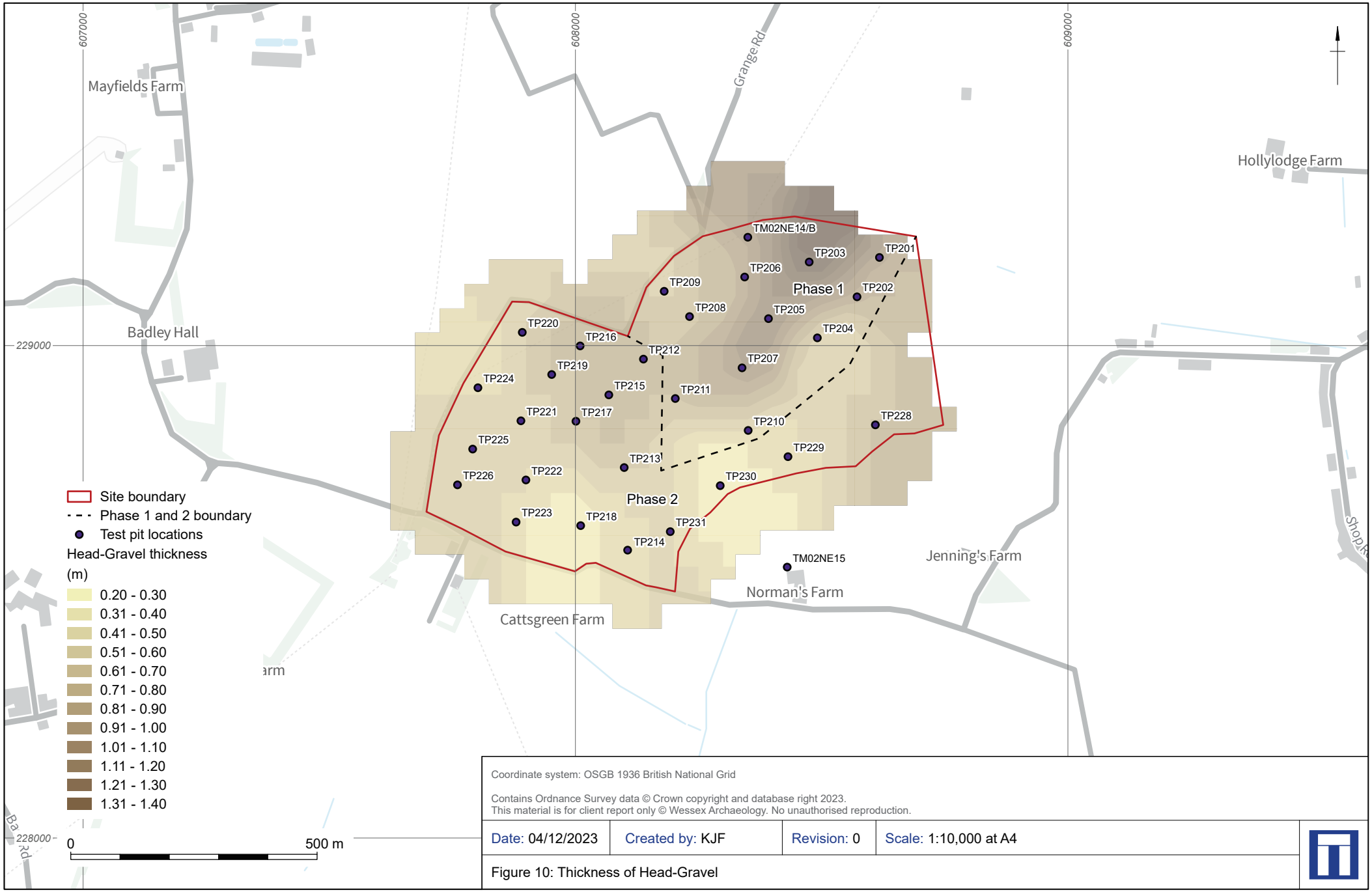

Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 10: Thickness of Head-Gravel

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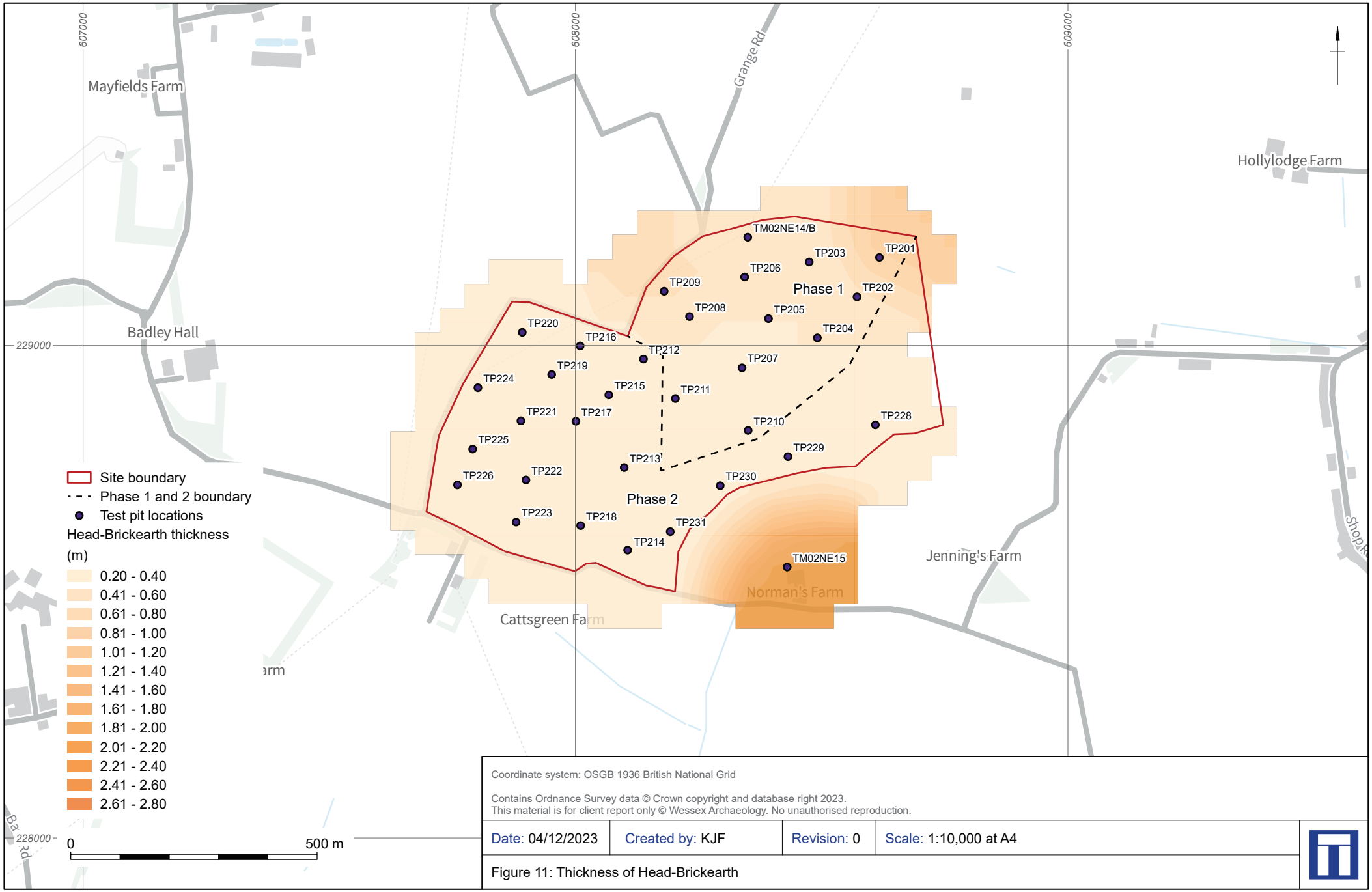

Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 11: Thickness of Head-Brickearth

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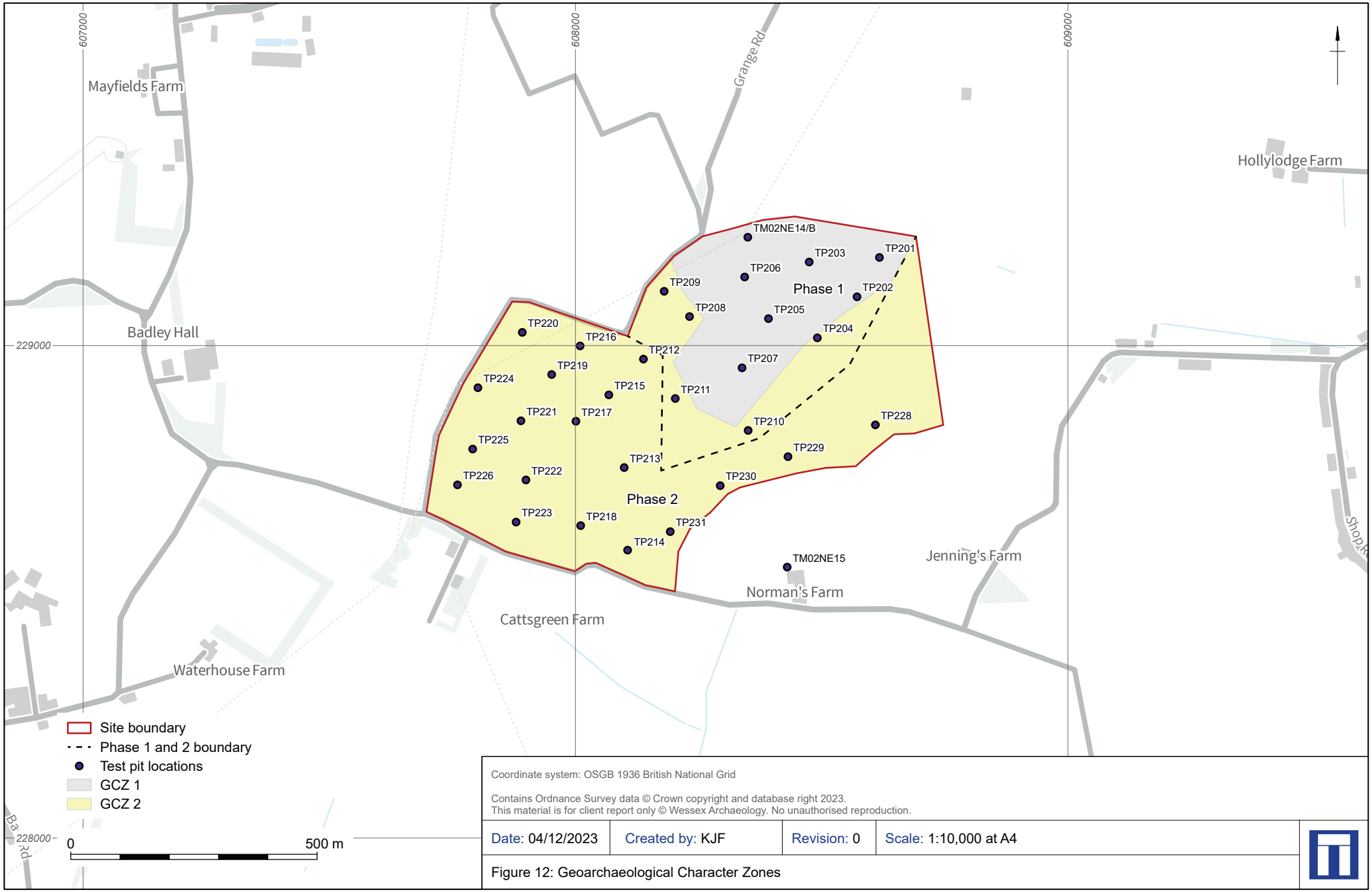

Coordinate system: OSGB 1936 British National Grid

Date: 04/12/2023	Created by: KJF	Revision: 0	Scale: 1:10,000 at A4

Figure 12: Geoarchaeological Character Zones

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

Archaeological Evaluation: Phase 2

HER Site Code: LAWGR23
Ref: 231917.2
February 2024

wessexarchaeology

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Document Information

Document title	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex
Document subtitle	Archaeological Evaluation: Phase 2
Document reference	231917.2
Client name	Five Estuaries Offshore Wind Farm LTD
Address	Zentraler Rechnungseingang Essen Germany 45096
Site location	Little Bromley Road, Little Bromley, Tendring, CO11 2QB
County	Essex
National grid reference (NGR)	608254 228658 (TM 08254 28658)
Statutory designations	
HER site code	LAWGR23
Museum name	Colchester Museum
Museum accession code	TBC
OASIS Id	wessexar1-521343
WA project name	Five Estuaries Offshore Windfarm, Phase 2
WA project code	231917
Dates of fieldwork	02/10/23 – 20/10/23
Fieldwork directed by	Weronika Aleksander
Assisted by	Ella Tobin, Krista Depaulo, Hannah Unwin, Rylan Batley-Thomsett, Tori Giroux
Project management by	Nina Olofsson
Document compiled by	Andrew Souter
Contributions from	Katie Marsden (finds), Lorrain Higbee (animal bone), Mark Stewart (flint), Dr Jessie Feito (enviro)
Graphics by	Kitty Foster and Rob Goller
Document edited by	Nina Olofsson

Quality Assurance

Issue	Date		Author	Approved by
1	11/12/2023	Internal	ALS	NO
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3	26/01/2024	External after comments	ALS	NO
4	06/02/2024	Final	ALS	NO

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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 19.5 hectare 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 76 trial trenches of varying length across two irregular fields. A further 10 trenches were originally included in proposals but were zoned out prior to the evaluation being undertaken. The trenches were targeted on the results of a previous geophysical survey, along with features identified by the National Mapping Programme and Air Photo Services. Several trenches were positioned to test the negative areas of the previous surveys.

A total of 21 archaeological features comprising pits and ditches were identified in 19 of the excavated trenches. The majority of the features comprised ditches likely associated with land management/field boundary systems, with 7 of the ditches corresponding with either the 1898 Ordnance Survey map or 'field systems' identified by a previous aerial photograph survey. Only one ditch was recorded as continuing from the Phase 1 evaluation area into Phase 2. The three identified pits comprised two probable waste pits and a pit of uncertain origin, which may have been geological in nature.

The evaluation was undertaken between 2 and 20 October 2023.

Acknowledgements

Wessex Archaeology would like to thank Five Estuaries Offshore Wind Farm 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 2

1 INTRODUCTION

1.1 Project and planning 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 19.5 ha parcel of land located 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 2 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 76 trial trenches was undertaken between 2 and 20 October 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 2 area comprises the western and southern 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 (Air Photo Services (APS) 2022) included.

2.2 Previous investigations related to the proposed development

Archaeological Evaluation (Wessex Archaeology 2023d)

2.2.1 A 48 trench evaluation was undertaken on Phase 1 of the proposed development area. 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.

2.2.2 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.

2.2.3 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.

2.2.4 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.

Geophysical Survey (Wessex Archaeology 2023c)

2.2.5 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.

2.2.6 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.

2.2.7 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.

2.2.8 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.

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

2.2.10 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)

2.2.11 Work undertaken by Air 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

2.2.12 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) were to:

- make recommendations for further archaeological work relating to the superficial deposits;
- test the results of the geophysical survey (Wessex Archaeology 2023b);
- 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.

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.

4.2.2 76 trial trenches, 50 measuring 30 m in length and 2 m wide and 26 measuring 50 m in length and 2 m wide, 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. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the evaluation.

4.2.4 Spoil from machine stripping and hand-excavated archaeological deposits was visually scanned for the purposes of finds retrieval. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th century or later) were recorded on site and not retained.

4.2.5 Trenches completed to the satisfaction of the client and the Historic Environment Consultant 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 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.

5 STRATIGRAPHIC EVIDENCE

5.1 Introduction

5.1.1 19 of the 76 excavated trial trenches contained archaeological features and deposits, indicating archaeological remains are present across the site (Fig. 1).

5.1.2 The uncovered features comprising ditches and pits represent one main period of activity: post-medieval, though several features remain of uncertain date.

5.1.3 The following section presents the results of the evaluation with archaeological features and deposits discussed by area and 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. Figure 2 shows all archaeological features recorded within the trenches, together with the preceding geophysical survey results (Wessex Archaeology 2023b). Figures 3-6 shows all archaeological features recorded within the trenches, together with the APS and NMP data. Figures 7-26 provides detail of the archaeological features within the trenches.

5.2 Soil sequence and natural deposits

5.2.1 The stratigraphic sequence across the site was largely consistent, with between 0.26 and 0.4m of mid grey brown silty/sand clay topsoil directly overlying mid red brown silty sand natural deposits with patches of manganese in 74 of the 76 excavated trenches. The two exceptions were Trenches 52 and 118 which each contained deposits silty sand subsoil between the topsoil and natural geology.

5.3 Archaeological Results

Western Field

5.3.1 Trenches 52-65, 67-74, 76-80, 84, 86, 88-93, 95-100 and 102 did not contain any archaeological features or deposits and are not discussed further.

Trench 66

5.3.2 Trench 66 was located in the southeast part of the field, on a north-northwest/south-southeast alignment, and contained a single ditch. West-northwest/east-southeast aligned ditch 6603 was recorded in the northern half of the trench and contained on secondary and one tertiary fill. The ditch measured at least 2.1m long, 1.3m wide and 0.45m deep, with moderately sloped concave sides and a concave base. Five sherds (24g) of post-medieval pottery, a piece (3g) of animal bone, a piece (27g) of undated tile and a piece (2g) of post-medieval/modern glass were recovered from the basal fill. The ditch roughly aligned with a former field boundary identified by the previous geophysical survey, the APS survey and on the 1898 Ordnance Survey (OS) Map. The slight difference between the alignment and the projected locations is likely the result of minor georectification errors.

Trench 75

5.3.3 Trench 75 was located in the northern half of the field, on an east/west alignment, and contained a single ditch. Predominantly East/west aligned ditch 7503/7505 was recorded along the entire length of the trench and contained a single secondary fill. The ditch measured at least 30m long, 1.65m wide and 0.45m deep, with moderately sloped concave sides and a concave base. A single piece of post-medieval pottery was recovered from the fill.

Trench 81

5.3.4 Trench 81 was located on the southern boundary of the field, on a northeast/southwest alignment, and contained a single ditch. Northwest/southeast aligned ditch 8103 was recorded in the northeast half of the trench and contained a single secondary fill. The ditch measured at least 2.6m long, 0.7m wide and 0.18m deep, with moderately sloped concave sides and a concave base. The ditch roughly aligned with a field system identified by the previous APS survey and a field boundary recorded on the 1898 OS map, the geophysical survey identified part the boundary ditch to the southeast of the trench but not continuing through the trench itself.

Trench 82

5.3.5 Trench 82 was located by the southern boundary of the field, on a north/south alignment, and contained a single ditch. East-northeast/west-southwest aligned ditch 8203 was recorded in the northern half of the trench and contained a single secondary fill. The ditch measured at least 2.1m long, 1.2m wide and 0.25m deep, with moderately sloped concave sides and a concave base.

Trench 83

5.3.6 Trench 83 was located by the southern boundary of the field, on an east/west alignment, and contained a ditch and a pit. North-northwest/south-southeast aligned ditch 8305 was recorded in the eastern half of the trench and contained a single secondary fill. The ditch measured at least 2.1m long, 1.28m wide and 0.51m deep, with moderately sloped concave sides and a concave base.

5.3.7 Sub-circular pit 8303 was recorded approximately 1.6m east of ditch 8305 and contained a single deliberate backfill. The pit measured 0.26m long, 0.37m wide and 0.1m deep, with steep concave sides and a concave base. Charcoal flecks were recorded in the fill, which was sampled (see section 7 below).

Trench 85

5.3.8 Trench 85 was located in the approximate centre of the field, on an east/west alignment, and contained a single ditch. North/south aligned ditch 8503 was recorded at the eastern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1m wide and 0.33m deep, with moderately sloped concave sides and a concave base.

Trench 87

5.3.9 Trench 87 was located in the northwest part of the field, on a north/south alignment, and contained a single ditch. East/west aligned ditch 8703 was recorded in the southern half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.36m wide and 0.36m deep, with moderately sloped concave sides and a concave base. A single piece (67g) of medieval or post medieval CBM was recovered from the fill. The ditch may represent a continuation of ditch 7503/7505 to the east.

Trench 94

5.3.10 Trench 94 was located on the southern boundary of the field, on a north/south alignment, and contained a single ditch. East/west aligned ditch 9403 was recorded in the southern half of the trench and contained a single secondary fill. The ditch measured at least 2m long, 2.1m wide and 0.36m deep, with moderately sloped concave sides and a concave base. A single piece of modern glass was recorded on site and discarded.

Trench 101

5.3.11 Trench 101 was located on the southern boundary of the field, on an east/west alignment, and contained a single pit. Sub-oval pit 10103 was recorded in the approximate centre of the trench and contained a single deliberate backfill. The pit measured 0.48m long, 0.28m wide and 0.1m deep, with shallow concave sides and a concave base. Abundant charcoal was recorded in the fil, which was sampled (see section 7 below).

Trench 103

5.3.12 Trench 103 was located in the southwest corner of the field, on a north/south alignment, and contained a single ditch. East/west aligned ditch 10303 was recorded at the southern end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.08m wide and 0.28m deep, with moderately sloped concave sides and a concave

base. The ditch roughly aligned with a former field boundary identified by the previous geophysical survey, the APS survey and on the 1898 OS Map.

Eastern Field

5.3.13 Trenches 104-109 and 112-115 were zoned out of the evaluation and not undertaken. Trenches 118-122, 125, 127, 130, 132, 133 and 135-137 did not contain any archaeological features or deposits and are not discussed further.

Trench 116

5.3.14 Trench 116 was located in the eastern half of the field, on an east/west alignment, and contained a single ditch. North/south aligned ditch 11603 was recorded in the western half of the trench and contained a single secondary fill. The ditch measured at least 2.1m long, 1m wide and 0.43m deep, with moderately sloped concave sides and a concave base. A single piece (13g) of undated CBM was recovered from the fill. The ditch is roughly aligned with a field boundary on the 1898 OS map.

Trench 117

5.3.15 Trench 117 was located in the eastern half of the field, on a north/south alignment, and contained a single ditch. Northwest/southeast aligned ditch 11703 was recorded in the southern half of the trench and contained a two secondary fills. The ditch measured at least 7m long, 1.14m wide and 0.42m deep, with moderately sloped concave sides and a concave base. A single sherd (3g) of post-medieval pottery and two pieces (10g) of medieval/post-medieval CBM were recovered from the upper fill.

Trench 123

5.3.16 Trench 123 was located on the northern boundary of the field, on an east-northeast/west-southwest alignment, and contained a single ditch. Northwest/southeast aligned ditch 12303 was recorded in the southwest half of the trench and contained one primary and one secondary fill. The ditch measured at least 2.3m long, 1.55m wide and 0.25m deep, with moderately sloped concave sides and a concave base. The ditch roughly aligns with a field boundary recorded on the APS survey.

Trench 124

5.3.17 Trench 123 was located in the eastern half of the field, on a northwest/southeast alignment, and contained a single ditch. Northeast/southwest aligned ditch 12403 was recorded in the southeast half of the trench and contained a single secondary fill. The ditch measured 2.1m long, 1m wide and 0.3m deep, with shallow concave sides and a concave base. The ditch roughly aligns with a field boundary recorded on the APS survey.

Trench 126

5.3.18 Trench 126 was located in the middle of the field, on an east-northeast/west-southwest alignment, and contained a single ditch. North-northwest/south-southeast aligned ditch 12603 as recorded at the southwest end of the trench and contained a single secondary fill. The ditch measured at least 2m long, 1.12m wide and 0.2m deep, with steep concave sides and a concave base. A single sherd (13g) of medieval/post-medieval CBM was recovered from the fill.

Trench 128

5.3.19 Trench 128 was located in the western half of the field, on a northwest/southeast alignment, and contained a single ditch. Northwest/southeast aligned ditch 12803 was recorded in the southeast half of the trench and contained one primary and two secondary fills. The ditch measured at least 2.7m long, 1.24m wide and 0.62m deep, with moderately sloped concave

sides and a concave base. A single piece (1g) of undated glass and a single piece (28g) of undated tile were recovered from the fill. The ditch roughly corresponds to a former field boundary recorded on the previous APS and geophysical surveys and the 1898 OS map.

Trench 129

5.3.20 Trench 129 was located in the western half of the field, on a north/south alignment, and contained a single ditch. Northeast/southwest aligned ditch 12903 was recorded in the northern half of the trench and contained a single secondary fill. The ditch measured at least 2.1m long, 1m wide and 0.22m deep, with moderately sloped concave sides and a concave base. A single piece (55g) of undated tile was recovered from the fill.

Trench 131

5.3.21 Trench 131 was located in the western half of the field, on a north/south alignment, and contained a single ditch. Northwest/southeast aligned ditch 13103 was recorded in the northern half of the trench and contained a single secondary fill. The ditch measured at least 2.3m long, 1m wide and 0.32m deep, with moderately sloped concave sides and a concave base. The ditch was recorded at the proposed located of a geological feature identified by the previous geophysical survey, although one a distinctly different angle.

Trench 134

5.3.22 Trench 134 was located on the western boundary of the field, on an east/west, alignment and contained a single pit. Circular pit 13403 was recorded in the eastern half of the trench and contained a single secondary fill. The pit measured 0.45m in diameter and 0.05m deep, with shallow concave sides and concave base. Due to the lack of archaeological material or adjacent features it is possible that the pit represented a geological variation rather than an archaeological feature.

6 FINDS EVIDENCE

6.1 Introduction

6.1.1 Finds amounting to just 264 g was recovered from nine trenches. The finds are predominantly of post-medieval date. They have been cleaned and scanned to assess their nature, condition and potential date range. This information is summarised in Table 1.

Table 1 Quantification of finds by material type (count and weight in grammes)

		Animal bone	**Ceramic building material**	**Clay pipe**	**Flint**	**Glass**	**Pottery**	**Grand total**
Trench	**Feature**	**Ct./wt. (g)**	**Ct./wt. (g)**	**Ct./wt. (g)**	**Ct./wt. (g)**	**Ct./wt. (g)**	**Ct./wt. (g)**	**Ct./wt. (g)**
52	Topsoil 5201				1/17			**1/17**
66	Ditch 6603	1/3	1/27			1/2	5/23	**8/55**
75	Ditch 7503						1/2	**1/2**
87	Ditch 8703		1/67					**1/67**
116	Ditch 11603		1/13					**1/13**

117	Topsoil 11701			1/1				**1/1**
	Ditch 11703		2/10				1/3	**3/13**
126	Ditch 12604		1/13					**1/13**
128	Ditch 12803		1/28					**1/28**
129	Ditch 12903		1/55					**1/55**
	Total	**1/3**	**8/213**	**1/1**	**1/17**	**1/2**	**7/28**	**19/264**

6.2 Pottery

6.2.1 Post-medieval pottery was recovered from three deposits. Sherds of red earthenware, which date from the late 16th to 18th centuries, came from ditches 6603, 7503 and 11703. Four sherds of refined whiteware (late 18th to 19th century), including one cup rim with blue transfer-print decoration, were also recovered from ditch 6604.

6.3 Flint

6.4 A single piece of worked flint was recovered from the topsoil of trench 52. This is a moderately large (50 mm diameter), well-executed scraper made on a thin flake of high-quality flint which was probably sourced from local exposures of Quaternary river terrace or glaciogenic deposits. The left side has suffered considerable damage (consistent with its provenance), but it appears likely to have been retouched, in this case with pressure flaking, around at least 80% of it's circumference. While it is not strictly a diagnostic tool, these features are more broadly typical of Neolithic technology. There is some evidence for a greater utilisation of thinner flakes later in the period, but in the absence of any other material, this should remain a tentative suggestion.

6.5 Ceramic building material

6.5.1 Eight fragments of ceramic building material, predominantly roof tile fragments, were recovered from seven deposits. They are highly fragmented but their hard-fired, sandy fabric suggests a medieval or later date.

6.6 Other finds

6.6.1 Single fragments of clay tobacco pipe and green bottle glass, both broadly of post-medieval date, were recovered. The pipe spur fragment (topsoil deposit 11701) is embossed on the spur with WC, the maker's initials. No maker with these initials is known from Essex, however 12 are known in London (Oswald 1975). The practise of marker's initialling the spur developed in the 18th century (Simpson 1982, 4).

6.7 Animal bone

6.7.1 A single bone, from the right side of a hare pelvis, was recovered from ditch 6603, alongside pottery of a post-medieval date.

7 ENVIRONMENTAL EVIDENCE

7.1 Introduction

7.1.1 Two bulk sediment samples were taken from undated pits 8303 and 10103 and were processed for the recovery and assessment of the environmental evidence. Charcoal and charred plant remains recovered from the samples have been assessed.

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 *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011).

Bulk samples

7.2.2 The samples were 4.5 and 9 litres in volume. The samples were processed by standard flotation methods on a Siraf-type flotation tank. The flots were retained on a 0.25 mm mesh. The residues were retained on a 1 mm mesh and they were split into coarse (>4 mm) and fine (1–4 mm) residue fractions. The coarse residue fractions (>4 mm) were sorted by eye for artefactual and environmental remains. The environmental material extracted from the residues was added to the flots.

7.2.3 The fine residue fractions and the flots were scanned and sorted using a stereomicroscope at up to 40x magnification for uncharred and charred botanical remains, wood charcoal and wood remains, as well as other environmental and artefactual material (e.g., insects/invertebrates, molluscs, etc.). The presence of recent and/or intrusive material was noted in the samples including modern roots, modern seeds, mycorrhizal fungi, earthworm eggs and shells of the burrowing blind snails (*Cecilioides acicula*).

7.2.4 Plant macroremains were identified through comparison with modern reference material held by Wessex Archaeology and relevant literature (Cappers *et al*. 2006). Nomenclature follows Stace (1997) for wild taxa. For simplicity, the term 'seed' is used to refer to different types of plant macroremain (e.g., achene, fruit etc.).

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

7.3 Results

7.3.1 The results are presented in Appendix 2, Table 2. The flots from the bulk sediment samples were generally of varying volumes. Potential indicators of bioturbation are present, indicating the possibility of contamination from later intrusive material (e.g., modern roots, modern/uncharred seeds, soil fungal sclerotia, modern insects).

7.3.2 Environmental evidence included charred plant remains and wood charcoal. Charred plant material was poorly preserved. Wood charcoal was noted in generally moderate quantities.

7.3.3 Charred plant remains were present in low quantities and included only *Galium* sp. (cleavers) and Poaceae (grasses).

7.4 Conclusions

7.4.1 The samples from Phase 2 produced some charred botanical evidence. The samples contained only two wild taxa. Given the poor preservation and paucity of charred plant remains, little can be said of the chronology or nature of the deposits based on the botanical material alone.

7.4.2 This assessment indicates that other features around the excavation area have the potential for the preservation of environmental evidence, including charred plant remains and wood charcoal.

8 CONCLUSIONS

8.1 Summary

8.1.1 The evaluation has been successful in fulfilling the aims and objectives as set out in the WSI (Wessex Archaeology 2023a). 21 archaeological features, comprising pits and ditches, were recorded across 19 of the 76 excavated trenches, all of which were either undated or post-medieval/modern in date.

8.2 Discussion

8.2.1 Field boundary ditches that were recorded on the 1898 Ordnance Survey map were identified in Trenches 66, 81, 103, 116 and 128, while ditches in Trenches 123 and 124 corresponded to 'field systems' identified by the previous APS survey. None of the other ditches appeared to correspond to previously identified features, but likely represent land management features such as field boundaries and drainage ditches.

8.2.2 Three pits were identified across the site, one of which may represent a natural geological feature rather. The other two both contained charcoal and may represent small deposits of burnt material, although due to the poor preservation and relative scarcity of material the environmental assessment was not able to confirm any further details.

8.2.3 Only one of the ditches recorded in the Phase 1 evaluation to the north was recorded potentially continuing into Phase 2, ditch 3103 which may continue as ditch 12603.

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 (1 item): single item, no further research potential. Discard

- Ceramic building material (eight items): small, fragmented group, discard.

- Clay tobacco pipe (single fragment): low archaeological potential, need not retain

- Flint (1 item): evidence of prehistoric activity, retain.

- Glass (1 item): post-medieval bottle glass fragment, no further potential .Discard.

- Pottery (7 sherds): small group of fragmented post-medieval/moder pottery. No further research potential, discard.

Palaeoenvironmental material

9.3.5 The samples should be retained in the site archive until further sampling is undertaken, when recommendations for dispersal or retention in the site archive will be made.

9.3.6 The residues were discarded after sorting.

Documentary records

9.3.7 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

9.3.8 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 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

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APPENDICES

Appendix 1 Trench summaries

depth bgl = below ground level

Trench No 52	Length 50 m	Width 2 m	Depth 0.35 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
5201		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk, moderate manganese.	0–0.28
5202		Subsoil	Light greyish brown. Silty sand. Moderate manganese.	0.28–0.33
5203		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.33–0.35+

Trench No 53	Length 30 m	Width 1.80 m	Depth 0.40 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
5301		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.35
5302		Natural	Mid reddish brown. Silty sand.	0.35–0.4+

Trench No 54	Length 50 m	Width 1.80 m	Depth 0.35 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
5401		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
5402		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 55	Length 30 m	Width 1.80 m	Depth 0.34 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
5501		Topsoil	Mid greyish brown. Sandy clay. Common rooting.	0 – 0.30
5502		Natural	Mid reddish brown. Silty sand.	0.30 +

Trench No 56	Length 30 m	Width 1.80 m	Depth 0.40 m
Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
5601		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.33
5602		Natural	Mid reddish brown. Silty sand.	0.33

Trench No 57	Length 30 m	Width 1.80 m	Depth 0.37 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
5701		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.33
5702		Natural	Mid reddish brown. Silty sand. Common gravel.	0.33 +

Trench No 58	Length 50 m	Width 2 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
5801		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk, rare charcoal.	0–0.33
5802		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.33–0.39+

Trench No 59	Length 30 m	Width 2 m	Depth 0.35 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
5901		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk, rare charcoal.	0–0.33
5902		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.33–0.35+

Trench No 60	Length 30 m	Width 1.80 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6001		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
6002		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 61	Length 30 m	Width 1.80 m	Depth 0.33 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6101		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
6102		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 62	Length 50 m	Width 2 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6201		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk.	0–0.34
6202		Natural	Mid reddish brown. Silty sand. Common manganese, moderate sub-rounded and sub-angular stones.	0.34–0.39+

Trench No 63	Length 30 m	Width 2.10 m	Depth 0.48 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6301		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.34
6302		Natural	Mid reddish brown. sandy clay.	0.34+

Trench No 64	Length 50 m	Width 2 m	Depth 0.35 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6401		Topsoil	Plough soil: mid greyish brown Silty Clay	0.00–0.30
6402		Natural	Mid reddish brown Sandy Clay, rare small flints.	0.30–0.35+

Trench No 65	Length 30 m	Width 2.10 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6501		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.29
6502		Natural	Mid reddish brown. sandy clay.	0.29+

Trench No 66	Length 50 m	Width 2.10 m	Depth 0.49 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6601		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.35
6602		Natural	Mid reddish brown. sandy clay.	0.35+
6603	6604, 6605	Ditch	Linear ditch aligned E-W with moderate, concave sides and a concave base. Length: >1.00 m. Width: 1.30 m. Depth: 0.45 m.	
6604	6603	Secondary fill	Dark greyish brown silty clay with rare chalk. rare manganese flecks	
6605	6603	Tertiary fill	Mid yellowish brown silty clay with common manganese flecks	

Trench No 67	Length 30 m	Width 1.80 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6701		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.35
6702		Natural	Mid reddish brown. Silty sand. common gravel.	0.35 +

Trench No 68	Length 30 m	Width 1.80 m	Depth 0.32 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6801		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
6802		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 69	Length 50 m	Width 2 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
6901		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk.	0–0.34
6902		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.34–0.39+

Trench No 70	Length 30 m	Width 1.80 m	Depth 0.35 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7001		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
7002		Natural	Mid reddish brown. Silty sand.	0.30 +

Trench No 71	Length 50 m	Width 2 m	Depth 0.37 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7101		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk.	0–0.32
7102		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.32–0.37+

Trench No 72	Length 50 m	Width 1.80 m	Depth 0.30 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7201		Topsoil	Mid greyish brown. Sandy clay. Common rooting.	0 – 0.27
7202		Natural	Mid reddish brown. Sandy clay.	0.27 +

Trench No 73	Length 50 m	Width 1.80 m	Depth 0.33 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7301		Topsoil	Mid greyish brown. Sandy clay. Common rooting.	0 – 0.28
7302		Natural	Mid reddish brown. Silty sand. Common gravel.	0.28 +

Trench No 74	Length 50 m	Width 1.80 m	Depth 0.37 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7401		Topsoil	Mid greyish brown. Sandy clay. Common rooting.	0 – 0.33
7402		Natural	Mid reddish brown. Silty sand. Common gravel.	0.33 +

Trench No 75	Length 30 m	Width 1.80 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7501		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.33
7502		Natural	Mid reddish brown. Silty sand. Common gravel.	0.33 +
7503	7504	Ditch	Linear ditch aligned E- W with moderate, concave sides and a concave base. Length: >0.87 m. Width: >1.00 m. Depth: 0.35 m.	
7504	7503	Secondary fill	Mid greyish brown silty sand with sparse flint	
7505	7506	Ditch	Curvilinear ditch aligned e to w with moderate, concave sides and an irregular / undulating base. Length: >2.00 m. Width: 1.68 m. Depth: 0.45 m.	
7506	7505	Secondary fill	Mid greyish brown silty sand with 1% rare flint	

Trench No 76	Length 30 m	Width 1.80 m	Depth 0.33 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7601		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
7602		Natural	Mid reddish brown. Silty sand. Common gravel	0.30

Trench No 77	Length 30 m	Width 2.10 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7701		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.35
7702		Natural	Mid reddish brown. sandy clay.	0.35+

Trench No 78	Length 30 m	Width 2.10 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7801		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.32
7802		Natural	Mid reddish brown. sandy clay.	0.32+

Trench No 79	Length 30 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
7901		Topsoil	Mid greyish brown. silty sand	0– 0.31
7902		Natural	Mid reddish brown. silty sand.	0.31– 0.4

Trench No 80	Length 30 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8001		Topsoil	Mid greyish brown. silty sand	0– 0.32
8002		Natural	Mid reddish brown. silty sand.	0.32– 0.38

Trench No 81	Length 50 m	Width 2 m	Depth 0.36 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8101		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.32
8102		Natural	Mid reddish brown Sandy Clay. Rare small manganese flecks.	0.32–0.36+
8103	8104	Ditch	Linear ditch aligned NNW to SSE with moderate, concave sides and a concave base. Length: >2.00 m. Width: 0.70 m. Depth: 0.18 m.	0.36–0.54
8104	8103	Secondary fill	Mid yellowish brown silty sand with rare sub-rounded stones	0.36–0.54

Trench No 82	Length 30 m	Width 2.10 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8201		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.33
8202		Natural	Mid reddish brown. sandy clay.	0.33+
8203	8204	Ditch	Curvilinear ditch aligned E to W with moderate, concave sides and a concave base. Length: >2.10 m. Width: 1.20 m. Depth: 0.25 m.	
8204	8203	Secondary fill	Mid greyish brown silty sand with 1% rare flint	

Trench No 83	Length 30 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8301		Topsoil	Mid greyish brown. silty sand	0– 0.3
8302		Natural	Mid reddish brown. silty sand.	0.3– 0.4
8303	8304	Pit	Sub-circular pit aligned W to E with steep, concave sides and an u-shaped base. Length: 0.26 m. Width: 0.37 m. Depth: 0.10 m.	
8304	8303	Deliberate backfill	Light blueish grey silty sand	
8305	8306	Ditch	Curvilinear ditch aligned N to S with moderate, concave sides and a concave base. Length: >2.10 m. Width: 1.28 m. Depth: 0.51 m.	
8306	8305	Secondary fill	Mid brownish grey silty sand with 1% rare manganese and flint	

Trench No 84	Length 30 m	Width 2.10 m	Depth 0.34 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8401		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.26
8402		Natural	Mid reddish brown. sandy clay.	0.26+

Trench No 85	Length 30 m	Width 1.80 m	Depth 0.35 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8501		Topsoil	Mid greyish brown. Silty sand. Common gravel.	0 – 0.30
8502		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +
8503	8504	Ditch	Linear ditch aligned N- S with moderate, concave sides and a concave base. Length: 0.85 m. Width: 1.00 m. Depth: 0.33 m.	
8504	8503	Secondary fill	Mid greyish brown silty sand with sparse flint	

Trench No 86	Length 30 m	Width 1.80 m	Depth 0.36 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8601		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
8602		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 87	Length 50 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8701		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.35
8702		Natural	Mid reddish brown Sandy Clay. Rare small manganese flecks.	0.35–0.40+
8703	8704	Ditch	Linear ditch aligned E to W with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.36 m. Depth: 0.36 m.	0.40–0.86
8704	8703	Secondary fill	Mid greyish brown silty sand with sparse manganese, rare sub-rounded stones	0.40–0.86

Trench No 88	Length 30 m	Width 1.80 m	Depth 0.36 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8801		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.32
8802		Natural	Mid reddish brown. Silty sand. Common gravel.	0.32 +

Trench No 89	Length 50 m	Width 2 m	Depth 0.36 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
8901		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, sparse chalk.	0–0.29
8902		Natural	Mid reddish brown. Silty sand. Common manganese, rare sub-rounded and sub-angular stones.	0.29–0.36+

Trench No 90	Length 30 m	Width 1.80 m	Depth 0.35 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9001		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.32
9002		Natural	Mid reddish brown. Silty sand. Common gravel.	0.32 +

Trench No 91	Length 50 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9101		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.32
9102		Natural	Mid reddish brown Sandy Clay. Rare small manganese flecks.	0.32–0.38

Trench No 92	Length 30 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9201		Topsoil	Mid greyish brown. silty sand	0– 0.3
9202		Natural	Mid reddish brown. silty sand.	0.3– 0.38

Trench No 93	Length 30 m	Width 2 m	Depth 0.32 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9301		Topsoil	Mid greyish brown. silty sand	0– 0.28
9302		Natural	Mid reddish brown. silty sand.	0.28– 0.32

Trench No 94	Length 50 m	Width 2 m	Depth 0.36 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9401		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.32
9402		Natural	Mid reddish brown with white hue Sandy Clay. Rare small manganese flecks.	0.32–0.36+
9403	9404	Ditch	Linear ditch aligned E-W with moderate, concave sides and a concave base. Length: >2.00 m. Width: 2.10 m. Depth: 0.36 m.	
9404	9403	Secondary fill	Mid brownish grey sandy silt with rare small flints	

Trench No 95	Length 30 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9501		Topsoil	Mid greyish brown. silty sand	0– 0.34
9502		Natural	Mid reddish brown. silty sand.	0.34– 0.4

Trench No 96	Length 50 m	Width 1.80 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9601		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.33
9602		Natural	Mid reddish brown. Silty sand. Common gravel.	0.33 +

Trench No 97	Length 30 m	Width 1.80 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9701		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.33
9702		Natural	Mid reddish brown. Silty sand. Common gravel.	0.33 +

Trench No 98	Length 50 m	Width 2 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9801		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.34
9802		Natural	Mid reddish brown with white hue Sandy Clay. Rare small manganese flecks.	0.34+0.42

Trench No 99	Length 30 m	Width 1.80 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
9901		Topsoil	Mid greyish brown. Silty sand. Common rooting.	0 – 0.30
9902		Natural	Mid reddish brown. Silty sand. Common gravel.	0.30 +

Trench No 100	Length 30 m	Width 2 m	Depth 0.34 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
10001		Topsoil	Mid greyish brown. silty sand	0– 0.3
10002		Natural	Mid reddish brown. silty sand.	0.3– 0.34

Trench No 101	Length 30 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
10101		Topsoil	Mid greyish brown. silty sand	0– 0.34
10102		Natural	Mid reddish brown. silty sand.	0.34– 0.4
10103	10104	Pit	Sub-oval pit with shallow, concave sides and a concave base. Length: 0.48 m. Width: >0.28 m. Depth: 0.10 m.	
10104	10103	Secondary fill	Dark greyish black silty sand with abundant charcoal	

Trench No 102	Length 30 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
10201		Topsoil	Mid greyish brown. silty sand.	0– 0.29
10202		Natural	Mid reddish brown. silty sand.	0.29– 0.4

Trench No 103	Length 50 m	Width 2 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
10301		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.30
10302		Natural	Mid reddish brown Sandy Clay. Rare small manganese flecks.	0.30–0.45
10303	10304	Ditch	Linear ditch with moderate, concave sides and a concave base. Length: 2.00 m. Width: 1.08 m. Depth: 0.28 m.	
10304	10303	Secondary fill	Dark greyish brow sandy silt with rare small flints	

Trench No 110	Length 30 m	Width 2.10 m	Depth 0.39 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11001		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.29
11002		Natural	Mid reddish brown. sandy clay.	0.29+

Trench No 111	Length 30 m	Width 2.10 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11101		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.29
11102		Natural	Mid reddish brown. sandy clay.	0.29+

Trench No 116	Length 30 m	Width 2 m	Depth 0.50 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11601		Topsoil	Plough soil: Mid greyish brown Silty Clay. rare small flints	0.00–0.30
11602		Natural	Mid reddish brown Sandy Clay. Rare small manganese flecks.	0.30–0.50+
11603	11604	Ditch	Linear ditch aligned N- S with moderate, concave sides and a concave base. Length: 1.10 m. Width: >1.00 m. Depth: 0.43 m.	
11604	11603	Secondary fill	Mid greyish brown silty sand with rare flint	

Trench No 117	Length 30 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11701		Topsoil	Top Soil: Mid greyish brown Silty Clay. Moderate rooting.	0.00–0.32
11702		Natural	Mid reddish brown Sandy Clay.	0.32–0.38+
11703	11704, 11705	Ditch	Linear ditch aligned SSE to NNW with moderate, concave sides and a concave base. Length: >3.00 m. Width: 1.14 m. Depth: 0.42 m.	
11704	11703	Secondary fill	Light whiteish yellow silty sand with rare sub-rounded stones, sparse manganese	
11705	11703	Secondary fill	Mid yellowish brown silty sand with moderate sub-rounded and sub-angular stones, moderate manganese	

Trench No 118	Length 30 m	Width 2.10 m	Depth 0.47 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11801		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.21
11802		Subsoil	Mid brownish grey. silty sand.	0.21–0.38
11803		Natural	Mid reddish brown. sandy clay.	0.38+

Trench No 119	Length 50 m	Width 2.10 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
11901		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.35
11902		Natural	Mid reddish brown. sandy clay.	0.35+

Trench No 120	Length 38 m	Width 2.10 m	Depth 0.50 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12001		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.40
12002		Natural	Mid reddish brown. sandy clay.	0.40+

Trench No 121	Length 30 m	Width 2.10 m	Depth 0.47 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12101		Topsoil	Ploughsoil. dark Greyish brown. sandy clay.	0–0.34
12102		Natural	Mid reddish brown. sandy clay.	0.34+

Trench No 122	Length 30 m	Width 2.10 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12201		Topsoil	Plough soil. dark greyish brown. Sandy clay.	0–0.38
12202		Natural	Mid reddish brown. Sandy clay.	0.38+

Trench No 123	Length 50 m	Width 2.10 m	Depth 0.50 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12301		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.40
12302		Natural	Mid reddish brown. Sandy clay. Rare magnesium flecks inclusions.	0.40+
12303	12304, 12305	Ditch	Curvilinear ditch aligned NW to SE with moderate, concave sides and a concave base. Length: >2.10 m. Width: 1.55 m. Depth: 0.25 m.	
12304	12303	Secondary fill	Mid greyish brown silty sand with 1% rare gravel	
12305	12303	Primary fill	Mid greyish brown silty sand with 90% gravel	

Trench No 124	Length 30 m	Width 2.10 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12401		Topsoil	Plough soil.Dark greyish brown. Sandy clay.	0–0.30
12402		Natural	Mid reddish brown. Sandy clay.	0.30+
12403	12404	Ditch	Linear ditch aligned NE- SW with shallow, concave sides and a concave base. Length: 1.60 m. Width: >1.00 m. Depth: 0.30 m.	
12404	12403	Secondary fill	Mid greyish brown silty sand with rare flint	

Trench No 125	Length 30 m	Width 2.10 m	Depth 0.43 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12501		Topsoil	Plough soil. Dark brownish grey. Sandy clay.	0–0–35
12502		Natural	Mid reddish brown. Rare manganese flecks. Sandy clay.	0.35+

Trench No 126	Length 50 m	Width 2 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12601		Topsoil	Top Soil: Mid greyish brown Silty Clay. Moderate rooting.	0.00–0.35
12602		Natural	Mid reddish brown Sandy Clay. Rare manganese flecks.	0.35–0.40+
12603	12604	Ditch	Linear ditch aligned SSE to NNW with steep, concave sides and a concave base. Length: >2.00 m. Width: 1.12 m. Depth: 0.20 m.	0.40–0.60
12604	12603	Secondary fill	Mid greyish brown silty sand with sparse rooting, sparse sub-rounded and sub-angular stones	0.40–0.60

Trench No 127	Length 30 m	Width 2.10 m	Depth 0.45 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12701		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.37
12702		Natural	Mid reddish brown. Sandy clay. Common magnesium inclusions.	0.37+

Trench No 128	Length 50 m	Width 2 m	Depth 0.38 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12801		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk.	0–0.34
12802		Natural	Mid reddish brown. Silty sand. Common manganese.	0.34–0.38+
12803	12804, 12805	Ditch	Linear ditch aligned SSE to NNW with moderate, concave sides and a concave base. Length: >2.00 m. Width: 1.24 m. Depth: 0.62 m.	0.38–0.98
12804	12803	Secondary fill	Mid greyish brown silty sand with rare sub-rounded stones	0.38–0.72
12805	12803	Secondary fill	Mid greyish brown silty sand with rare chalk, rare manganese, sparse sub-rounded and sub-angular stones	0.72–0.98
12806	12803	Primary fill	Mid greyish brown with mid reddish brown patches silty sand	0.38–0.56

Trench No 129	Length 50 m	Width 2.10 m	Depth 0.37 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
12901		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.35
12902		Natural	Mid reddish brown. Sandy clay. Rare manganese flecks.	0.35+
12903	12904	Ditch	Linear ditch aligned SW- NE with moderate, concave sides and a concave base. Length: 1.03 m. Width: 1.00 m. Depth: 0.22 m.	
12904	12903	Secondary fill	Mid brownish grey silty sand	

Trench No 130	Length 30 m	Width 2.10 m	Depth 0.44 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13001		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.38
13002		Natural	Mid reddish brown. Large sandstone inclusions. Common magnesium flecks.	0.38+

Trench No 131	Length 30 m	Width 2.10 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13101		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.35
13102		Natural	Mid reddish brown. Sandy clay. Common manganese flecks.	0.35+
13103	13104	Ditch	Linear ditch aligned NW- SW with moderate, concave sides and a concave base. Length: 1.15 m. Width: 1.00 m. Depth: 0.32 m.	
13104	13103	Secondary fill	Mid greyish brown silty sand with rare flint	

Trench No 132	Length 30 m	Width 2.10 m	Depth 0.50 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13201		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.37
13202		Natural	Mid reddish brown. Sandy clay. Rare large sandstone inclusions.	0.37+

Trench No 133	Length 50 m	Width 2 m	Depth 0.37 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13301		Topsoil	Mid greyish brown. Silty sand. Moderate sub-rounded and sub-angular stones, sparse rooting, rare chalk.	0–0.30
13302		Natural	Mid reddish brown. Silty sand. Common manganese.	0.30–0.37+

Trench No 134	Length 50 m	Width 2.10 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13401		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.32
13402		Natural	Mid reddish brown. Sandy clay. Large to medium sandstone inclusions, rare.	0.32+
13403	13404	Pit	Circular pit with shallow, concave sides and a concave base. Diameter: 0.45 m. Depth: 0.05 m.	
13404	13403	Secondary fill	Pale greyish brown sand	

Trench No 135	Length 30 m	Width 2.10 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13501		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.30
13502		Natural	Mid reddish brown. Sandy clay. Rare large sandstone inclusions.	0.30+

Trench No 136	Length 30 m	Width 2.10 m	Depth 0.42 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13601		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.32
13602		Natural	Mid yellowish brown. Sandy clay.	0.32+

Trench No 137	Length 30 m	Width 2.10 m	Depth 0.40 m

Context Number	Fill Of/Filled With	Interpretative Category	Description	Depth BGL
13701		Topsoil	Plough soil. Dark greyish brown. Sandy clay.	0–0.30
13702		Natural	Mid reddish brown. Silty clay. Rare small to medium manganese inclusions. Rare large sandstone inclusions.	0.30+

Appendix 2 Environmental Evidence

Table 2 Assessment of Environmental Evidence

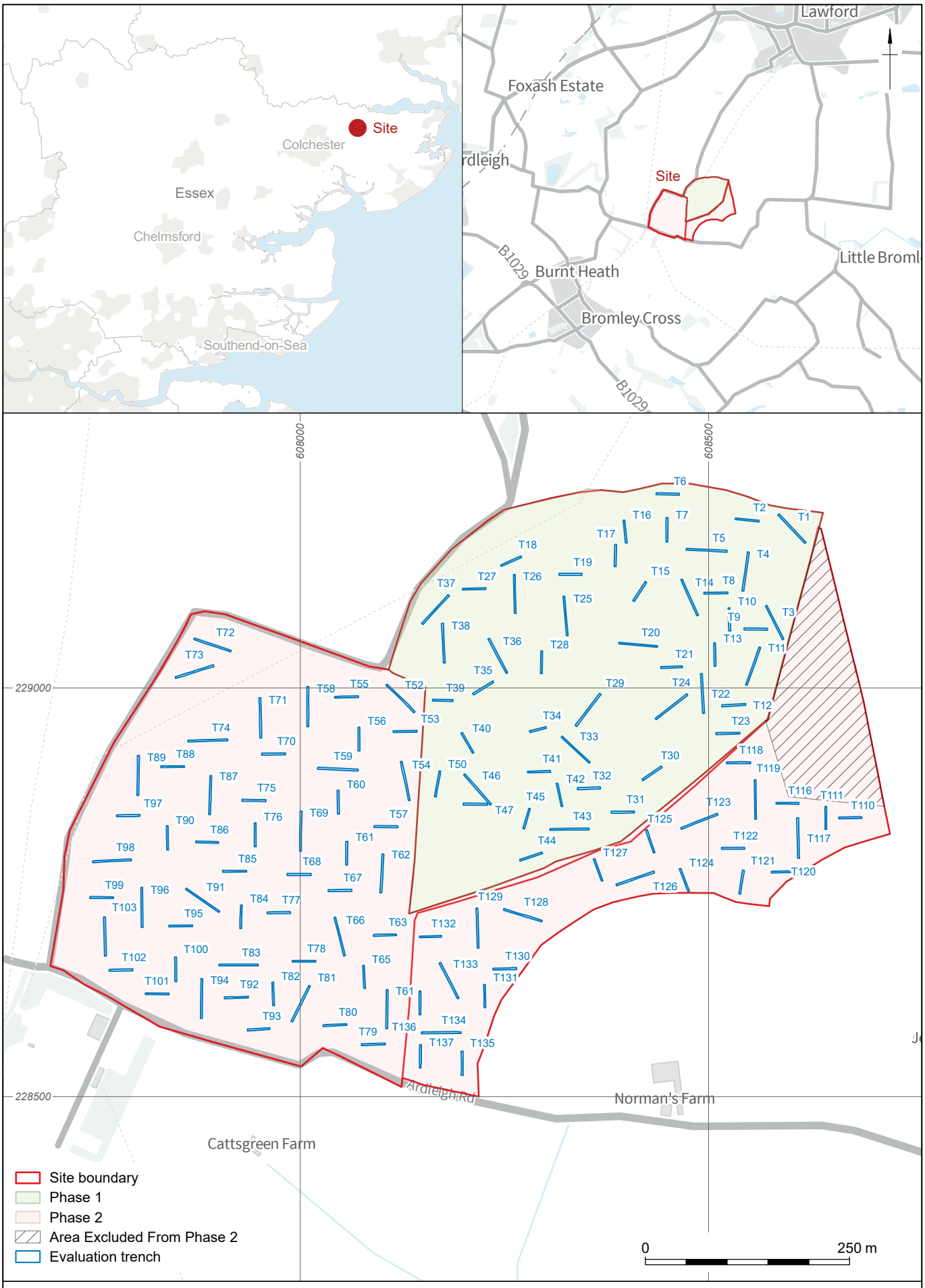
Key: C = <5 ('Trace'), B= 5-10 ('Rare'). Bioturbation proxies: Roots (%), Uncharred seeds (scale of abundance), F = mycorrhizal fungi sclerotia, I = insects.

Area	Feature Type	Feature	Context	Sample Code	Sample Type	Sample vol. (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal Notes	Charred Other	Charred Other Notes	Charcoal >2mm (ml)	Preservation
PH2	Pit	8303	8304	231917_20	Bulk	4.5	60	Modern roots <1%, modern seeds C, F	-	-	-	C	*Galium* sp.	50	mineral stained, poor
PH2	Pit	10103	10104	231917_21	Bulk	9	230	Modern roots <1%, modern seeds B, I, F	-	-	-	C	Poaceae	140	mineral stained, poor

Appendix 3 OASIS summary

OASIS ID (UID)	wessexar1-521343
Project Name	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex: Archaeological Evaluation: Phase 2
Sitename	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex: Phase 2
Sitecode	LAWGR23
Project Identifier(s)	231917
Activity type	Evaluation
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	Wessex Archaeology
Project Dates	02-Oct-2023 - 20-Oct-2023
Location	Five Estuaries OSWF, North Falls OSWF, Onshore Substation Area, Essex: Phase 2 NGR : TM 08143 28898 LL : 51.91968567016946, 1.025346250277001 12 Fig : 608143,228898
Administrative Areas	Country : England County/Local Authority : Essex Local Authority District : Tendring Parish : Ardleigh
Project Methodology	76 trial trenches, 50 measuring 30 m in length and 2 m wide and 26 measuring 50 m in length and 2 m wide, 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. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the evaluation. Spoil from machine stripping and hand-excavated archaeological deposits was visually scanned for the purposes of finds retrieval. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th century or later) were recorded on site and not retained.

Project Results	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 76 trial trenches of varying length across two irregular fields. A further 10 trenches were originally included in proposals but were zoned out prior to the evaluation being undertaken. The trenches were targeted on the results of a previous geophysical survey, along with features identified by the National Mapping Programme and Air Photo Services. Several trenches were positioned to test the negative areas of the previous surveys. A total of 21 archaeological features comprising pits and ditches were identified in 19 of the excavated trenches. The majority of the features comprised ditches likely associated with land management/field boundary systems, with 7 of the ditches corresponding with either the 1898 Ordnance Survey map or 'field systems' identified by a previous aerial photograph survey. Only one ditch was recorded as continuing from the Phase 1 evaluation area into Phase 2. The three identified pits comprised two probable waste pits and a pit of uncertain origin, which may have been geological in nature.
Keywords	Ditch - POST MEDIEVAL - FISH Thesaurus of Monument Types Ditch - UNCERTAIN - FISH Thesaurus of Monument Types Pit - UNCERTAIN - FISH Thesaurus of Monument Types
Funder	Utilities and infrastructure 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);



Coordinate system: OSGB 1936 British National Grid

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:6,250 at A4

Figure 1: Site location, previous evaluation and trench layout

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

Site boundary
Evaluation trench
Archaeology
Disturbance
Geology

Geophysical Survey Interpretation
Detailed Survey Extent
Archaeology
Possible Archaeology
Ferrous
Former Field Boundary

Geology
Increased Response
Trend
Agricultural Feature
Drain

608000
608500
229000
228500

Grange Rd
Grange Rd
Grange Rd
Cartsgreen Farm

Fig. 4
Fig. 5
Fig. 6
Fig. 7

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 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62 T63 T65 T66 T67 T68 T69 T70 T71 T72 T73 T74 T75 T76 T77 T78 T79 T80 T81 T82 T83 T84 T85 T86 T87 T88 T89 T90 T91 T92 T93 T94 T95 T96 T97 T98 T99 T100 T101 T102 T103 T110 T111 T116 T117 T118 T119 T120 T121 T122 T123 T124 T125 T126 T127 T128 T129 T130 T131 T132 T133 T134 T135 T136 T137

0 100 m

Coordinate system: OSGB 1936 British National Grid

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:3,000 at A3

Figure 2: Archaeological results and previous geophysical survey

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

Site boundary
Evaluation trench
Archaeology
Disturbance
Geology
National Mapping Programme mapped features

Aerial Photo Service mapped features
Boundary
Ditch
Enclosure
Field System
Pit
Ring Ditch
Trackway

608000
608500
229000
228500

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 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62 T63 T66 T67 T68 T69 T70 T71 T72 T73 T74 T75 T76 T77 T78 T80 T81 T82 T83 T84 T85 T86 T87 T88 T89 T90 T91 T92 T93 T94 T95 T96 T97 T98 T99 T100 T101 T102 T103 T111 T110 T116 T117 T118 T119 T120 T121 T122 T123 T124 T125 T126 T127 T128 T129 T130 T131 T132 T133 T134 T135 T136 T137

Fig. 4
Fig. 5
Fig. 6
Fig. 7

0 100 m

Coordinate system: OSGB 1936 British National Grid

NMP/APS data provided by client.

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:3,000 at A3

Figure 3: Archaeological results overlaid on APS data showing NMP data for comparison

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

607800

608000

229000

228800

Grange Rd

Grange Rd

Grange Rd

Site boundary
Evaluation trench
Archaeology
Disturbance
Geology
Aerial Photo Service mapped features
Field System
Geophysical Survey Interpretation
Detailed Survey Extent
Ferrous
Geology
Trend
Agricultural Feature

T72
T73
T74
T71
T58
T55
T52
T53
T56
T70
T59
T54
T60
T69
T57
T75
T87
T88
T89
T97
T90
T86
T76

0
50 m

Coordinate system: OSGB 1936 British National Grid

NMP/APS data provided by client.

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:1,000 at A3

Figure 4: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

607800

608000

228800

228600

T57

T90

T86

T76

T69

T61

T62

T98

T85

T68

T67

T99

T91

T96

T84

T77

T95

T103

T66

T63

T102

T100

T83

T78

T65

T101

T94

T92

T82

T81

T61

T80

T93

T79

Site boundary
Evaluation trench
Archaeology
Disturbance
Geology
Aerial Photo Service mapped features
Field System
Geophysical Survey Interpretation
Detailed Survey Extent
Ferrous
Former Field Boundary
Geology
Trend
Agricultural Feature

0 50 m

Coordinate system: OSGB 1936 British National Grid

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:1,000 at A3

Figure 5: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

T62
T63
T61
T79
T132
T129
T128
T127
T126
T130
T133
T131
T136
T134
T137
T135
608200
608400
228600
Ardleigh Rd
T

Site boundary
Evaluation trench
Archaeology
Disturbance
National Mapping Programme mapped features
Aerial Photo Service mapped features
Field System
Geophysical Survey Interpretation
Detailed Survey Extent
Ferrous
Geology
Former Field Boundary
Increased Response
Trend
Agricultural Feature
Drain

0
50 m

Coordinate system: OSGB 1936 British National Grid

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:1,000 at A3

Figure 6: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_ArcPro\231917_ArcPro.aprx

608400

608800

228800

T29
T24
T23
T33
T30
T118
T32
T119
T116
T31
T123
T111
T110
T43
T125
T117
T122
T127
T126
T124
T121
T120

0 50 m

Site boundary
Evaluation trench
Archaeology
Geology
National Mapping Programme mapped features

Aerial Photo Service mapped features
Field System

Geophysical Survey Interpretation
Detailed Survey Extent
Possible Archaeology
Ferrous
Geology
Former Field Boundary
Trend
Drain

Coordinate system: OSGB 1936 British National Grid

NMP/APS data provided by client.

Date: 11/12/2023	Created by: KJF	Revision: 0	Scale: 1:1,000 at A3

Figure 7: Archaeological results, geophysical survey and NMP & APS data

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608040

608060

228720

228700

228680

T66

6603

6603

Evaluation trench

Excavated slot

Archaeological feature

Possibly post-medieval or modern

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 8: Plan of Trench 66

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607020

607040

607060

228860

7503

7505

T75

7503

7505

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 9: Plan of Trench 75

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608000

228640

228620

228600

T81

8103

8103

Evaluation trench
Excavated slot
Archaeological feature
Possibly post-medieval or modern

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: 07/12/2023

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

Figure 10: Plan of Trench 81

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607960

607980

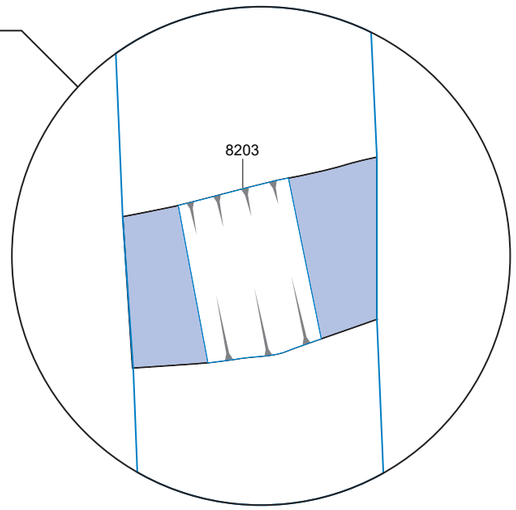
228640

228620

228600

8203

T82



Evaluation trench

Excavated slot

Archaeological feature

Undated

Disturbance

0 10 m

Scale for trench plan

0 2 m

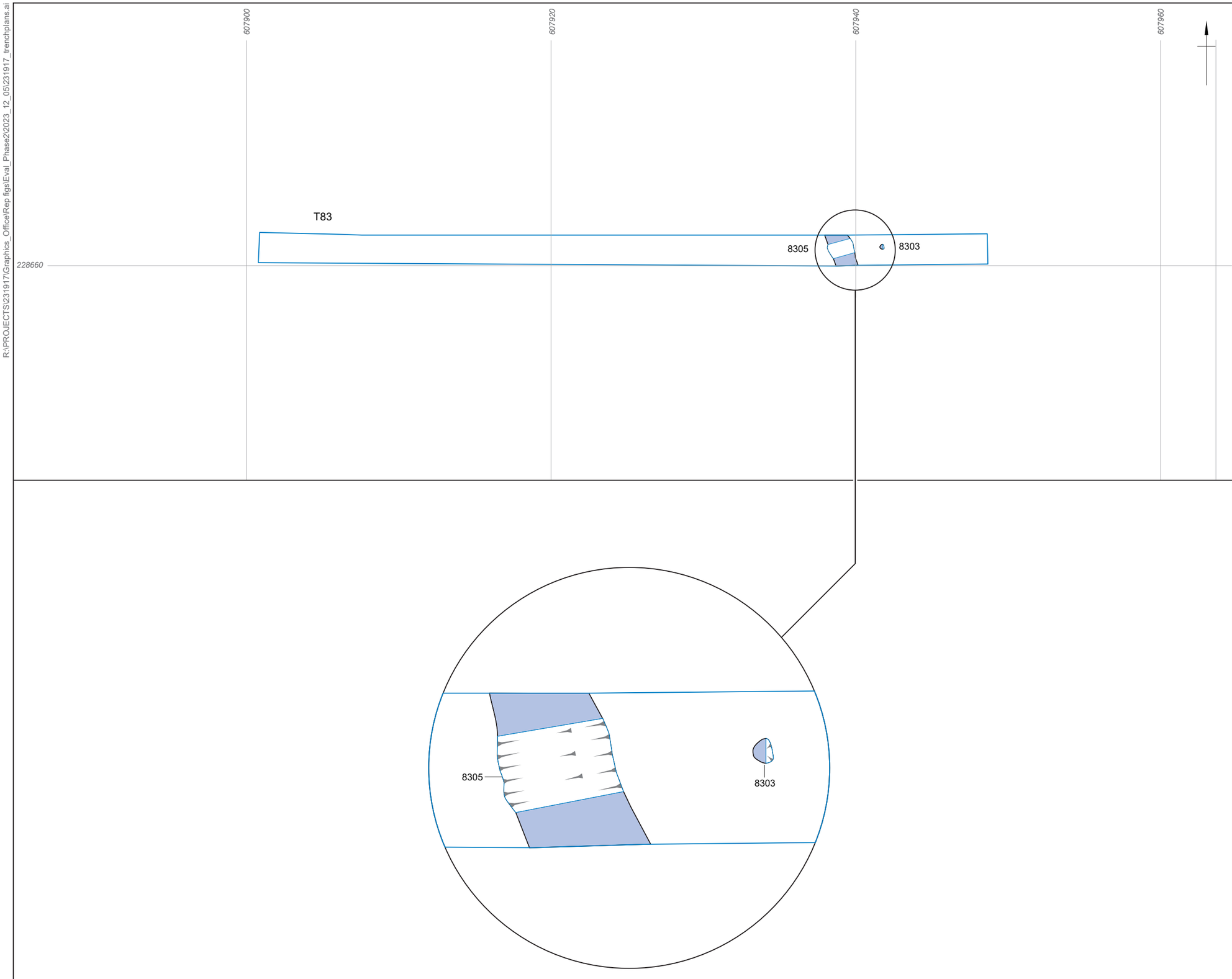
Scale for detailed insets

Coordinate system: OSGB 1936 British National Grid

Created by: RG	Date: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 11: Plan of Trench 82

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai



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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 12: Plan of Trench 83

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607900

607920

607940

228780

T85

8503

8503

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 13: Plan of Trench 85

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607880

607900

228900

228880

228860

228840

T87

8703

8703

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 14: Plan of Trench 87

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607880

T94

228620

9403

228600

9403

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: 07/12/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 15: Plan of Trench 94

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607800

607820

607840

228620

T101

10103

10103

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 16: Plan of Trench 101

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

607760

228720

228700

228680

T103

10303

10303

Evaluation trench
Excavated slot
Archaeological feature
Possibly post-medieval or modern

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 17: Plan of Trench 103

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608560

608580

608600

608620

228860

T116

11603

11603

Evaluation trench

Excavated slot

Archaeological feature

Possibly post-medieval or modern

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: 07/12/2023

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

Figure 18: Plan of Trench 116

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608600

608620

228840

228820

228800

T117

11703

11703

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: 07/12/2023

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

Figure 19: Plan of Trench 117

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608460

608480

608500

608520

228840

T123

12303

12303

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: 07/12/2023

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

Figure 20: Plan of Trench 123

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608460

608480

228780

228760

228680

T124

12403

12403

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: 07/12/2023
Scale: 1:250 and 1:50 at A3	Revision: 0

Figure 21: Plan of Trench 124

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608380 608400 608420 608440

228780

228760

T126

12603

12603

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 22: Plan of Trench 126

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608240

608260

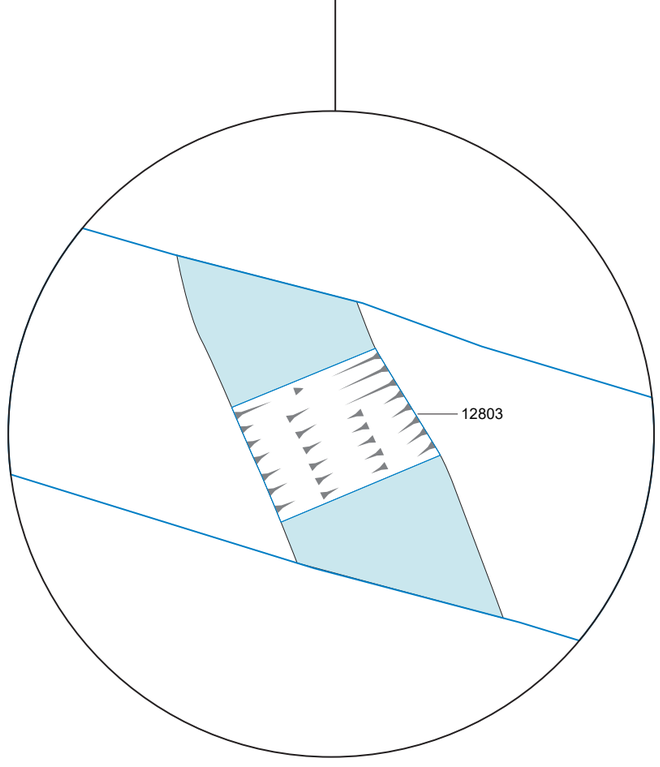
608280

608300

228720

T128

12803



Evaluation trench
Excavated slot
Archaeological feature
Possibly post-medieval or modern
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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 24: Plan of Trench 128

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608220

228740

228720

228700

228680

12903

T129

12903

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: 07/12/2023

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

Figure 23: Plan of Trench 128

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608220

608240

228640

228620

228600

13103

T131

13103

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: 07/12/2023

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

Figure 25: Plan of Trench 131

R:\PROJECTS\231917\Graphics_Office\Rep figs\Eval_Phase2\2023_12_05\231917_trenchplans.ai

608140

608160

608180

608200

228580

13403

T134

13403

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: 07/12/2023	
Scale: 1:250 and 1:50 at A3	Revision: 0	

Figure 26: Plan of Trench 134

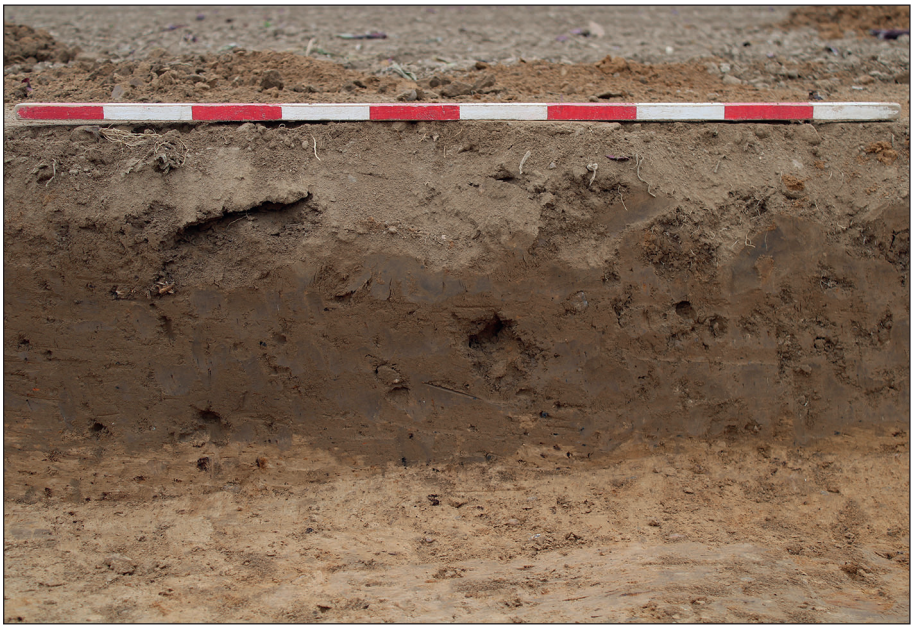


Figure 27: East facing representative section of Trench 54

Figure 28: Trench 65, viewed from the southeast

Figure 29: South facing representative section of Trench 126

Figure 30: Trench 133, viewed from the north-northeast

Figure 31: Ditch 6603, viewed from the west-northwest

Figure 32: Ditch 7505, viewed from the northwest

Figure 33: Ditch 8305, viewed from the south

Figure 34: Ditch 10303, viewed from the east

Figure 35: Ditch 12903, viewed from the southwest

Figure 36: Ditch 13103, viewed from the northwest

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Site boundary
Evaluation trench
Archaeology
Disturbance
Geology

Aerial Photo Service mapped features
Boundary
Ditch
Enclosure
Field System
Pit
Ring Ditch
Trackway

608000
608500
229000
228500

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 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62 T63 T65 T66 T67 T68 T69 T70 T71 T72 T73 T74 T75 T76 T77 T78 T79 T80 T81 T82 T83 T84 T85 T86 T87 T88 T89 T90 T91 T93 T94 T95 T96 T97 T98 T99 T100 T101 T102 T103 T110 T111 T116 T117 T118 T119 T120 T121 T122 T123 T124 T125 T126 T127 T128 T129 T130 T131 T132 T133 T134 T135 T136 T137

Lower Barn
Cattsgreen
Cole's Farm
G.P
118
119
117
115

0 100 m

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

Date: 26/01/2024	Created by: KJF	Revision: 0	Scale: 1:3,000 at A3

Figure 37: Archaeological results overlaid on APS data and the 1898 Ordnance Survey Map

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