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ARCHAEOLOGICAL STRIP MAP AND SAMPLE EXCAVATION LAND OFF FEN ROAD HOLBEACH LINCOLNSHIRE (HBFR 21)

Work Undertaken For
Ashwood Homes

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Report Compiled by
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ARCHAEOLOGICAL PROJECT SERVICES

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1. SUMMARY

An archaeological strip, map and sample excavation was undertaken at land off Fen Road, Holbeach, Lincolnshire. This was in advance of proposed residential development of the site.

The site lies in an archaeologically sensitive area south of the settlement of Holbeach and adjacent to an area where medieval salt-making took place. Roman remains in the vicinity lie at depth beneath later flood silts. A prior trenching evaluation of the site had revealed a concentration of linear features and probable pits in a trench located 40m southeast of the medieval saltmaking area, at the north end of the proposed development. Finds and environmental evidence from these features suggested cattle and sheep husbandry in the vicinity along with the processing of cereals. A freshwater rather than saltwater environment was also indicated. One ditch in the trench was dated to the 13th-14th century.

The excavation revealed a complex pattern of ditches and gullies of Middle to Late Saxon date representing around three hundred years of activity between the mid 8th and mid 11th centuries. Finds and environmental evidence indicated that this was entirely domestic in nature, with cattle and sheep husbandry confirming the results of the evaluation, representing the evolution of a small farmstead. Environmental sampling suggested that the site lay in an open grassland environment away from woodland or hedges. All the samples contained saltwater species of flat fish, and most contained marine shell, indicating coastal fishing in the nearby Wash. Most samples also contained fuel ash slag suggesting the burning of peat.

The only feature of 13th -14th century medieval date revealed was a longer length of the ditch revealed during the evaluation, suggesting that there was a system of larger fields at this time.

Finds comprised Middle Saxon pottery, including Maxey and Ipswich wares. The latter indicates coastal trade with Suffolk. Late Saxon pot is dominated by wares produced at Stamford while other types suggest trade with Lincoln and Torksey. A few sherds of medieval pottery were also recovered along with fired clay, some suggestive of salt manufacturing (briquetage).

A partial human skull was recovered from an elongated pit. No other human bone was retrieved. Cattle dominated the animal bone assemblage followed by sheep. Coastal resources, namely small flatfish, flounder and plaice, were also recovered.

2. INTRODUCTION

2.1 Definition of an Excavation

An archaeological excavation is defined as, *"a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during the fieldwork are studied and the results of that study published in detail appropriate to the project design"* (CIfA 2014).

2.2 Planning Background

Permission was granted by South Holland District Council (Planning Application no. H09-0276-19) for residential development. This was subject to an archaeological

investigation to record known remains at the site. Archaeological Project Services was commissioned by Ashwood Homes to undertake this work which was carried out between 1st March and 8th April 2021 in accordance with a written scheme of investigation prepared by Archaeological Project Services and approved by the Planning Archaeologist, Lincolnshire County Council.

2.3 Location, Topography and Geology

Holbeach is located 11km east of Spalding and 20km southwest of Boston in the South Holland district of Lincolnshire (Fig. 1). The site is in the southern edge of the village, about 900m from the Market Place on the north side of Fen Road at National Grid Reference TF 3580 2394 (Fig. 2).

Local soils are of the Wisbech Series, typically coarse silty alluvial gley soils, with coarse silty gleyic brown calcareous alluvial soils of the Romney Series in the northeast corner of the site (Robson 1990, 26, 36). These soils are developed on a drift geology of younger marine alluvium which in turn seal a solid geology of Jurassic West Walton Formation mudstones (BGS 1992). The site is on generally level ground within the fenland of south Lincolnshire at around 3m AOD.

2.4 Archaeological Setting

Roman pottery, perhaps indicative of settlement, has previously been found on the east side of Fen Road, east of the site, beneath alluvial deposits, indicating that the roman land surface lies at some depth.

Late Saxon to early medieval pottery was retrieved during fieldwalking immediately north of the site, concentrated to the east of Manor Farm (Lane 2014).

Holbeach is first mentioned in the Domesday Survey of *c*. 1086. Referred to as *Holobec*, *Holobech* and *Holebech*, the name is derived from the Old English and means the 'hollow (*hol*) back (*bæc*)', derived from the topographic position of the town on raised ground (Cameron 1998, 64).

The Domesday Survey records that Holbeach was held by the King (as sokeland of Gedney), by Crowland Abbey (as a manor), Count Alan (as sokeland and a berewic) and Guy de Craon (also manorial) and contained extensive arable land and pasture (Foster and Longley 1976).

The manor belonging to Crowland Abbey appears to have been the principal manor in Holbeach and seems to have formed part of the demesne lands of the abbey at the time of the dissolution in 1539 (Dugdale 1819, 124). The descent of the manor is generally unknown but was held by Sir Joseph Banks in the 18th century and was known as Holbeach Abbots.

A chapel dedicated to St Peter is recorded at Holbeach during the reign of King John (Owen 1975, 19) and has been placed 400m north of the site. Only one document relates to its existence in which Fulk of Oiri made over the advowson of the church and Chapel of St Peter to Conan (RC 1811, 97). The fate of this chapel is unknown but it must have had some importance as it held burial rights. This was shown by the discovery of 130 skeletons when a mound was levelled in 1867. Recent archaeological work in the vicinity of the presumed chapel site identified medieval features and pottery (Cope-Faulkner 2014).

Fieldwalking also recovered medieval pottery from east of the Manor Farmhouse to the north of the site (Lane 2014). Geophysical survey revealed a broadly rectangular group of anomalies in the same area (Jefferson 2014). This combination of

finds and geophysical evidence suggest the site of a building. A late 17th century terrier of Holbeach refers to a Manor House lying south of Hallgate (MacDonald 1892, 152).

Subsequent archaeological evaluation of the area immediately west and north of the current site revealed alluvial deposits that indicate overbank flooding along the line of an old watercourse. The trenches north of the site, where the geophysical survey had indicated potential settlement and pits, revealed evidence of the former along with saltmaking activity along the bank of the watercourse. A series of large ditches containing 11th to 13th century pottery were excavated which may continue into the current site (Failes 2016).

A trenching evaluation of the current site revealed a concentration of pits and linear features in the trench closest to the above saltmaking area. Several of the features were dated by pottery to the Late Saxon period. The pottery was domestic rather than industrial in nature while environmental samples suggested a freshwater rather than saltwater environment in Late Saxon times. They also indicated the processing of cereals in the vicinity, especially hulled barley. Together with hand collected animal bone the samples also indicated cattle and sheep husbandry. This evidence suggests a small Late Saxon farmstead in the vicinity of the trench. One east-west aligned ditch in the trench was dated to the 13th-14th century (Peachey 2019).

Archaeological investigations at the site have the potential to shed further light on the origin and development of dispersed hamlets and farms in the medieval period, a research objective identified in the recent research agenda and strategy (Knight *et al*. 2012, 94).

3. AIMS AND OBJECTIVES

The general aim of the work was to ensure that any archaeological remains were identified and to mitigate the impact of the construction of the new development by making a record of them in order to recover as much information as possible on the origins, date, development, phasing, spatial organisation, character, function, status, significance and nature of social, economic and industrial activities on the site;

The objectives were to:

- Determine the stratigraphic sequence and date of the archaeological remains present on the site.
- Determine the extent and spatial arrangement of archaeological remains present within the site.
- Establish the character of archaeological remains present within the site.
- Determine the extent to which surrounding archaeological remains extend into the site.
- Identify the way in which the archaeological remains identified fit into the pattern of occupation and land-use in the surrounding landscape.
- To disseminate the results through deposition of an ordered archive at The Collection, Lincoln, the deposition of a detailed report at the Lincolnshire Historic Environment Record and publication at a level of detail appropriate to the significance of the results.

4. METHODS

Removal of topsoil and other overburden was undertaken by mechanical excavator using a toothless ditching bucket working under archaeological supervision.

Each deposit exposed during the excavation was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their interpretations appears as Appendix 1. A photographic record was also compiled and sections and plans were drawn at a scale of 1:10 and 1:20 respectively. Recording of deposits encountered was undertaken according to standard Archaeological Project Services practice.

A metal detector (no discrimination) was used to aid the recovery of any metallic artefacts from all exposed surfaces and spoil.

The location of the excavated trench was plotted using a survey grade differential GPS.

Environmental sampling was undertaken using guidelines established by English Heritage (2011). The subsequent processing of the samples is detailed in Appendix 3.

Following excavation, finds were examined and a period date assigned where possible (Appendix 2). The records were also checked and a stratigraphic matrix produced. Phasing was based on the nature of the deposits and recognisable relationships between them.

5. RESULTS (Figs. 3-10)

Archaeological contexts are described below. The numbers in brackets are the context numbers assigned in the field (full descriptions of the individual deposits can be found in Appendix 1).

Four phases were identified based on stratigraphy and pottery dating with the Saxon phase subdivided:-

Phase 1: Natural deposits
Phase 2 Saxon deposits
2a: Middle Saxon *c* 750-850
2b: Late Saxon *c* 850-950
2c: Late Saxon *c* 950-1050
Phase 3: Medieval
Phase 4: Modern

Phase 1: Natural deposits
Natural deposits across the excavated area comprised mottled light yellow and light grey silt alluvium (003).

In the northeast part of the site, alluvial deposits (119) and (120) (Fig. 8, Section 31) were recorded overlying (003) and (024) in the south central part of the site (Fig. 9, Section 50; Section 10, 62)

Phase 2a: Middle Saxon c750 to 850

In the northwest corner of the site was a northeast-southwest aligned gully [004]/[078]. Segment [004] (Fig. 4, Fig. 6, Section 1; Plate 3) measured 1m wide and 0.25m deep and was filled with a mid-brownish grey clayey silt (005). Segment [078] (Fig 5, Fig. 7, Section 23; Plate 11) had concave sides and an uneven base and was 1.2m wide and 0.3m deep and filled with a mid-reddish brown clayey silt (079) which contained six sherds from a single Middle Saxon jar of mid-8th to mid-9th century date.

Exiting the eastern baulk of the site, an east-west aligned ditch [113] had concave sides and an irregular base and was 1.41m wide and 0.34m deep. It was filled by a mid-greyish brown sandy silt (114) which was recut by similarly aligned ditch [115]

(Fig. 8, Section 31). This was 1.35m wide and 0.62m deep with steep sides and a rounded base and was filled with a mid-greyish brown clayey silt (116) from which two pieces of animal bone were retrieved.

In the northeast part of the site was a northeast to southwest aligned curvilinear ditch [033]/[054]. Segment [033] (Fig. 7, Section 10) had steep sides and an uneven base and was 1.7m wide and 0.5m deep being filled with a mid-white grey silty clay (034) containing a single piece of animal bone. Segment [054] (Fig. 8, Section 15) had concave sides and a flat base and was 2.5m wide and 0.3m deep. It was filled with a mid-orange brown clayey silt (055) which also contained animal bone.

South of this, a curvilinear ditch [274] (Fig. 5, Fig. 10, Section 64) had straight sides and a rounded base and was 0.95m wide and 0.32m deep. It contained a single fill of light grey blue silty clay (275).

A short distance to the south, a southwest-northeast aligned gully [175] (Fig. 5, Fig. 9, Section 42) had irregular sides and base, was 0.65m wide, 0.15m deep and filled with a mid-reddish brown sandy silt (176).

Towards the southwest corner of the site, gully [142] (Fig. 5, Fig. 8, Section 36), curving slightly from the south to terminate to the northeast, was 0.5m wide and 0.12m deep with moderately sloping sides and a flat base. It was filled with a mid yellowish brown silt (143).

Immediately to the east of this, a southwest to northeast aligned ditch [215] (Fig.5, Fig. 9, Section 49; Plate 23) had stepped sides and an irregular base and was at least 2m wide and 0.7m deep. A 0.7m thick lower fill of light grey blue clay silt (216) containing four pieces of animal bone was overlain by a 0.12m thick light grey brown sandy silt (217). To the northeast, a further segment [237] (Fig. 10, Section 52; Plate 24) had convex sides and a flat base and was 1m wide and 0.6m deep. It contained three fills a 0.2m thick light brownish grey silt (245), a 0.25m thick mid yellowish brown silt (238) from which two sherds of 10th to early/mid 11th century pottery, which may be intrusive from the cutting feature [235], ten pieces of animal bone and a fragment of fired clay were retrieved and an upper fill of 0.23m thick mid greyish brown silt (244).

A short distance to the northeast, a gully terminus [191] had concave sides and a rounded base and was 0.66m wide and 0.11m deep. It was filled with a brownish grey clayey silt (192) containing 13 pieces of animal bone and a fragment of fired clay. This was cut by a ditch segment [193] (Fig. 9, Section 45; Plate 20) which had steep sides and a rounded base. Measuring 0.43m wide and 0.29m deep it was filled with a light to mid brownish grey clayey silt (194) containing a single sherd of mid-8th to mid-9th century pottery, a piece of animal bone and a fragment of fired clay.

Immediately to the east, two segments were excavated through an east-west aligned gully [189]/[270]. Segment [189] (Fig. 9, Section 45; Plate 20) had vertical sides and an uneven base and was 1m wide and 0.33m deep. It was filled with a mid-reddish brown/mid greyish brown silt (190) from which seven pieces of animal bone were retrieved and a piece of fired clay, possibly a briquetage clip. Terminus segment [270] (Fig. 10, Section 62) with slightly concave sides and a narrow base measured 1.06m wide and 0.33m deep. It was filled with a greyish brown sandy silt (271) containing a piece of animal bone.

South of this, adjacent to the south baulk of the site, an east-west aligned gully [187] (Fig. 5, Fig.9, Section 44; Plate 21) had steep sides and a rounded base and measured 0.48m wide and 0.41m deep. It

contained a single fill of yellowish grey sandy silt (188) from which two pieces of animal bone were retrieved.
East of this and curving northwest from the south baulk of the site gully [253] (Fig. 10, Section 57) was 0.67m wide and 0.24m deep with steep sides and a rounded base. It was filled with a mid-grey sandy silt (254).

Phase 2b: Late Saxon c850-950

In the northwest part of the site was an east-west aligned pit [107] (Fig. 8, Section 35) which had near vertical sides and a flat base and was 1.35m long, 0.65m wide and 0.24m deep. It contained the remnants of a human cranium (SK109) (Appendix 3) and was originally recorded as a grave. However, other bones collected and included in this context including a rib, vertebra, and fragments of long bone were from pig, cattle and sheep respectively. It had been backfilled with a light brownish grey sandy silt (108) which contained two sherds of 10th to early/mid-11th century pottery which were probably intrusive from intercutting gullies. A small environmental sample contained a few fragments of charcoal and snails.

It was cut by an east-west aligned gully [128]/[050]. Segment [128] (Fig. 8, Section 35; Plate 20) which had moderately sloping sides and a flat base, measuring 0.77m wide and 0.15m deep. It was filled with a mid-brownish grey sandy silt (129). Segment [050] (Fig. 6, Section 14; Plate 9) had gradual sloping sides and a narrow base, measured 0.94m wide and 0.21m deep and was filled with a light yellowish grey sandy silt (051).

East of this, a northeast-southwest aligned curvilinear ditch was excavated at two segments. Terminus segment [017](Fig. 6, Section 4; Plate 4) had concave sides and a flat base and was 1.28m wide and 0.35m deep. It was filled with a mid-brownish grey clayey silt (018) which contained two sherds of late 9th to 10th century pottery and six pieces of animal bone. Segment [031](Fig. 6, Section 9; Plate 6) had steep sides and a rounded base, measured 1.38m wide and 0.57m deep and was filled by a mid-grey brown silt (032).

South of this, a 3.85m length of gully [039] (Fig. 6, Section 12) had gradual sloping sides and an undulating base and was 0.8m wide and 0.18m deep. A 0.18m thick lower fill of dark grey sandy silt (040) contained three sherds of late 9th to 10th century pottery and two pieces of animal bone and an environmental sample from it produced probable peat fuel, charred barley, beans and frog/toad and coastal flat fish bones. It was overlain by a 0.12m thick yellow grey clayey silt (056).

East of this was a curvilinear ditch [G301] excavated as segments [028]/[159][171] which was aligned northeast-southwest before turning southeast.

Segment [028] (Fig. 3, Fig 6, Sections 7, 8; Plate 5) was 1.1m wide and 0.56m deep with concave sides and a rounded base. A 0.56m lower fill of thick dark blue grey silt (029) was overlain by a 0.33m thick mid blue grey silt (030) containing a single sherd of late 9th to 10th century pottery and a piece of animal bone. At segment [159] (Fig. 3, Fig. 8, Section 38; Plate 18) it contained a dark greyish brown silty clay (160) from which a single piece of animal bone was retrieved. Segment [171] (Fig. 5, Fig. 8, Section 41) was 0.25m deep and contained a mid yellow brown sandy silt (172).

Close to the south baulk of the site, north-south aligned ditch [218] (Fig. 9, Section 49; Plate 23) was 2.2m wide and 0.68m deep with stepped sides and a rounded base. A 0.22m thick lower fill of light black blue clay silt (219) contained four sherds of 8th to early 9th century pottery, twenty pieces of animal bone and two

fragments of fired clay. An environmental sample produced charred barley and oats, grasses and animal bone including frog/toad, coastal flat fish and goose and marine shells and peat fuel. Above this a 0.38m thick mid blue grey clay silt (220) with charcoal was overlain by a 0.24m thick mid brown grey clay silt (221).

Immediately to the east, a northwest to southeast aligned ditch comprised segments [185] and [222]. Segment [185] (Fig. 9, Section 44; Plate 21) had convex sides and a flat base and was 2.14m wide and 0.49m deep. A single fill of mid bluish grey sandy silt (186) contained two sherds of early/mid to late 10th century pottery and seven pieces of animal bone. Segment [222] (Fig. 9, Section 50) had slightly concave sides and a rounded base, at least 3.3m wide and 0.49m deep. It contained several laminated silt fills. A 0.1m thick lower fill of mid greyish brown fine sandy silt (228) was overlain by a 70mm thick mid greyish yellow sandy silt (229) above which was a 60mm thick mid greyish brown sandy silt (230) containing a fragment of fired clay. Above this an 80mm thick mid greyish brown silty clay (231) was overlain, in turn, by a 50mm thick mid yellowish brown silty sand (232), a 70mm thick mid to dark greyish brown silty clay (233) and a 70mm thick mid bluish green fine sandy silt (234).

In the southeast part of the site, an east-west aligned gully was excavated in two segments. Terminus segment [251] (Fig. 10, Section 56) had straight sides and a flat base and was 0.82m wide and 0.2m deep. It was filled with a mid-grey brown silt (252). Segment [246] (Fig. 10, Section 54) had steep sides and a flat base and was 0.78m wide and 0.31m deep. It was filled with a light grey brown silt (247) which contained two pieces of animal bone.

Crossing this, a probably contemporary northwest-southeast aligned ditch [G302] comprised segments [087], [064], [204], [272] and [255]. Segment [087] (Fig. 7, Section 24) had undulating sides and a rounded base and was 0.67m wide and 0.17m deep and filled with a dark grey brown silt (088). Segment [064] had gradually sloping sides and a flat base. Measuring 1.41m wide and 0.15m deep it was filled with a light grey brown silt (065). Intersecting gully [062] (Fig. 7, Section 20) had steep irregular sides and an undulating base and was filled with a mid-grey brown silt (063) which produced two pieces of animal bone. Between this and terminus segment [059] this feature had been excavated and recorded as [5009] in the south end of evaluation Trench 5. Two sherds of Late Saxon pottery, animal bone and fired clay including part of a Saxon loomweight had been retrieved from it. Environmental samples had produced charred cereal grains, mainly hulled barley, small coastal flat fish and frog/toad bones and mussel shell. Segment [059] (Fig. 7, Section 18) to the northwest was 0.48m wide and 0.15m wide with concave sides and a rounded base and filled with a dark grey brown silt (060)

Segment [204] had moderately sloping sides and an irregular base and was 2m wide and 0.42m deep. It was filled by a 0.42m thick light greyish brown sandy silt (205) overlain by a 0.15m thick mid greyish brown sandy silt (206). This was cut by a pit [209] (Fig. 9, Section 47; Plate 22) which had a 0.14m lower fill of mid brownish grey sandy silt (210). Above this, a 0.13m thick mid grey silt (211) containing two pieces of animal bone and two fragments of fired clay was overlain by a 0.1m thick top fill of dark grey silt with charcoal (212) also containing two pieces of animal bone.

Segment [272] (Fig. 10, Section 63), had steep sides and an uneven base, measured 1.55m wide, 0.51m deep and was filled

with a 0.51m thick light brown grey clay silt (273) containing a single piece of animal bone. Terminus segment [265] (Fig. 10, 58a) had steep sides and a flat base and was 0.65m wide and 0.25m deep. A single fill of mid grey brown silt (266) contained a piece of animal bone. This was recut by [255] (Fig. 10, Section 58, 58a) which had steep sides and an uneven base and was 0.7m wide and 0.31m deep. It was filled with a light grey blue sandy silt (256).

Southwest of this linear feature was a northwest to southeast aligned ditch through which two segments were excavated. Terminus segment [239] (Fig. 10, Section 53) had gently sloping sides and a narrow base and was 0.77m wide and 0.15m deep with a single fill of mid greyish yellow sandy silt (240). Against the southern baulk of the site, segment [248] (Fig. 10, Section 55) had concave sides and an uneven base and was 1.44m wide and 0.45m deep. It was filled with a mid-grey blue sandy silt (249) which contained a piece of animal bone. Within it was a lens of mid yellow brown sandy silt (250).

East of this, a northeast to southwest aligned ditch [G303] was excavated in four segments. Segment [177] (Fig. 9, Section 42) had straight sides and an irregular base and was 0.34m wide, 0.16m deep and filled with a mid-brownish grey silty clay (178). Segment [207] (Fig. 9, Section 47; Plate 22) was 1.27m wide and 0.31m deep with irregular sides and base and was filled with a mid-greyish brown clayey silt (208) containing animal bone. Segment [173] (Fig. 8, Section 41) had steep sides and an irregular base and was 0.83m wide and 0.41m deep. A single fill of mid yellow grey sandy silt (174) contained four pieces of animal bone. Close to the eastern baulk of the site, segment [260] (Fig. 10, Section 60) was 0.4m wide and 0.18m deep and filled with a mottled mid grey/mid orange brown silt (261).

An apparently contemporary southwest-northeast aligned ditch was excavated in two segments. Terminus segment [262] (Fig. 10, Section 61) had moderately sloping straight sides and a flat base and was 0.92m wide and 0.27m deep and contained two fills. A 0.12m thick lower fill of light grey brown silt (263) which produced a sherd of late 9th to mid-10th century pottery and a piece of animal bone was overlain by a 0.17m thick grey silt (264). A further segment [201] had concave sides and a flat base and was at least 0.7m wide and 0.37m deep. It contained a 0.13m thick mid brown clay silt (202) overlain by a 0.28m thick light grey brown sandy silt (203). Another probably contemporary intersecting ditch [199](Fig. 9, Section 46) had steep sides and an irregular base and was 0.62m wide and 0.26m deep, being filled with a light grey brown sandy silt (200).

Phase 2c: Late Saxon 950-1050

Curving from the north around to the southwest in the western side of the site was a broad linear feature, a probable watercourse [G304], very likely an earlier alignment of the extant dyke immediately to the west. This was excavated in three segments. Segment [061] (Fig. 7, Section 19) had steep convex sides and a slightly undulating base. It was 3.85m wide, 0.76m deep and had several fills. A 0.27m thick lower fill of bluish grey silty clay (066) containing animal bone was overlain, on either side, by mid reddish brown slumping fills (067) and (068). Above these was a 0.35m thick mottled mid greyish blue and reddish brown silty clay (069) from which animal bone was retrieved and a 0.42m thick top fill of mid greyish brown sandy silt (070) containing a single sherd of 9th to 10th century pottery and animal bone.

This was cut by a feature [071] with

gradual sloping sides and a rounded base measuring 0.98m wide and 0.2m deep and filled with a yellowish brown sandy silt (072).

South of this, segment [121] (Fig. 8, Section 34) had vertical sides and an irregular base and was 2.28m wide and 0.63m deep. A 0.24m thick lower fill of mid brown grey sandy silt (122) was sealed by a 0.38m thick mid grey brown clay silt (123). Twelve sherds of late Saxon pottery of probable 10th century date were retrieved from this along with animal bone.

Adjacent to the western baulk of the site, segment [089] (Fig. 7, Section 25) was 6.68m wide and at least 1m deep with stepped sides. An at least 0.5m thick lower fill of light blue grey sandy silt (090) contained 24 sherds of pottery from 19 vessels of late Saxon date, some of which had concretions typical of waterlain deposits. There were also four fragments of fired clay, eight of slag and 24 pieces of animal bone while an environmental sample produced fuel ash slag, charred barley, frog/toad, rat, possible water vole and coastal flat fish bones and cockle and mussel shell. This was overlain by a 0.52m thick light yellow brown silty sand (091) above which was a 0.26m thick mid grey black sandy silt (092).

Towards the northwest corner of the site, a northeast to southwest aligned ditch [G305] was excavated as segments [006], [057] and 144]. At the baulk, segment [006] cut fill (005) of gully [004] (Fig. 6, Section 1; Plate 3). This was 1.1m wide and 0.4m deep with a slightly steeper west than east side and a flat base. It contained a 0.17m thick lower fill of grey yellow clayey silt (007) which produced a single sherd of mid/late 9th to mid-10th century pottery and two pieces of animal bone. This was overlain by a 0.26m thick yellowish grey sandy silt (008). South of this, segment [057] (Fig. 7, Section 17) had concave sides and an uneven base and was 1.3m wide and 0.23m deep. It was filled with a mid-grey silt (058) from which a sherd of 10th to early/mid-11th century pottery and two pieces of animal bone were retrieved. South of this, segment [144] (Fig. 8, Section 32) had concave sides and an uneven base and was 1.26m wide and 0.29m deep. It contained two fills, a 0.2m thick mid greyish brown sandy silt (145) containing a single sherd of late 10th to early/mid-11th century pottery and four pieces of animal bone was overlain by a brownish grey clayey silt (146) from which eleven sherds of late 10th to early 11th century pottery, 14 pieces of animal bone, an iron nail and a piece of fired clay, possibly briquetage, were retrieved. An environmental sample contained peat fuel, charred barley, free threshing wheat, beans and animal bones including shrew, frog/toad, small coastal flat fish and marine shells.

This was cut by a pit or ditch terminus [147] (Fig. 8, Section 33; Plate 15) which had steep, irregular sides and a rounded base. It measured 1.49m by at least 2m in plan, was 1.08m deep and contained several fills. A 0.25m thick lower fill of brownish grey silty clay (148) containing a sherd of 10th century pottery and four pieces of animal bone was overlain by a 0.25m thick light to mid brownish grey silty clay (149). Above this, in either side of the pit, were slumped fills of mid reddish brown clayey silt (150 and (151), both producing animal bone, and the former two sherds of 10th century pottery. These were overlain by a 0.15m thick mid brownish grey silty clay (152) containing two sherds of late 10th to early/mid-11th century pottery and three pieces of animal bone. An environmental sample produced charred barley, beans and small coastal flat fish and frog/toad bones and evidence for peat fires. An overlying 70mm thick mottled brownish grey/black silty clay

(153) contained three sherds of late 10th to early/mid-11th century pottery and a fragment of quernstone while an environmental sample from it produced very similar results. Above this were, successively, a 0.1m thick brownish grey sandy silt (154) and a 0.2m thick mid reddish brown sandy silt (155).

A few metres to the southeast fill (129) of gully [128] was cut by a northeast to southwest aligned gully [G306] excavated in three segments: [025]/[099] and [126]. Terminus segment [025] (Fig. 6, Section 6) had steep sides and a flat base and was 0.3m wide and 0.3m deep. A lower fill of dark grey silt (026) containing four sherds of probable early 11th century pottery and three pieces of animal bone was overlain by a 0.14m thick mid yellowish brown silty sand (027). Segment [099] (Fig. 7, Section 7) was steep sided with a rounded base and was 0.54m wide and 0.14m deep. It was filled with a mid-greyish brown sandy silt (100) from which a single piece of animal bone was retrieved. Segment [126] (Fig. 8, Section 35) was 0.55m wide and 0.19m deep with shallower sloping sides and filled with a dark yellowish grey sandy silt (127).

Appearing to drain into the watercourse from the south was a narrow gully through which two segments were excavated. Against the southern baulk of the site, segment [110] (Fig. 8, Section 30) was 1m wide and 0.38m deep with concave sides and a rounded base. It was filled with a mid-greyish brown silt (111) which contained a single sherd of mid-8th to mid-9th century pottery, probably residual, and animal bone. Just north of this, segment [140] (Fig. 8, Section 36) cut gully [142] and had straight sides and a flat base. Measuring 0.4m wide and 0.1m deep, it contained a single fill of mid grey/mid yellowish brown clayey silt (141).

Aligned north-south across the full length of the site was a ditch [G307] excavated in nine segments. Close to the north baulk of the site, segment [013] was 1.23m wide and 0.32m deep with gradually sloping sides and a flat base. It was filled with a dark grey brown silt (014) which produced a single sherd of 10th to early 11th century pottery and nine pieces of animal bone. This was cut by a northeast-southwest aligned linear feature [015](Fig. 6, Section 3) which had steep sides and a flat base and was 1.05m wide and 0.4m deep. This was filled with a dark grey brown silt (016).

A short distance to the south, segment [009] (Fig. 6, Section 2) had shallow straight sides and flat base and measured 1m wide and 0.55m deep. It was filled with a light grey brown silt (010) which produced five sherds of late 10th to early 11th century pottery and seven pieces of animal bone.

South of this, segment [052] (Fig. 6, Section 14; Plate 9) had steep sides and broad uneven base and was 0.48m deep A single fill of mid brownish grey clayey silt (053) produced a single sherd of pre-conquest 11th century pottery and a piece of animal bone.

In the next segment to the south, ditch [041] had steep, straight sides and an irregular base and was 1.48m wide and 0.9m deep. A single fill of light greyish brown silty sand (042) containing animal bone was recut by ditch [043] (Fig. 6, Section 13) which had moderately sloping sides and an irregular base. Measuring 3.2m wide and 0.51m deep this was filled with a mid reddish brown sandy silt (044) which also contained animal bone.

South of this, a pit [105] with steep sides and an irregular base, 0.44m deep, was filled with a mid-reddish grey clayey silt (106) containing a single sherd of 9th to mid-10th century pottery which was cut by

ditch segment [103] (Fig. 7, Section 16). This had moderately sloping concave sides and an irregular base. It was 0.98m wide and 0.45m deep and was filled with a mid-greyish brown sandy silt (104). A single sherd of 10th to early/mid-11th century pottery and nine pieces of animal bone were recovered from this fill.

South of this, segment [197] was 0.7m wide and 0.37m deep with concave sides and a flat base. A single fill of light grey brown silt (198) contained four sherds of 10th to early/mid-11th century date along with four pieces of animal bone. It was recut by [213] (Fig. 9, Section 48) which had moderately sloping sides and a rounded base. This was 0.56m wide and 0.23m deep and filled with dark grey silt (214) contained a single sherd of mid-8th to mid-9th century date and three pieces of animal bone.

Further south, segment [267] (Fig. 10, Section 62) had steep sides and a flat base and was 2.04m wide and 0.51m deep. It contained a 0.28m thick lower, alluvial, fill of light bluish grey sandy silt (268) containing animal bone overlain by a 0.31m thick dumped fill of dark bluish grey clayey silt (269) from which four sherds of late 9th to mid-10th century pottery, a large sherd from a high quality dish of 8th to 10th century date, possibly continental and 22 pieces of animal bone animal bone were retrieved. An environmental sample from this context produced charred wheat, barley and animal bone included both large and small coastal flat fish, frog/toad and large birds and marine shell.

Immediately south of this, segment [241] (Fig. 10, Section 53) had gradually sloping sides and was 2.04m wide and 0.33m deep. A 60mm thick lower fill of light bluish grey sandy silt (242) was overlain by a 0.19m thick dark bluish grey clayey silt (243) which contained a fragment of potential quernstone and two pieces of animal bone.

Against the southern baulk of the site, segment [183] (Fig. 9, Section 44) had gradual sloping sides and a rounded base and was 1.4m wide and 0.52m deep. It contained a single fill of mid to dark brownish grey sandy silt (184).

Close to the northeast corner of the site, a further ditch, apparently contemporary, branched off to the northeast [011]/[019]. Segment [011] (Fig. 6, Section 2) had moderately sloping sides and an irregular base and was 2.65m wide and 0.4m deep. It was filled with a light grey brown silt (012). Adjacent to the eastern baulk of the site, segment [019] (Fig. 6, Section 5) had stepped uneven sides and a flat base. It contained a lower fill of mid grey brown silty sand (020), containing three pieces of animal bone, overlain by a 0.14m thick light grey orange sandy silt (021) above which was a 0.26m thick dark brown grey clay silt (023).

In the south part of the site just west of ditch [G307] was a sub-circular pit with concave sides and a rounded base [165] which measured 0.3m by at least 0.4m in plan and 0.37m deep. Filled with a mid-grey silt (166), this was cut by a north to south aligned ditch [G308], segment [156] (Fig. 8, Section 37; Plate 17) which had concave sides and a flat base and was 1.9m wide and 0.72m deep. It was filled with a 0.72m thick mid grey clayey silt (158) containing animal bone above which was a 0.2m thick mid yellowish brown silt (157). This ditch was excavated in three further segments. A short distance to the north, and cutting the top fill (244) of ditch [237], segment [235] had straight sides and a flat base and was 0.5m deep (Fig. 8, Section 35; Plate 24). A single fill of mid brownish grey silt (236) contained two sherds of late 10th to early/mid-11th century pottery. North of this, the fill of ditch [193] was

recut by segment [195] (Fig. 9, Section 45; Plate 20), also steep sided with a rounded base and filled with mid brownish grey clayey silt (196) containing eight pieces of animal bone and a fragment of fired clay. A few metres to the north this ditch split into three terminating gullies, perhaps for irrigation purposes, one of which was excavated: segment [073] (Fig. 7, Section 21) was 0.82m wide and 0.2m deep with concave sides and a flat base and filled with a mottled brown orange sandy silt (074) which contained two pieces of animal bone.

Phase 3: Medieval

Crossing the site from west to east, and cutting all other features, was a ditch [G309] excavated in several segments: [097]/[124]/[101]/[161] and [257].

Adjacent to the western baulk of the site, segment [097] (Fig. 7, Section 26) had steep sides and a flat base and was 0.95m wide and 0.32m deep and was filled with a mid-yellowish brown silt (098).

A few metres to the east, segment [124] (Fig. 8, Section 34), which cut fill (123) of ditch [121], had steep sides and an irregular base, 1.42m wide and 0.72m deep. It was filled with a dark grey brown silty clay (125) which contained two sherds of late 9th to mid-11th century pottery.

East of this, in evaluation Trench 5, the feature had been recorded as [5018] which was filled with a mid-brownish-grey clayey silt (5019) from which late 9th to 14th century pottery, lava quern and animal bone fragments were retrieved. An environmental sample had yielded charred cereal grains (mainly hulled barley) along with wood mouse, frog/toad and small coastal flat fish bones.

A little further east, segment [101] (Fig. 7, Section 16) cut fill (104) of ditch [103]. It had irregular sides and base and was 1.36m wide and 0.58m deep and filled with a mid-brownish grey sandy silt (102) which contained a single sherd of 8th to mid-9th century pottery and a piece of animal bone.

East of this, segment [161] (Fig. 8, Section 38), cut fill (160) of ditch [159]. It was steep sided with an irregular base and was at least 0.65m wide and 0.53m deep and contained a mid-greyish brown silty clay (162) containing two pieces of animal bone.

Adjacent to the eastern baulk of the site, segment [257] (Fig. 10, Sections 59,60), which cut fill (261) of ditch [260], had steep sides and a flat base and measured 1.75m wide and 0.58m deep. A 0.25m thick lower fill of mid brownish grey silt (259) was sealed by a 0.34m thick mid yellowish brown clayey silt (258).

Undated features

Near the northwest corner of the site, probable gully terminus [082] (Fig 5, Fig. 7, Section 23; Plate 11) had a steeper south than north side and an uneven base. Measuring 0.5m wide by 0.3m deep it was filled with a mid-greyish brown clayey silt (083).

In the northern part of the site, immediately southeast of grave [107], ovoid posthole [075] (Fig. 7, Section 22) had vertical sides and a flat base and was 0.74m by 0.53m in plan and 0.46m deep. A lower fill of mid reddish grey clayey silt (076) containing three pieces of animal bone was overlain by a 90mm thick upper fill of dark yellowish grey sandy silt (077) from which a further animal bone was retrieved.

Nearby posthole [163] (Fig. 8, Section 39) had gradual sloping sides and a rounded base, measured 0.92m by 0.74m in plan and was 0.15m deep. It was filled with a

mid to dark brownish grey sandy silt (164). Close to the southwest corner of the site was a short east-west aligned ditch [037] (Fig. 6, Section 11; Plate 8). This had steep, concave sides and a rounded base and was 1.41m wide and 0.73m deep. A 0.11m thick basal fill of light bluish brown silt (045) was overlain by a 0.11m thick mottled light brown and blue grey silt (046). Above this, a 0.15m thick dark blue grey silt (038), which produced a piece of animal bone, was overlain by a slumped 0.1m thick light brown silt (047). Above this, a 0.38m thick mid brown silt (048) was in turn capped by a 0.33m thick light brown silt (049).

To the east, this ditch terminated in or was contiguous with an irregular shaped pit [130] (Sections 28, 29; Plate 29). This had steeper sides at its east end and a flat base, measured 2.47m east-west by 2.3m north-south by 0.46m deep, and contained several fills. A 0.11m thick basal fill of dark grey brown silty clay (131) containing two pieces of animal bone was overlain with a 0.1m thick dark brown grey silty sand (132). Above this was a 60mm thick band of light brown grey silty clay (133) with common charcoal. An environmental sample from this produced charred barley, beans, poppy and animal bone including small coastal flat fish and goose and marine shells along with peat fuel. Overlying this were, successively, a 0.1m thick dark yellow grey silty clay (134), a 0.19m thick black silty sand (135) containing two pieces of animal bone and a 0.18m thick top fill of mid brown grey sandy silt (136) which contained 60 pieces of animal bone, the most on the site. The top fill was cut by a smaller ovoid pit [137] (Fig. 8, Section 28) which had gradual sloping sides and a rounded base. Measuring 0.62m wide and 0.12m deep, it contained a 50mm thick lower fill of burnt silty sand (138) sealed by an 80mm thick mid grey brown silty sand (139).

Nearby sub-circular pit [223] (Fig. 9, Section 51) had concave sides and an irregular base and measured 1.04m by 0.99m in plan and 0.27m deep. It contained three fills. A 0.22m thick lower fill of black blue clay silt (224), from which four pieces of animal bone were retrieved, was overlain by a 0.11m thick dark grey green clay silt (225) above which was a 0.12m thick upper fill of dark grey brown sandy silt (226).

Adjacent ovoid pit [167] (Fig. 8, Section 40) had irregular sides and a rounded base and was 1.33m wide and 0.3m deep. It also contained three fills. A 0.1m thick light grey brown silt lower fill (168) containing a single piece of animal bone was overlain by a 0.17m thick mid brown grey silt (169) over which was a 0.18m thick mid grey brown silt (170).

A little further east, pit [179] (Fig. 9, Section 43; Plate 43) had moderate sloping sides and a flat base and measured at least 2.7m by 1m in plan and 0.36m deep and also contained three fills. A 0.36m thick light grey sandy silt (180) was overlain by a 0.16m thick mid blue brown sandy silt (181) with a 0.3m thick top fill of light grey brown silty sand (182).

Modern features

Close to the northwest corner of the site, a roughly east-west aligned land drain cut [080] (Fig. 7, Section 23; Plate 11) was filled with a mid-greyish brown silty clay (081). A fragment of the extruded ceramic land drain pipe was dated to the late 19th or 20th century. There were also six sherds from

6. DISCUSSION

The natural deposits across the site were yellowish-grey and orangey-brown clayey silt alluvium. This is likely to be post-

Roman in date as Roman features in the vicinity are known to lie beneath these thick silts.

The earliest phase of activity on the site, identified as phase 2a, is in the Middle Saxon period between the mid-8th and mid-9th centuries. Features assigned to this phase were short, often curvilinear gullies spread across the site, probably part of a farmstead. Residual pottery from this period also occurs in the later phases, no doubt due to the frequent intercutting of features on the site.

This Middle Saxon element to the site mirrors a number of similarly located settlements along the Lincolnshire coast and indicate a limted coastal trade network and economy partly based on inshore fisheries and one of several within the Wash, eg. Fishtoft (Cope-Faulkner 2012). Overall, the 'material signature' is directly comparable to that found at Fishtoft despite Holbeach developing into an, albeit small, urban centre during later periods. From this, we can assume that there was no significant status attached to the site during this period. However, sherds from a larger Ipswich ware jar suggest trade in the contents of the vessel rather than the pottery itself, sometimes an indicator of higher status.

In the next phase (2b), the earliest part of the Late Saxon period between the mid-9th and mid-10th centuries there are further short, irregular gullies across the site, doubtless involving some obliteration of earlier features, with a concentration towards the southeast corner.

The final Late Saxon phase (2c) from the mid-10th to the mid-11th century seems to be confined to the west side of the site immediately east of the large curvilinear watercourse the pottery from which suggests a probable AD 950-1050 date. Among this were sherds from five Thetford ware type vessels which were probably used to transport food or drink from East Anglia. No doubt the watercourse would have been open in the preceding phases but three linear features draining into it are also dated to the late 10th to early 11th centuries as is a ditch a few metres to the east running north-south the full length of the site and perhaps representing the eastern boundary of the later farmstead.

The watercourse probably represents an earlier course of the dyke a few metres to the west which forms the current site boundary and follows an earlier course of the Holbeach River.

A pit [130] close to the southwest corner of the site, while undated, produced similar animal bone and environmental evidence to the Saxon dated features.

The pottery from the site is entirely domestic in nature.

The environmental samples suggest that all the sampled features lay in an open grassland environment away from woodland or hedges. Most of the samples contained fuel ash slag suggesting the burning of peat.

Both the pottery finds and environmental samples are indicative of domestic activity rather than industrial activity, or in the case of the samples, crop processing.

The food being consumed on site included beef, mutton/lamb, small coastal flat fish such as plaice and flounder, barley (one of the most salt tolerant cereals), pulses, cockles and mussels. Cattle and sheep would have been farmed with wool, milk and meat being important products. The low number of pigs may indicate the absence of woodland in a generally grassland landscape. The occasional pig would have been kept close to home for

fattening. Sedges and rushes in the samples were probably used as animal bedding and for flooring and thatching (Appendix 4).

A feature thought originally to have been a grave, as it contained human bone, in the event contained only eleven small fragments of an adult human cranium (Appendix 3). The other bones retrieved alongside were small fragments of cattle, sheep and pig so it was probably a small pit. It is interesting to speculate how the human bone came to be there.

Two of the few pieces of fired clay recovered from the site could be briquetage, related to the saltworkings revealed to the northwest in 2015.

Occupation of the site seems to have ceased from around the mid-11th century, not being resumed until the 13th to 14th centuries. The reason for this is unclear, although it is probable that settlement had become focussed on the town centre following the Norman Conquest. Alternatively, this may have been because it once again became too wet for human habitation, as it had been prior to the 8th century, though concerted efforts to reclaim fen-lands was underway at this time.

The site has contributed to future research into developing settlement hierarchies during the Saxon period (Knight *et al*, 2012, 82) and potentially leads into the morphology of medieval settlements. However, its contribution should not be taken alone as there is now a growing corpus of Saxon sites, mainly Late Saxon, in and around Holbeach which could elucidate this for the development of the town further. To this end, a specific agenda should be developed for Holbeach particularly as there is widespread development occurring through increased housing as well as the Food Enterprise Zone to the west. This was somewhat overlooked in the extensive urban survey of the town by Lincolnshire County Council where the area was considered to be of low Historical Value (Grayson 2019, 80), although fieldwork relating to this site was possibly not available at the time.

7. CONCLUSIONS

Archaeological investigations were undertaken on land at Fen Road, Holbeach as the site lies in an archaeologically sensitive area. Prior evaluation of the site had revealed a small Late Saxon farmstead with evidence for cereal processing and cattle and sheep husbandry along with a 13th-14th century ditch. Although environmental samples from the features suggested a freshwater environment, these lay a short distance to the southeast of previously discovered medieval salt production features.

The excavation revealed a complex pattern of ditches, gullies and pits of Middle to Late Saxon date representing around three hundred years of farmstead activity between the mid-8th and mid-11th centuries.

Remains of Middle Saxon date are of some importance as they not only represent the earliest settlement of this period in the town but are comparable to other coastal settlements of the period surrounding the Wash. Finds indicate trade with Ipswich and a mixed economy based on arable, pasture and fishing.

By the establishment of the Later Saxon farmstead, the economy was very similar, although there was an increased supply of coastal fishing to the inhabitants. Finds and environmental evidence indicated the domestic nature of this, with further evidence of cattle and sheep husbandry confirming the results of the evaluation.

Environmental sampling suggested that the site lay in an open grassland environment. All the samples contained flat fish (Plaice/Flounder), and most marine shell, indicating coastal fishing in the nearby Wash. Most samples also contained fuel ash slag suggesting the burning of peat.

Only a single medieval ditch was recorded. This paucity of medieval remains perhaps suggest that this site, one of a number of dispersed Late Saxon settlements had been abandoned and replaced with a more urban foci in Holbeach itself. Pottery suggests this occurred in the mid-11th century, following the Norman Conquest and the imposition of feudalism.

Finds are dominated by Middle to Late Saxon and medieval pottery, animal/ fish bone and fired clay. No metalwork was recovered although there was limited evidence of metalworking

8. ACKNOWLEDGEMENTS

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9. PERSONNEL

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CAD Illustration: Mark Peachey
Post-excavation Analysis: Mark Peachey
Archiving: Denise Buckley, Maria Leroi

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11. ABBREVIATIONS

AOD Above Ordnance Datum

APS Archaeological Project Services

BGS British Geological Survey

CIfA Chartered Institute for Archaeologists

RC Records Commission

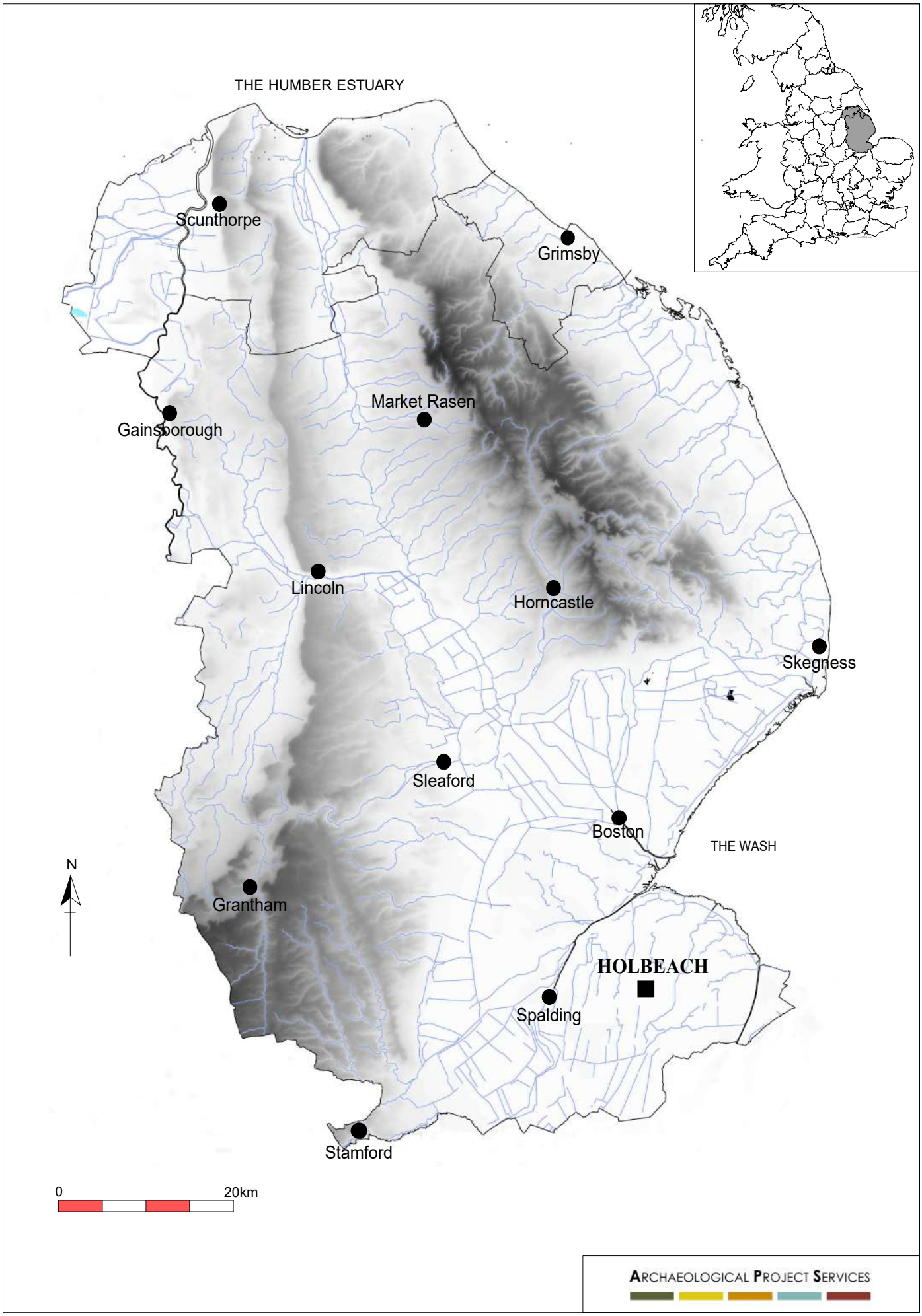
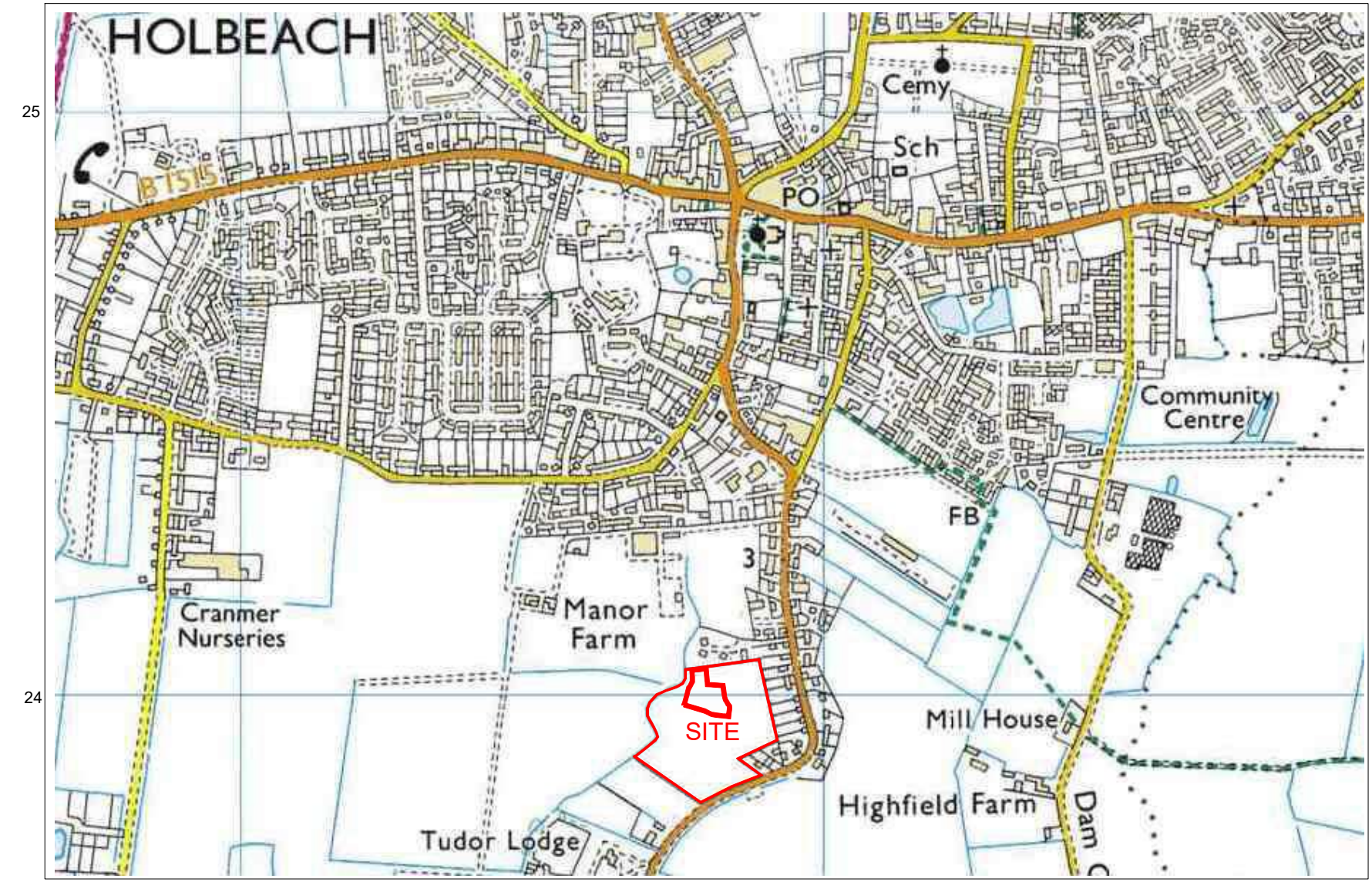


Figure 1 - General location plan



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Project Name: Fen Road, Holbeach HBFR21		
Scale 1:10000	Drawn by: MJP	Report No: 56/22

Figure 2. Site location plan

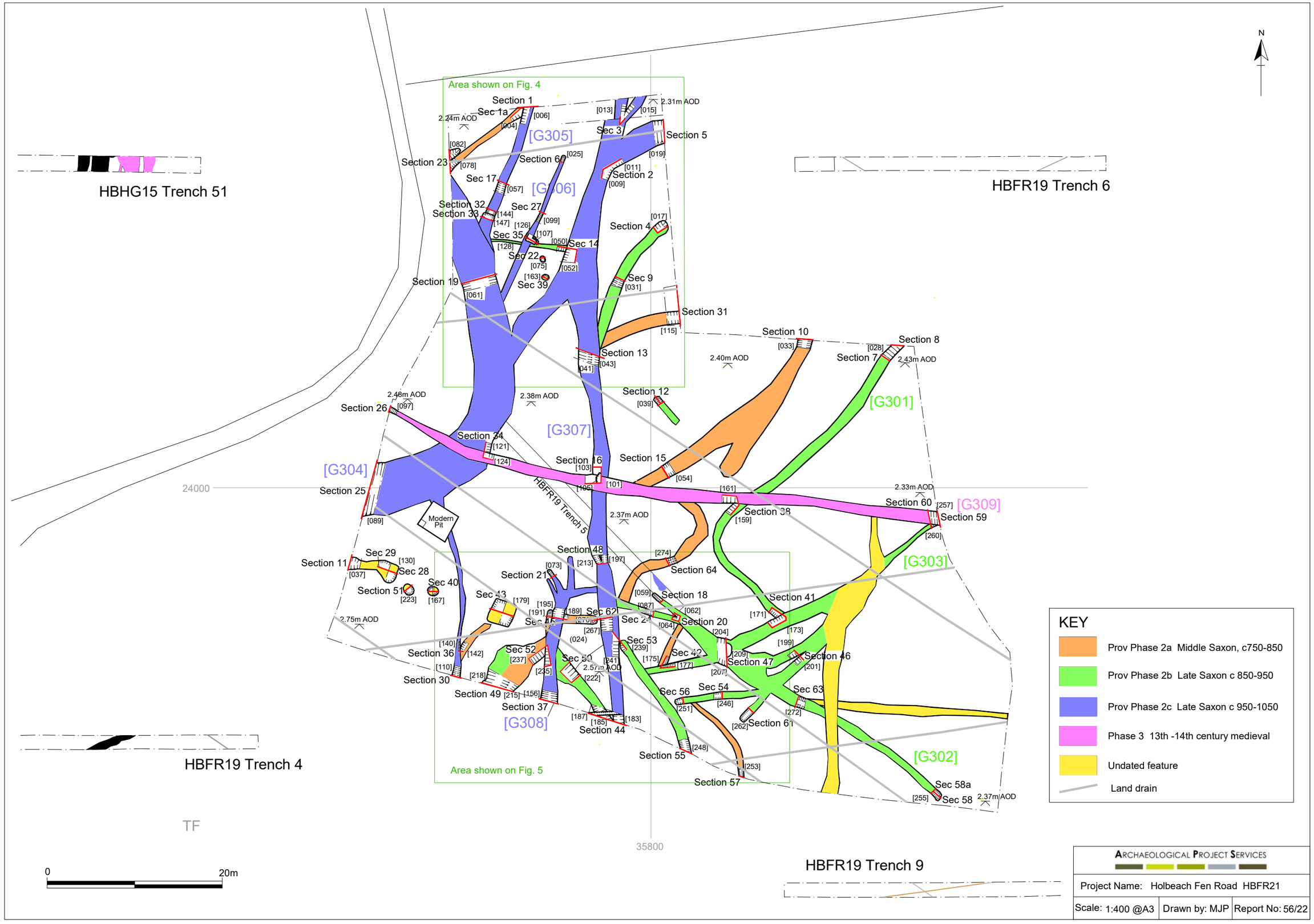


Figure 3. Overall site plan

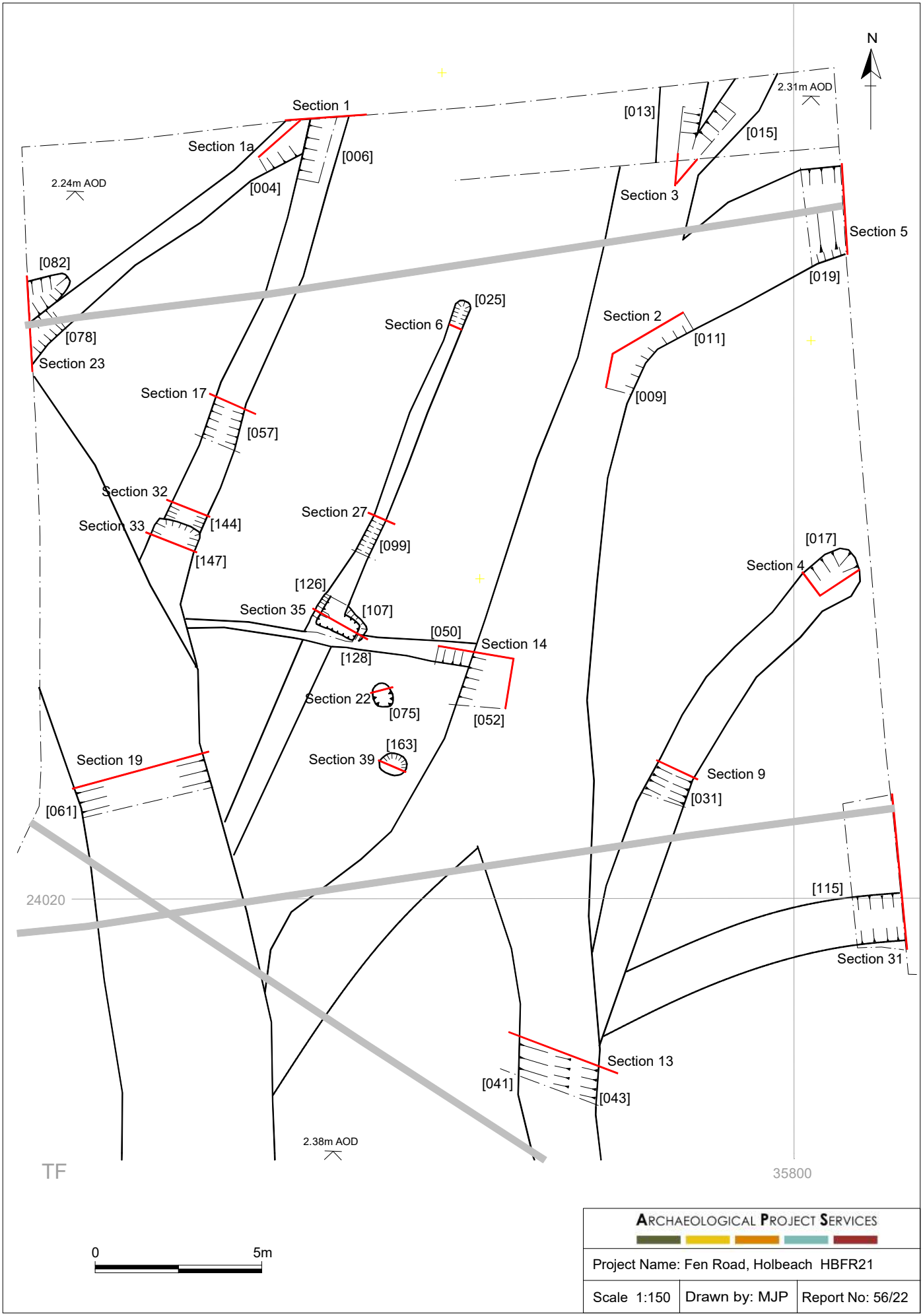


Figure 4. Plan of north part of the site

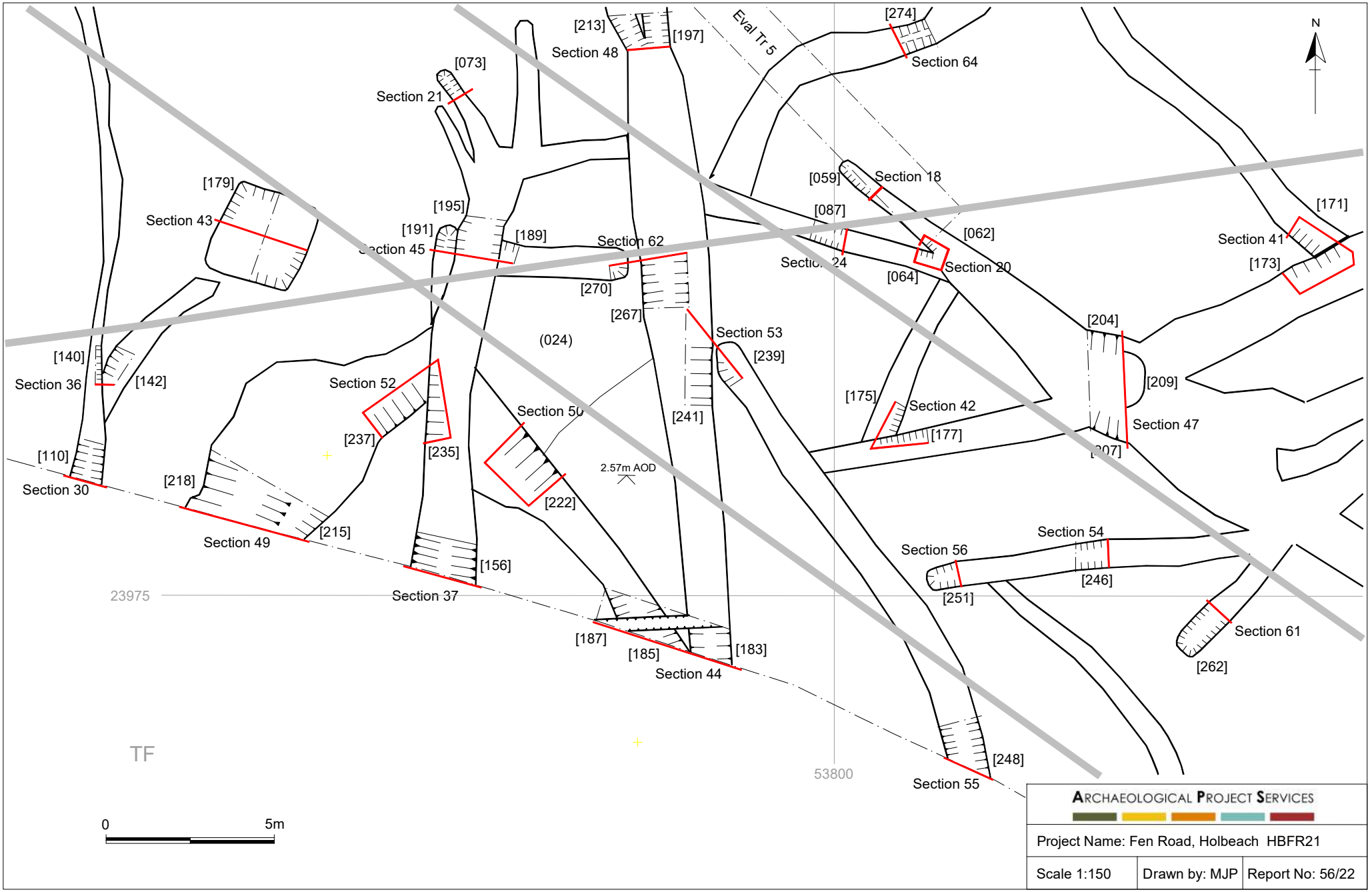
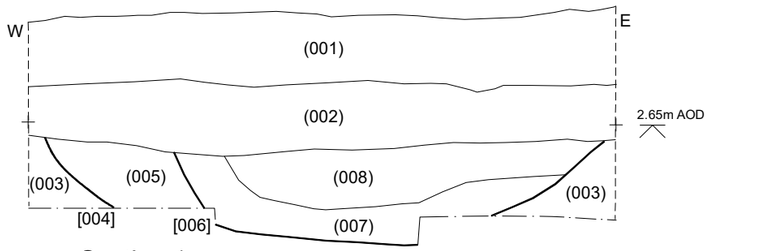
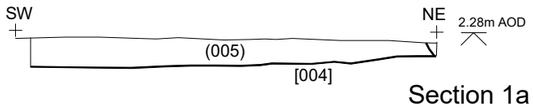


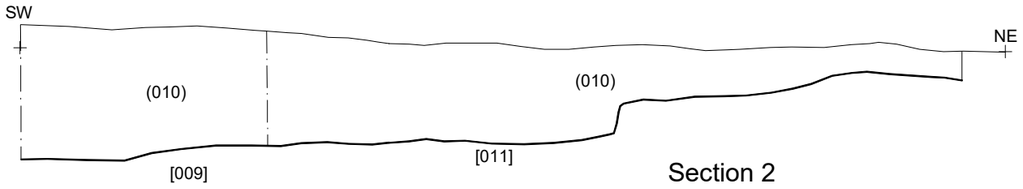
Figure 5. Plan of south part of site



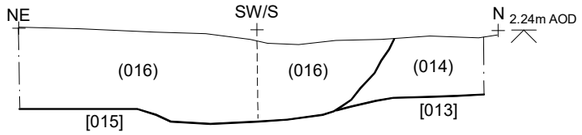
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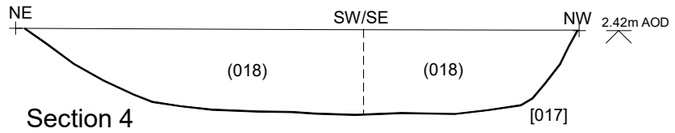
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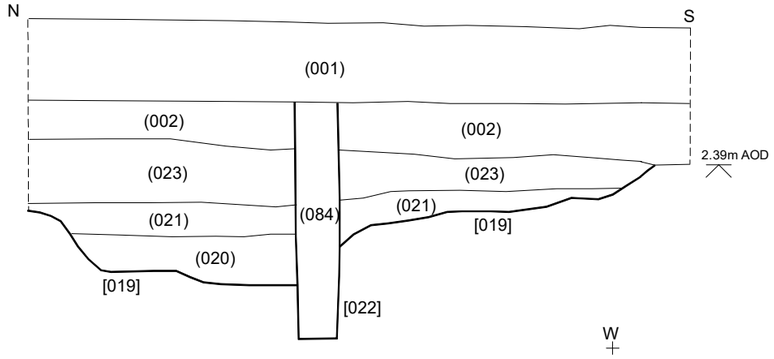
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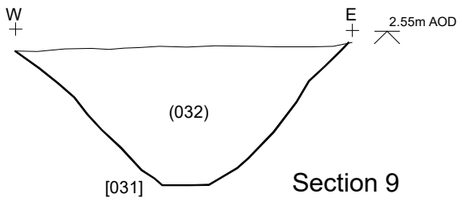
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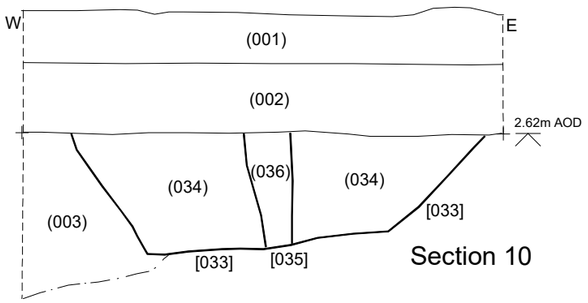
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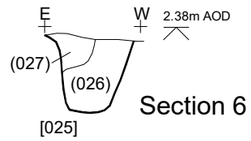
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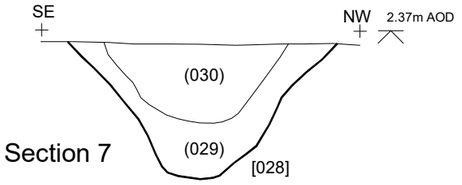
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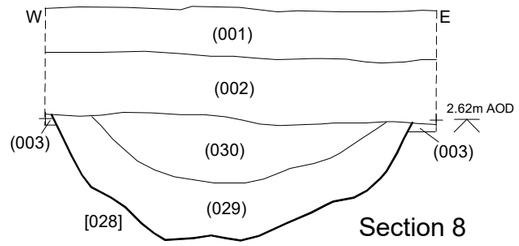
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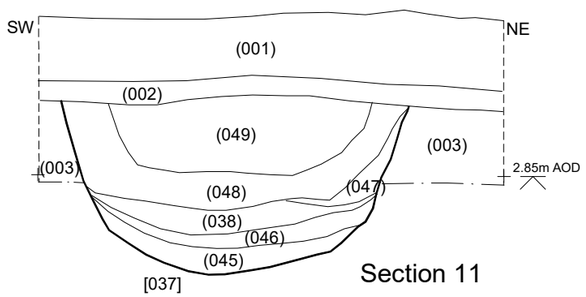
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Section 7



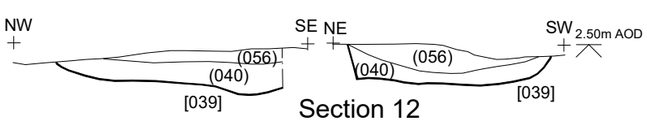
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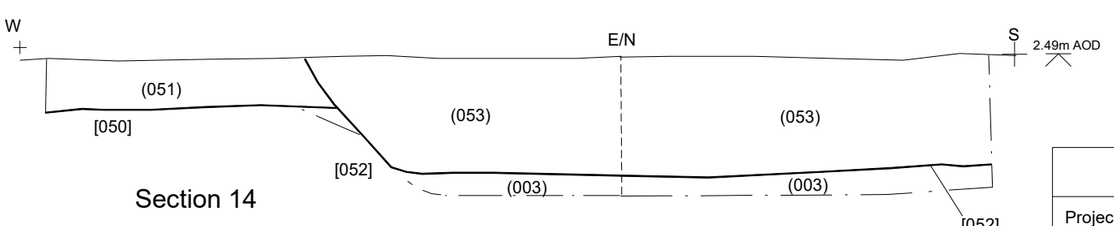
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Section 13



Section 12



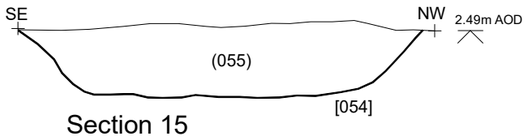
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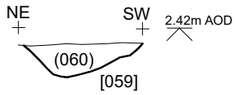
Figure 6. Sections 1-14



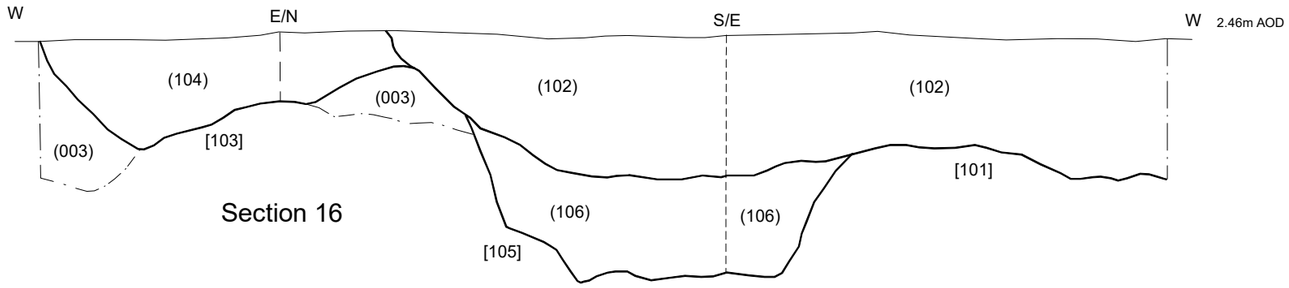
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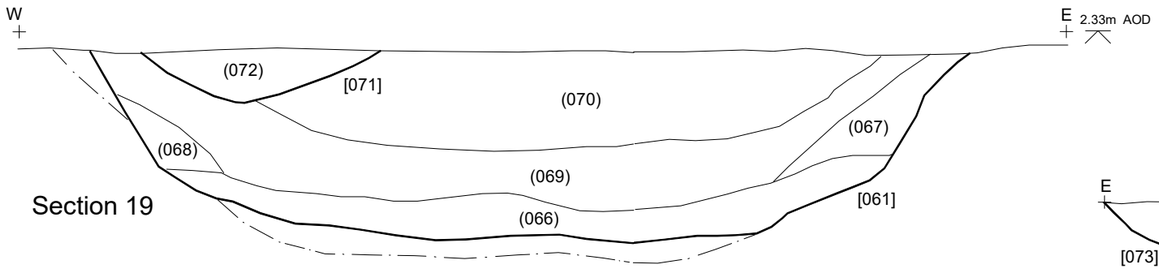
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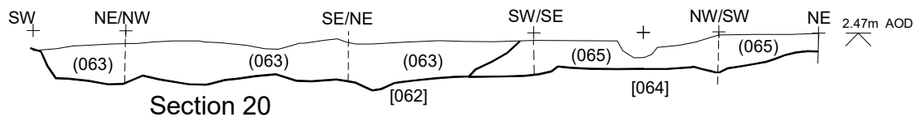
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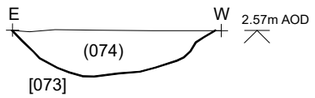
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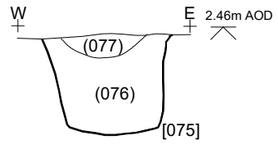
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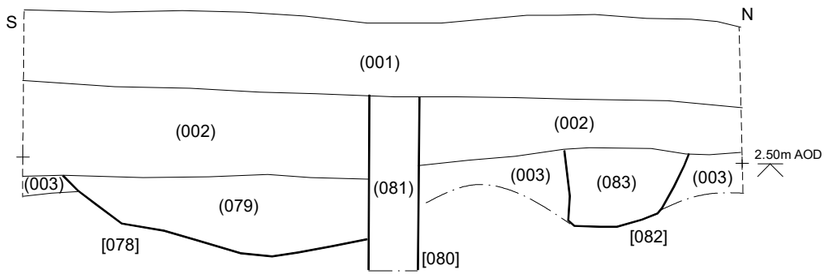
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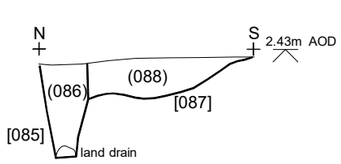
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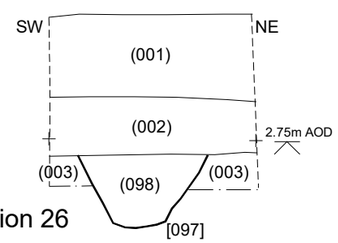
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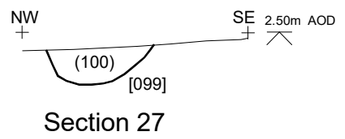
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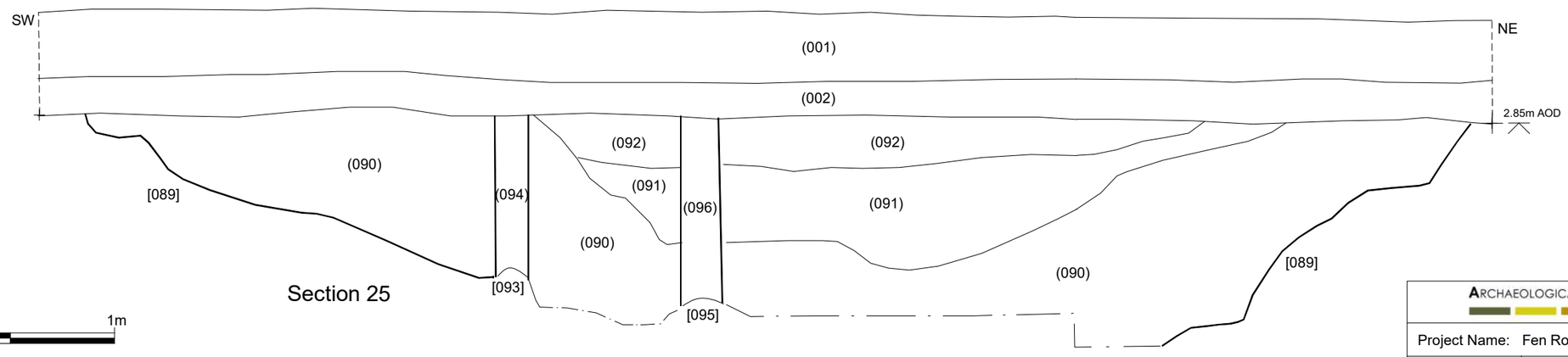
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Section 26



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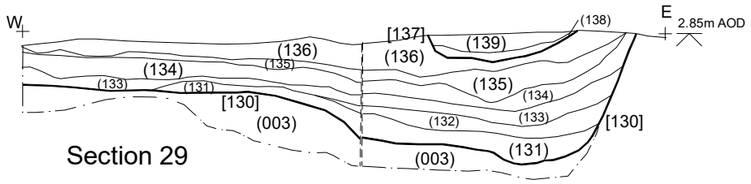


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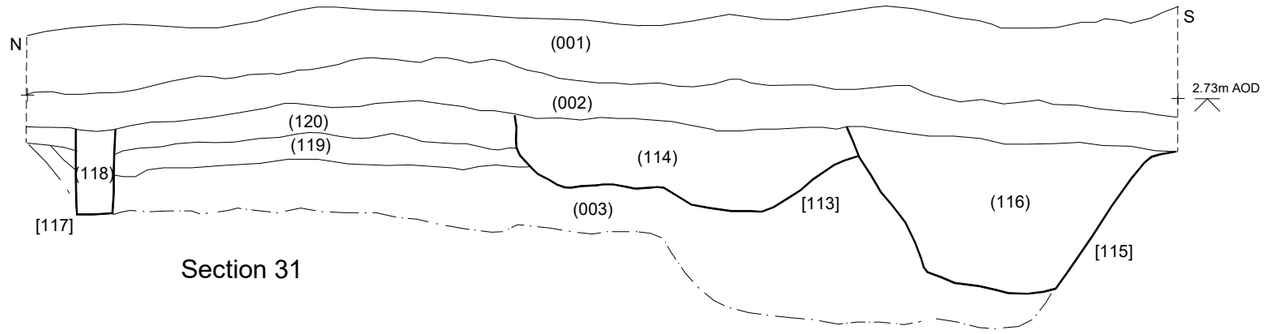
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Figure 7. Sections 15-27

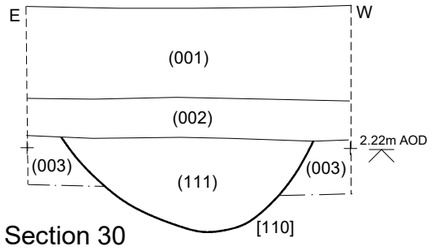


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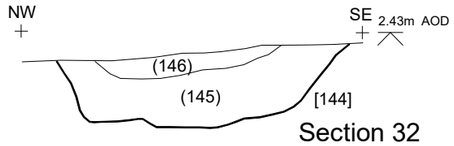
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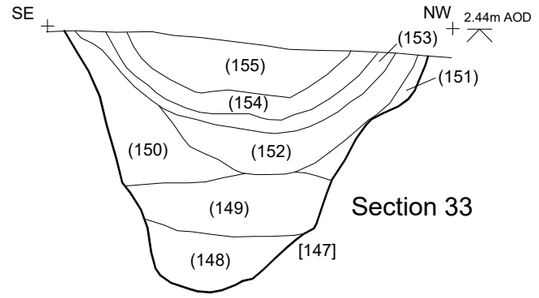
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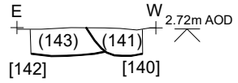
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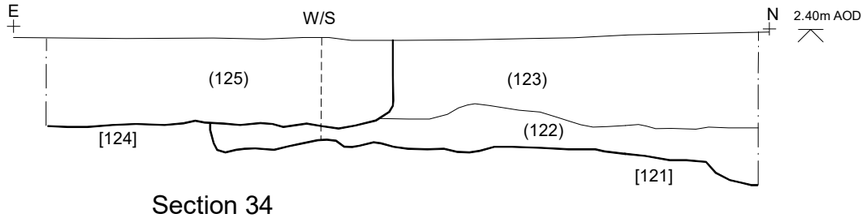
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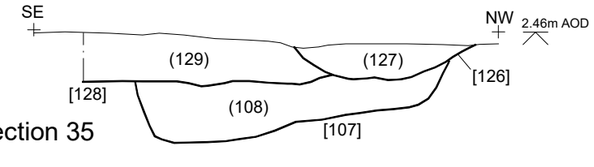
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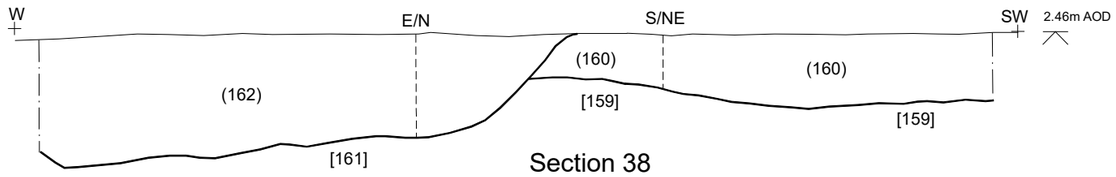
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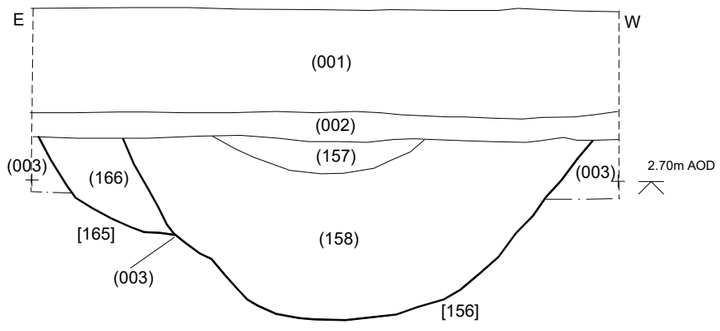
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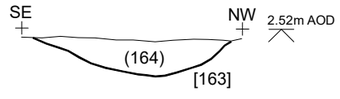
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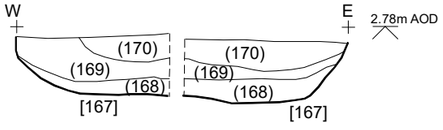
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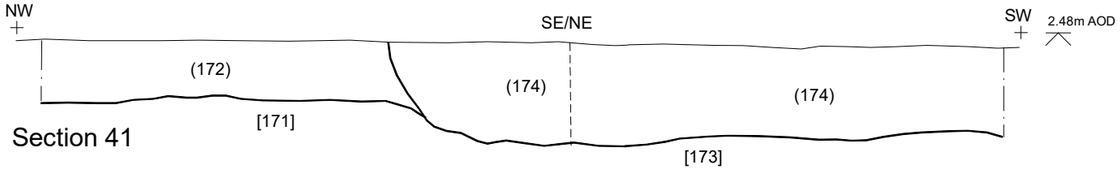


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Section 40



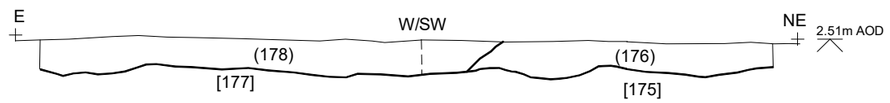


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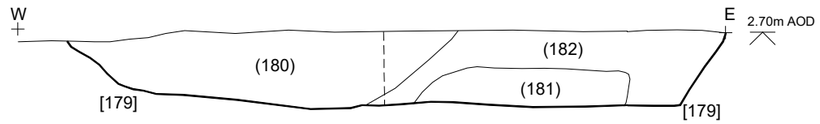
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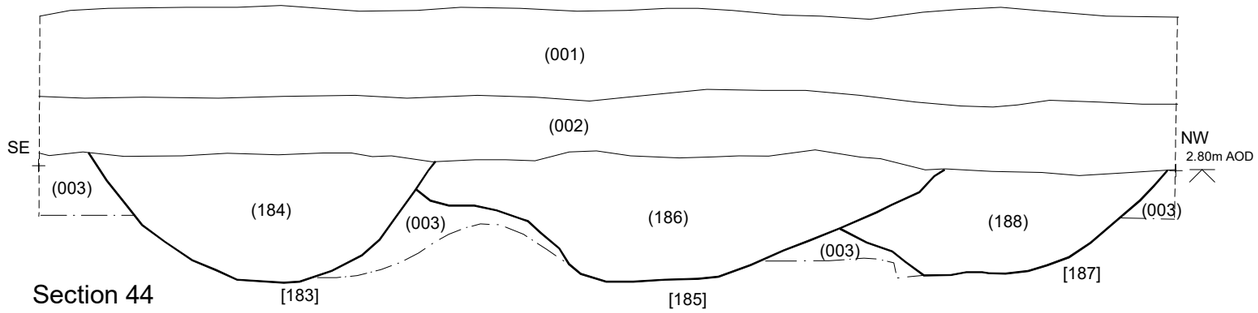
Figure 8. Sections 28-41



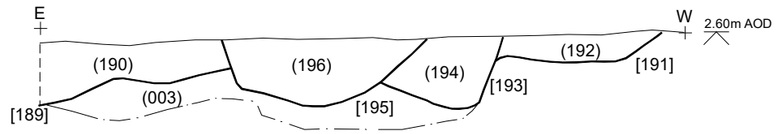
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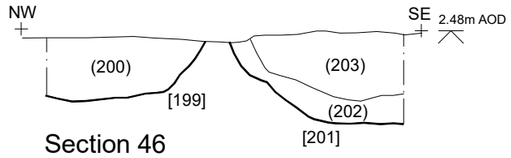
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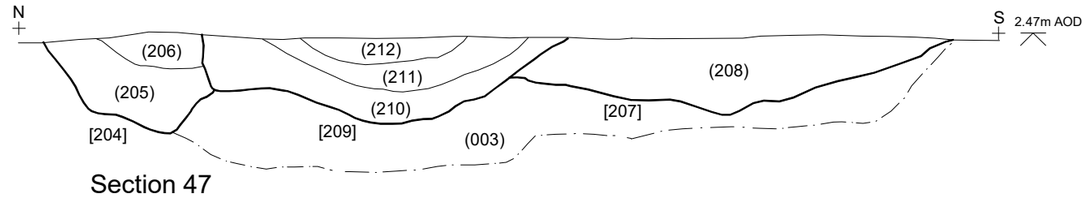
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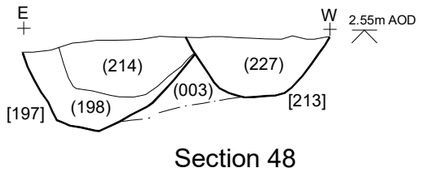
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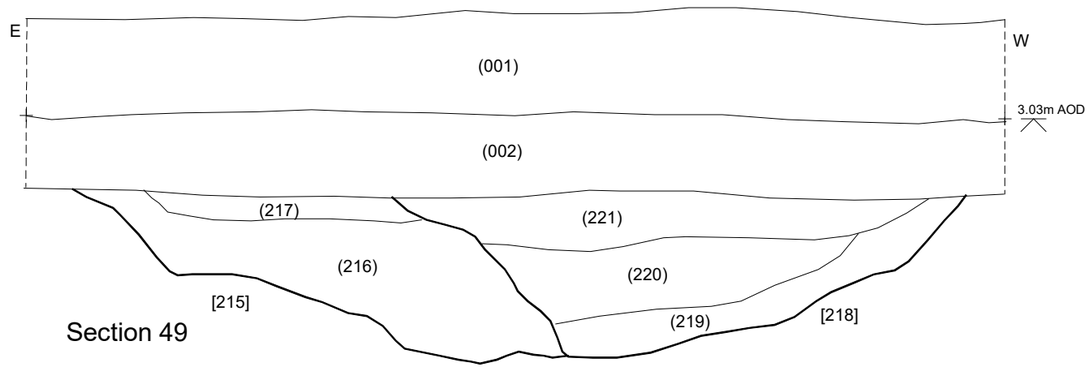
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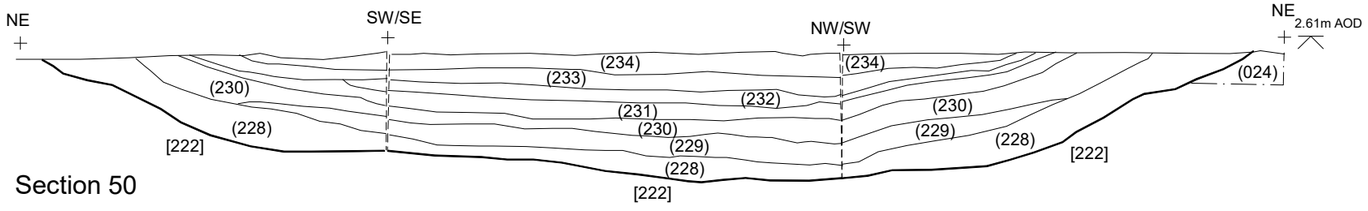
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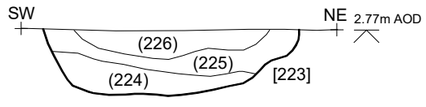
Section 48



Section 49



Section 50



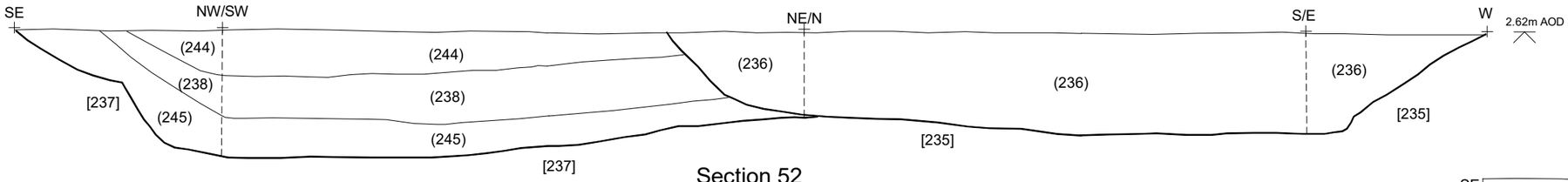
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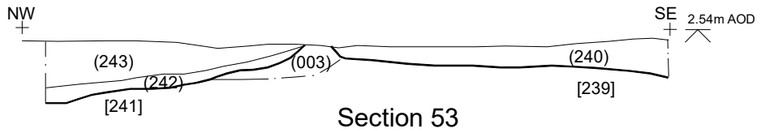
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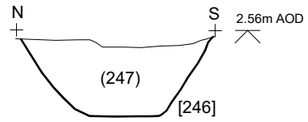
Figure 9. Sections 42-51



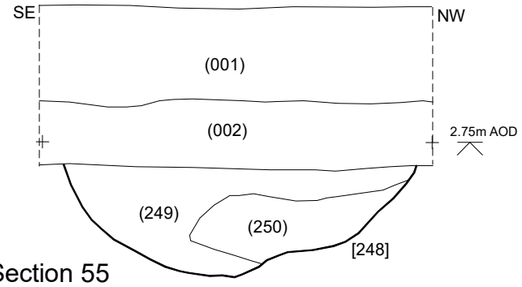
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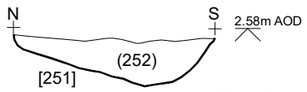
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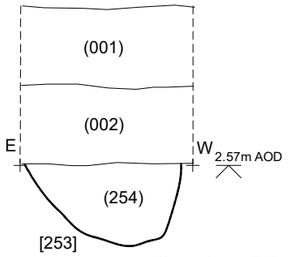
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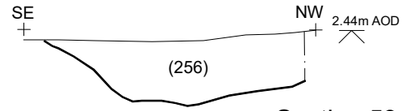
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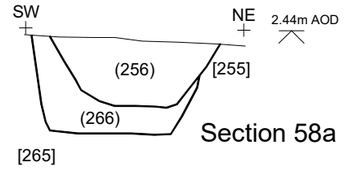
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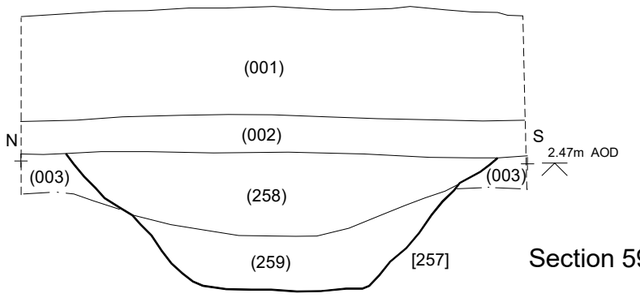
Section 57



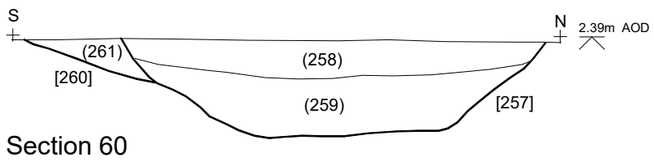
Section 58



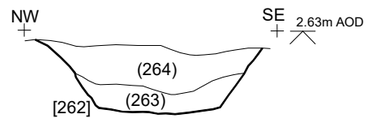
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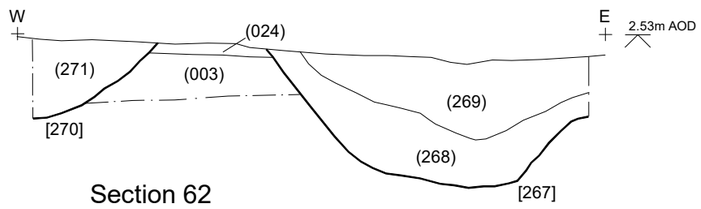
Section 59



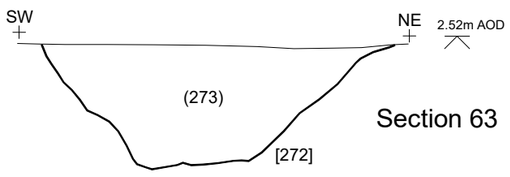
Section 60



Section 61



Section 62



Section 63



Section 64



ARCHAEOLOGICAL PROJECT SERVICES

Project Name: Fen Road, Holbeach HBFR21		
Scale: 1:25	Drawn by: MJP	Report No: 56/22

Figure 10. Sections 52-64



Plate 1. Pre-machining view of the site, looking northeast

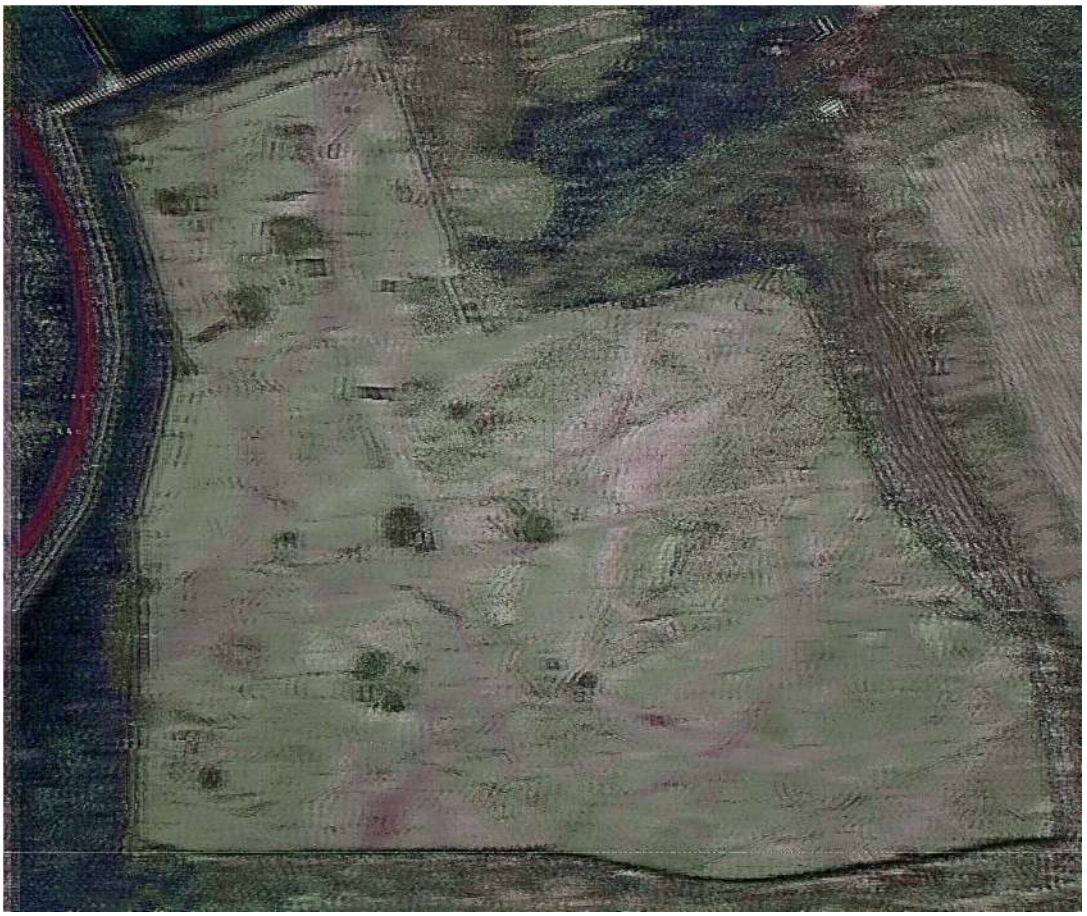


Plate 2. Drone view of the site on 17th March 2021, midway through the excavation



Plate 3. Ditches [004], [006], Section 1, looking north



Plate 4. Ditch terminus [017], Section 4, looking south



Plate 5. Ditch [028], Section 8, looking north



Plate 6. Ditch [031], Section 9, looking northeast



Plate 7. Ditches [041], [043], Section 13, looking northwest



Plate 8. Ditch [037], Section 11, looking west



Plate 9. Ditches [050], [052], Section 14, looking north



Plate 10. Ditch [061], Section 19, looking north



Plate 11. Ditch [078], ditch terminus [082], Section 23, looking west



Plate 12. Ditches [101], [103], pit [105], Section 16, looking east



Plate 13. Pit [130], Section 29, looking south



Plate 14. Ditch [089], Section 25, looking northwest



Plate 15. Pit [147], Section 33, looking south



Plate 16. Grave [107], linear features [126], [128], Section 35, looking south



Plate 17. Ditch [156], Section 37, looking south



Plate 18. Ditches [159], [161], Section 38, looking east



Plate 19. Pit [179], Section 43, looking north



Plate 20. Ditches [189], [193], [195], ditch terminus [191], Section 45, looking south



Plate 21. Ditches [183], [185], [187], Section 44, looking south



Plate 22. Ditches [204], [207], pit [209], Section 47, looking southeast



Plate 23. Ditches [215], [218], Section 49, looking south



Plate 24. Ditches [235], [237], Section 52, looking north



Plate 25. Ditch [248], Section 55, looking southwest



Plate 26. Ditch [257], Section 59, looking east



Plate 27. Ditch terminus [270], ditch [267], Section 62, looking northeast



Plate 28. Ditch [272], Section 63, looking northwest

Appendix 1

CONTEXT DESCRIPTIONS

Context no.	Description	Interpretation
001	Friable, dark greyish-brown clayey silt. 0.35m thick	Topsoil
002	Soft, mid yellowish-brown silt. 0.10m thick	Subsoil
003	Soft, mottled light yellow and light grey silt	Alluvium
004	NE-SW aligned linear cut, 1m wide, 0.25m deep	Gully
005	Friable mid brownish grey clayey silt , 0.28m thick	Fill of [004]
006	NE-SW aligned linear cut with slightly steeper west side and flat base, 1.1m wide, 0.4m deep	Ditch, part of Group [G305]
007	Friable mid grey yellow clayey silt, 0.17m thick	Lower fill of [006]
008	Friable mid yellowish grey sandy silt, 0.26m thick	Upper fill of [006]
009	NW-SE aligned linear cut with shallow straight sides and flat base, 1m wide, 0.55m deep	Ditch, part of Group [G307]
010	Friable light brown grey silt, 0.55m thick	Fill of [009]
011	NW-SE aligned linear cut with moderate sloping sides and a flat irregular base, 2.65m wide, 0.4m deep	Ditch
012	Friable light brown grey silt, 0.4m thick	Fill of [011]
013	North-south aligned linear cut with gradual sides and a flat base, 1.23m wide, 0.32m deep	Ditch, part of Group [G307]
014	Friable dark grey brown silt, 0.32m thick	Fill of [013]
015	North-south aligned linear cut with steep sides and flat base, 1.05m wide, 0.4m deep	Gully
016	Friable dark brown grey silt, 0.4m thick	Fill of [015]
017	NW-SE aligned linear cut with concave sides and flat base, 1.28m wide, 0.35m deep	Ditch terminus
018	Friable mid brownish grey clayey silt with moderate ironpanning, 0.35m thick	Fill of [017]
019	NW-SE aligned linear cut with stepped uneven sides and flat base, 2.7m wide, 0.5m deep	Ditch
020	Friable mid grey brown silty sand, 0.2m thick	Lower fill of [019]
021	Friable light grey orange sandy silt, 0.14m thick	Fill of [019]
022	NW-SE aligned linear cut wth straight sides and flat base, 0.18m wide, 0.12m deep	Land drain
023	Friable dark brown grey clay silt, 0.26m thick	Fill of [019]
024	Friable mottled greyish orange brown silt, 7m x 4.3m in plan, 70mm thick	Spread
025	North-south aligned linear cut with steep straight sides and flat base, 0.3m wide, 0.3m deep	Gully terminus, part of Group [G306]
026	Friable dark grey silt, 0.3m thick	Lower fill of [025]
027	Friable mid yellowish brown silty sand, 0.14m thick	Upper fill of [025]
028	NE-SW aligned linear cut with concave sides and base, 1.1m wide, 0.56m deep	Ditch, part of Group [G301]
029	Friable dark blue grey silt, 0.56m thick	Lower fill of [028]
030	Friable mid blue grey silt, 0.33m thick	Upper fill of [028]
031	North-south aligned linear cut with steep sides and concave base, 1.38m wide, 0.57m deep	Ditch
032	Friable mid grey brown silt, 0.57m thick	Fill of [031]
033	NW-SE aligned linear cut with steep sloping sides and uneven base, 1.7m wide, 0.5m deep	Ditch
034	Firm mid white grey silty clay, 0.5m thick	Fill of [033]

035	NW-SE aligned linear cut with straight steep sides and flat base, 0.2m wide, 0.4m deep	Land drain
036	Firm dark grey brown clayey silt, 0.4m thick	Fill of [035]
037	East-west aligned linear cut with concave sides and rounded base, 1.41m wide, 0.73m deep	Ditch
038	Friable dark blue grey silt, 0.15m thick	Fill of [037]
039	Northwest-southeast aligned linear cut with gradual sloping sides and undulating base, 0.8m wide, 0.18m deep	Gully
040	Friable dark grey black sandy silt, 0.18m thick	Fill of [039]
041	North-south aligned linear cut with steep straight sides and irregular base, 1.48m wide, 0.9m deep	Ditch, part of Group [G307]
042	Friable light greyish brown silty sand, 0.9m thick	Fill of [041]
043	North-south aligned linear cut with moderately sloping straight sides and an irregular base, 3.2m wide, 0.51m deep	Ditch
044	Friable mid reddish brown sandy silt, 0.51m thick	Fill of [043]
045	Friable light bluish brown silt, 0.11m thick	Lower fill of [037]
046	Friable mottled light brown and blue grey silt, 0.11m thick	Fill of [037]
047	Friable light brown silt, 0.1m thick	Slumped fill of [037]
048	Friable mid brown silt, 0.38m thick	Fill of [037]
049	Friable light brown silt, 0.33m thick	Fill of [037]
050	East-west aligned linear cut with gradual sloping sides and narrow base, 0.94m wide, 0.21m deep	Gully
051	Friable light yellowish grey sandy silt with some ironpanning, 0.21m thick	Fill of [050]]
052	NE-SW aligned linear cut with steep sides and broad uneven base, 0.48m deep	Ditch, part of Group [G307]
053	Friable mid brownish grey clayey silt, 0.48m thick	Fill of [052]
054	NE-SW aligned linear cut with concave sides and a flat base, 2.5m wide, 0.3m deep	Ditch
055	Friable mid orange brown clayey silt with frequent iron panning, 0.3m thick	Fill of [054]
056	Friable mid yellow grey clayey silt, 0.12m thick	Upper fill of [039]
057	NE-SW aligned linear cut with concave sides and uneven base, 1.3m wide, 0.23m deep	Ditch, part of Group [G305]
058	Soft mid grey silt with occasional flecks of ironpanning, 0.23m thick	Fill of [057]
059	NW-SE aligned linear cut with concave sides and rounded base, 0.48m wide, 0.15m deep	Ditch terminus
060	Friable dark grey brown silt, 0.15m thick	Fill of [059]
061	North-south aligned linear cut with steep convex sides and slightly undulating base, 3.85m wide, 0.76m deep	Watercourse, part of Group [G304]
062	SE-NW aligned linear cut with steep irregular sides and undulating base, 0.73m wide, 0.18m deep	Ditch
063	Friable mid grey brown silt, 0.18m thick	Fill of [062]
064	NW-SE aligned linear cut with gradually sloping sides and a flat base, 0.65m wide, 0.15m deep	Ditch, part of Group [G302]
065	Friable light grey brown silt, 0.15m thick	Fill of [064]
066	Friable bluish grey silty clay with frequent iron mottling, 0.27m thick	Lower fill of [061]
067	Friable mid reddish brown clayey silt with frequent iron panning, 0.25m thick	Slumping fill of [061]
068	Friable light to mid reddish brown clayey silt with occasional ironpanning, 0.15m thick	Slumping fill of [061]
069	Friable mid greyish blue and reddish brown silty clay with frequent iron panning, 0.35m thick	Fill of [061]
070	Soft mid greyish brown sandy silt with frequent ironpanning, 0.42m thick	Top fill of [061]
071	North-south aligned linear cut with gradual sides and rounded base, 0.98m wide, 0.2m deep	Ditch

072	Soft yellowish brown sandy silt with occasional iron panning, 0.2m thick	Fill of [071]
073	NW-SE aligned linear cut with concave sides and flat base, 0.82m wide, 0.2m deep	Ditch terminus, part of Group [G308]
074	Friable mottled brown orange sandy silt, 0.2m thick	Fill of [073]
075	Ovoid cut with vertical sides and flat base, 0.74m long, 0.53m wide, 0.46m deep	Pit, possible trough
076	Friable mid reddish grey clayey silt, 0.46m thick	Lower fill of [075]
077	Friable dark yellowish grey sandy silt with occasional charcoal flecks, 90mm thick	Upper fill of [075]
078	SW-NE aligned linear cut with concave sides and uneven base, 1.2m wide, 0.3m deep	Gully
079	Soft mid reddish brown clayey silt with frequent ironpanning, occasional charcoal flecks, 0.3m thick	Fill of [078]
080	East-west aligned linear cut with vertical sides, not fully excavated, 0.2m wide	Land drain
081	Friable mid greyish brown silty clay with occasional charcoal flecks, 0.2m thick	Fill of [080]
082	East-west aligned linear cut with steeper south than north side and an uneven base, 1.05m long, 0.5m wide, 0.3m deep	Possible ditch terminus or pit
083	Friable mid greyish brown clayey silt with occasional rare charcoal flecks, 0.32m thick	Fill of [082]
084	Loose dark grey brown sandy silt, 0.12m thick	Fill of [022]
085	East-west aligned linear cut with near vertical sides and convex base, 0.2m wide, 0.39m deep	Land drain
086	Loose mid grey brown silt, 0.39m thick	Fill of [085]
087	East-west aligned linear cut with undulating sides and rounded base, 0.67m wide, 0.17m deep	Ditch, part of Group [G302]
088	Friable dark grey brown silt, 0.17m thick	Fill of [087]
089	West to northeast aligned curvilinear cut with stepped sides, not fully excavated due to depth. 6.68m wide, at least 1m deep	Watercourse, part of Group [G304]
090	Firm light blue grey sandy silt with moderate ironpanning, at least 0.5m thick	Lower fill of [089]
091	Firm light yellow brown silty sand, 0.52m thick	Fill of [089], possibly slumped natural
092	Firm mid grey black sandy silt, 0.26m thick	Top fill of [089]
093	East-west aligned linear cut with vertical sides, 0.16m wide, 0.8m deep	Land drain
094	Friable mid grey brown sandy silt, 0.8m thick	Fill of [093]
095	East-west aligned linear cut with vertical sides, 0.2m wide, 1m deep	Land drain
096	Friable mid grey black sandy silt, 1m thick	Fill of [095]
097	East-west aligned linear cut with steep straight 70° sides and a flat base, 0.95m wide, 0.32m deep	Ditch, part of Group [G309]
098	Friable mid yellowish brown silt, 0.32m thick	Fill of [097]
099	NE-SW aligned linear cut with steep sides and rounded base, 0.54m wide, 0.14m deep	Gully, part of Group [G306]
100	Soft mid greyish brown sandy silt with moderate charcoal flecks and frequent ironpanning, 0.14m thick	Fill of [099]
101	East-west aligned linear cut with irregular sides and base, 1.36m wide, 0.58m deep	Ditch, part of Group [G309]
102	Friable mid brownish grey sandy silt, 0.58m thick	Fill of [101]
103	North-south aligned linear cut with moderately sloping concave sides and irregular base, 0.98m wide, 0.45m deep	Ditch, part of Group [G307]
104	Friable mid greyish brown sandy silt, 0.45m thick	Fill of [103]
105	Sub-circular cut with straight steep sides and irregular base, at least 1.06m x 0.5m in plan, 0.44m deep	Pit
106	Friable mid reddish grey clayey silt, 0.44m thick	Fill of [105]

107	East-west orientated rectangular cut with near vertical sides and flat base, 1.35m long, 0.63m wide, 0.24m deep	Pit
108	Friable light brownish grey sandy silt, 0.24m thick	Fill of [107]
SK109	Remnants of skeleton comprising part of cranium only, sample 3 taken from area around cranium	Human bone fragments
110	South to slightly NNW aligned curvilinear cut with concave sides and rounded base, 1m wide, 0.38m deep	Ditch
111	Friable mid greyish brown silt, 0.38m thick	Fill of [110]
112	Same as [130]	Pit
113	East-west aligned cut with moderately sloping concave sides and irregular base, 1.41m wide, 0.34m deep	Ditch
114	Friable mid greyish brown sandy silt, 0.34m thick	Fill of [113]
115	East-west aligned linear cut with straight steep sides and rounded base, 1.35m wide, 0.62m deep	Ditch
116	Friable mid greyish brown clayey silt, 0.62m thick	Fill of [115]
117	East-west aligned linear cut with vertical sides, 0.16m wide, at least 0.34m deep	Land drain
118	Friable dark greyish brown sandy silt, at least 0.34m thick	Fill of [117]
119	Compact mid bluish grey silty clay, 0.12m thick	Alluvial layer
120	Friable light yellowish brown silty sand, 0.17m thick	Alluvial layer
121	North-south aligned linear cut with vertical sides and irregular base, 2.28m wide, 0.63m deep	Watercourse, part of Group [G304]
122	Friable mid brown grey sandy silt with frequent ironpanning, 0.24m thick	Fill of [121]
123	Friable mid grey brown clay silt, 0.38m thick	Fill of [121]
124	East-west aligned linear cut with vertical sides and irregular base, 1.42m wide, at least 0.72m deep	Ditch, part of Group [G309]
125	Friable dark grey brown silty clay, at least 0.72m thick	Fill of [124]
126	East-west aligned linear cut with gradual sloping sides and narrow, flat base, 0.55m wide, 0.19m deep	Gully, part of Group [G306]
127	Friable dark yellowish grey sandy silt with occasional charcoal lensing, 0.19m thick	Fill of [126]
128	NE-SW aligned linear cut with moderate sloping sides and a broad, flat base, 0.77m wide, 0.15m deep	Gully
129	Friable mid brownish grey sandy silt, 0.15m thick	Fill of [128]
130	Irregular cut with steeper sides at east than west end and a flat base, 2.47m by 2.3m in plan, 0.46m deep	Pit
131	Friable dark grey brown silty clay, 0.11m thick	Fill of [130]
132	Friable dark brown grey silty sand with burnt charcoal, 0.1m thick	Fill of [130]
133	Friable light grey brown silty clay with common charcoal flecks, 60mm thick	Fill of [130]
134	Friable dark yellow grey silty clay, 0.1m thick	Fill of [130]
135	Friable black silty sand, 0.19m thick	Fill of [130]
136	Friable mid brown grey sandy silt, 0.18m thick	Upper fill of [130]
137	Ovoid cut with gradual sloping sides and rounded base, 0.62m wide, 0.12m deep	Pit
138	Friable black silty sand, 50mm thick, burnt	Lower fill of [137]
139	Friable mid grey brown silty sand, 80mm thick	Upper fill of [137]
140	North-south aligned linear cut with steep, straight sides and flat base, 0.4m wide, 0.1m deep	Gully
141	Friable mottled mid grey/mid yellowish brown clayey silt with occasional ironpanning, 0.1m thick	Fill of [140]
142	SSW-NNE aligned linear cut with moderate sloping sides and flat base, 0.5m wide, 0.12m deep	Gully
143	Soft mid yellowish brown silt, 0.12m thick	Fill of [143]
144	NNE-SSW aligned linear cut with concave sides and uneven base, 1.26m wide, 0.29m deep	Ditch, part of Group [G305]

145	Friable mid brownish grey sandy silt with moderate ironpanning, 0.2m thick	Fill of [144]
146	Friable brownish grey clayey silt with frequent charcoal flecks, 0.1m thick	Fill of [144]
147	NW-SE aligned cut with steep, irregular sides and rounded base, at least 2m long 1.49m wide, 1.08m deep	Pit or ditch terminus
148	Firm brownish grey silty clay with frequent ironpanning, 0.25m thick	Fill of [147]
149	Friable light to mid brownish grey silty clay with occasional charcoal flecks and moderate ironpannning, 0.25m thick	Fill of [147]
150	Soft mid reddish brown clayey silt with rare charcoal flecks and moderate ironpanning, 0.6m thick	Fill of [147], natural slumping SE edge
151	Soft mid reddish brown clayey silt with rare charcoal flecks and moderate ironpanning, 0.5m thick	Fill of [147], natural slumping NW edge
152	Firm mid brownish grey silty clay with frequent charcoal frags, 0.15m thick	Fill of [147]
153	Soft mottled brownish grey/black silty clay with occasional fired clay and charcoal, 70mm thick	Fill of [147]
154	Friable brownish grey sandy silt with moderate ironpanning, 0.1m thick	Fill of [147]
155	Friable mid reddish brown sandy silt with moderate ironpanning, 0.2m thick	Top fill of [147]
156	North-south aligned linear cut with concave sides and a flat base, 1.9m wide, 0.72m deep	Ditch, part of Group [G308]
157	Friable mid yellowish brown silt, 0.2m thick	Upper fill of [156]
158	Friable mid grey clayey silt with rare charcoal flecks, 0.72m thick	Lower fill of [156]
159	NE-SW aligned linear cut with steep concave sides and a flat base, at least 0.56m wide, 0.21m deep	Ditch, part of Group [G301]
160	Compact dark brownish grey silty clay, 0.21m thick	Fill of [159]
161	East-west aligned linear cut with moderately sloping concave sides and an irregular base, at least 0.65m wide, 0.53m deep	Ditch, part of Group [G309]
162	Friable mid greyish brown silty clay, 0.53m thick	Fill of [161]
163	Ovoid cut with gradual sloping sides and rounded base, 0.98 x 0.83m in plan, 0.15m deep	Pit
164	Friable mid to dark brownish grey sandy silt, 0.15m thick	Fill of [163]
165	Sub-circular cut with concave sides and rounded base, 0.3m by at least 0.4m in plan, 0.37m deep	Pit
166	Friable mid grey silt, 0.37m thick	Fill of [165]
167	Ovoid cut with moderately sloping irregular sides and rounded base, 1.33m wide, 0.3m deep	Pit
168	Friable light grey brown silt, 0.1m thick	Lower fill of [167]
169	Friable mid brown grey silt, 0.17m thick	Fill of [167]
170	Friable mid grey brown silt, 0.18m thick	Upper fill of [167]
171	North-south aligned linear cut with vertical sides and irregular base, at least 0.8m wide, 0.25m deep	Ditch, part of Group [G301]
172	Friable mid yellow brown sandy silt, 0.25m thick	Fill of [171]
173	East-west aligned linear cut with steep sides and irregular base, at least 0.83m wide, 0.41m deep	Ditch, part of Group [G303]
174	Friable mid yellow grey sandy silt, 0.41m hick	Fill of [173]
175	Linear cut with irregular sides and base, at least 0.65m wide, 0.15m deep	Ditch
176	Friable mid reddish brown sandy silt, 0.15m thick	Fill of [175]
177	Linear cut with moderately sloping, straight sides and irregular base, at least 0.34m wide, 0.16m deep	Ditch, part of Group [G303]
178	Compact mid brownish grey silty clay, 0.16m thick	Fill of [177]
179	Oval cut with moderate sloping sides and flat base, 2.7m x at least 1m in plan, 0.36m deep	Pit
180	Firm light grey sandy silt, 0.36m thick	Fill of [179]

181	Lens of firm mid blue brown sandy silt, 0.16m thick	Fill of [179]
182	Friable light grey brown silty sand, 0.3m thick	Fill of [179]
183	NE-SW aligned linear cut with gradual sloping sides and a broad rounded base, 1.4m wide, 0.52m deep	Ditch
184	Friable mid to dark brownish grey sandy silt with occasional charcoal, 0.52m thick	Fill of [183]
185	NW-SE aligned linear cut with slightly stepped sides and flat base, 2.14m wide, 0.49m deep	Ditch
186	Friable mid bluish grey sandy silt, 0.49m thick	Fill of [185]
187	NE-SW aligned linear cut with steep sides and narrow, rounded base, 0.48m wide, 0.41m deep	Ditch
188	Friable light yellowish grey sandy silt with occasional charcoal streaks, 0.41m thick	Fill of [187]
189	East-west aligned linear cut with vertical sides and uneven base, 1m wide, 0.33m deep	Ditch
190	Friable mottled mid reddish brown/mid greyish brown clayey silt with burnt black lenses and frequent ironpanning, 0.33m thick	Fill of [189]
191	North to south aligned linear cut with concave sides and rounded base, 0.66m wide, 0.11m deep	Ditch terminus
192	Friable light to mid brownish grey clayey silt with ironpanning crust to base, 0.11m thick	Fill of [191]
193	North-south aligned linear cut with steep sides and rounded base, 0.43m wide, 0.29m deep	Gully
194	Friable light to mid brownish grey clayey silt with moderate ironpanning, 0.29m thick	Fill of [193]
195	North-south aligned linear cut with steep sides and rounded base, 0.84m wide, 0.27m deep	Ditch, part of Group [G308]
196	Friable mid brownish grey clayey silt with occasional charcoal flecks, 0.27m thick	Fill of [195]
197	North-south aligned linear cut with concave sides and flat base, 0.7m wide, 0.37m deep	Ditch, part of Group [G307]
198	Friable light grey brown silt, 0.16m thick	Fill of [197]
199	NE-SW aligned linear cut with steep sides and irregular base, 0.62m wide, 0.26m deep	Ditch
200	Friable light grey brown sandy silt, 0.26m thick	Fill of [199]
201	SW-NE aligned linear cut with concave sides and flat base, at least 0.7m wide, 0.37m deep	Ditch
202	Friable mid grey brown clay silt, 0.13m thick	Fill of [201]
203	Friable light grey brown sandy silt with frequent ironpanning, 0.28m thick	Fill of [201]
204	NW-SE aligned linear cut with moderately sloping sides and irregular base, 2m wide, 0.42m deep	Ditch, part of Group [G302]
205	Friable light greyish brown sandy silt, 0.42m deep	Fill of [204]
206	Friable mid greyish brown sandy silt, 0.15m thick	Fill of [204]
207	East-west aligned linear cut with undulating sides and base, 1.27m wide, 0.31m deep	Ditch
208	Compact mid greyish brown clayey silt, 0.31m thick	Fill of [207]
209	Oval cut with concave sides and rounded base, 1.35m wide, 0.36m deep	Pit
210	Friable mid brownish grey sandy silt, 0.14m thick	Fill of [209]
211	Friable mid grey silt with occasional charcoal, 0.13m thick	Fill of [209]
212	Friable dark grey silt with charcoal, 0.1m thick	Fill of [209]
213	North-south aligned linear cut with moderate sloping sides and rounded base, 0.56m wide, 0.23m deep	Gully
214	Friable dark grey silt, 0.23m thick	Fill of [197]
215	North-south aligned linear cut with moderately sloping stepped sides and irregular base, at least 2m wide, 0.7m deep	Ditch
216	Firm light grey blue clay silt, 0.7m thick	Fill of [215]

217	Friable light grey brown sandy silt, 0.12m thick	Fill of [215]
218	North-south aligned linear cut with moderately sloping stepped sides and rounded base, 2.2m wide, 0.68m deep	Ditch
219	Firm light black blue clay silt, 0.22m thick, poss some briquetage	Lower fill of [218]
220	Firm mid blue grey clay silt with charcoal, 0.38m thick	Fill of [218]
221	Firm mid brown grey clay silt, 0.24m thick	Top fill of [218]
222	NE-SW aligned linear cut with slightly convex sides and broad, rounded base, at least 3.3m wide, 0.49m deep	Ditch
223	Sub-circular cut with concave sides and irregular base, 1.04m x 0.99m in plan, 0.27m deep	Pit
224	Friable light yellow brown sandy silt, 0.12m thick	Lower fill of [223]
225	Friable dark grey green clay silt, 0.11m thick	Fill of [223]
226	Friable dark grey brown sandy silt, 0.12m thick	Upper fill of [223]
227	Friable light grey brown silt, 0.25m thick	Fill of [213]
228	Friable mid greyish brown fine sandy silt, 0.1m thick	Lower alluvial fill of [222]
229	Friable mid greyish yellow sandy silt, 70mm thick	Alluvial fill of [222]
230	Friable mid greyish brown sandy silt, 60mm thick	Alluvial fill of [222]
231	Compact mid greyish brown silty clay, 80mm thick	Alluvial fill of [222]
232	Soft mid yellowish brown silty sand, 50mm thick	Alluvial fill of [222]
233	Compact mid to dark greyish brown silty clay, 70mm thick	Alluvial fill of [222]
234	Friable mid bluish green fine sandy silt, 70mm thick	Upper alluvial fill of [222]
235	Roughly north-south aligned linear cut with 40° straight sides and flat base, 0.5m deep	Ditch, part of Group [G308]
236	Friable mid brownish grey silt, 0.5m thick	Fill of [235]
237	NW-SE aligned linear cut with convex sides and flat base, 1m wide, 0.6m deep	Ditch-continuation of [215]
238	Friable mottled mid yellowish brown/mid brown silt with occasional charcoal flecks, 0.25m thick	Fill of [237]
239	NE-SW aligned linear cut with gently sloping sides and narrow base, 0.77m wide, 0.15m deep	Gully
240	Friable mid greyish yellow sandy silt, 0.15m thick	Fill of [239]
241	NW-SE aligned linear cut wit gradual sloping sides and broad base, 2.04m wide, 0.33m deep	Ditch, part of Group [G307]
242	Friable light bluish grey sandy silt with moderate iropanning, 60mm thick	Alluvial fill of [241]
243	Friable dark bluish grey clayey silt, 0.19m thick	Dumped fill of [241]
244	Friable mid greyish brown silt with occasional charcoal flecks, up to 0.23m thick	Top fill of [237]
245	Friable light brownish grey silt, 0.2m thick	Lower fill of [237]
246	East-west aligned linear cut with steep sides and a flat base, 0.78m wide, 0.31m deep	Ditch
247	Friable light grey brown silt, 0.31m thick	Fill of [246]
248	Curvilinear cut with concave sides and uneven base, 1.44m wide, 0.45m deep	Gully or small creek
249	Friable mid grey blue sandy silt, 0.45m deep	Fill of [248]
250	Firm mid yellow brown sandy silt, 0.35m thick	Lens fill of [248]
251	East-west aligned linear cut with steep, straight sides and a flat base, 0.82m wide, 0.2m deep	Ditch
252	Friable mid grey brown silt, 0.2m thick	Fill of [251]
253	North-south aligned cut with steep sides and rounded base, 0.67m wide, 0.24m deep	Gully
254	Friable mid grey sandy silt, 0.24m thick	Fill of [253]
255	NW-SE aligned linear cut with steep sides and uneven base, 0.7m wide, 0.31m deep	Ditch terminus, part of Group [G302]
256	Friable light grey blue sandy silt, 0.31m thick	Fill of [255]
257	East-west aligned linear cut with steep, slightly convex sides and flat base, 1.75m wide, 0.58m deep	Ditch, part of Group [G309]

258	Friable mid yellowish brown clayey silt, 0.34m thick	Upper fill of [257]
259	Friable mid brownish grey silt, 0.25m thick	Lower fill of [257]
260	NE-SW aligned linear cut with moderate 30°sides, 0.4m wide, 0.18m deep	Ditch, part of Group [G303]
261	Friable mottled mid grey/mid orangey brown silt, 0.18m thick	Fill of [260]
262	NE-SW aligned linear cut with moderately sloping straight sides and flat base. 0.92m wide, 0.27m deep	Ditch
263	Friable light grey brown silt with moderate ironpanning, 0.12m thick	Lower fill of [262]
264	Friable dark grey silt, 0.17m thick	Upper fill of [262]
265	NW-SE aligned linear cut with steep sides and flat base, 0.65m wide, 0.25m deep	Ditch
266	Firm mid grey brown clay silt, 0.25m thick	Fill of [265]
267	NW-SE aligned linear cut with steep sides and broad, even base, 2.04m wide, 0.51m deep	Ditch, part of Group [G307]
268	Friable light bluish grey sandy silt with occasional ironpanning, 0.28m thick	Alluvial fill of [267]
269	Friable dark bluish grey clayey silt with moderate charcoal, 0.31m thick	Dumped fill of [267]
270	East-west aligned linear cut with slightly concave sides and narrow base, 1.06m wide, 0.33m deep	Gully
271	Friable light greyish brown sandy silt, 0.33m thick	Fill of [270]
272	NW-SE aligned linear cut with steep sides and uneven base, 1.55m wide, 0.51m deep	Ditch, part of Group [G302]
273	Firm light brown grey clay silt, 0.51m thick	Fill of [272
274	East-west aligned linear cut with moderately sloping straight sides and rounded base, 0.95m wide, 0.32m deep	Ditch
275	Firm light grey blue silty clay, 0.32m thick	Fill of [274]
G301	Group number for ditch segments [028], [159], [171]	Ditch group number
G302	Group number for ditch segments [087], [064], [207], [272], [255]	Ditch group number
G303	Group number for ditch segments [177], [204], [173], [260]	Ditch group number
G304	Group number for ditch segments [061], [121], [089]	Ditch group number
G305	Group number for ditch segments [006], [057], [144]	Ditch group number
G306	Group number for ditch segments [025], [099], [126]	Gully group number
G307	Group number for ditch segments [013], [009], [052], [041], [103], [197], [267], [241], [183]	Ditch group number
G308	Group number for ditch segments [156], [235], [195], [073]	Ditch group number
G309	Group number for ditch segments [097], [124], [101], [161], [257]	Ditch group number

Appendix 2

THE FINDS

POST ROMAN POTTERY

By Jane Young and Johanna Gray

Introduction

A group of one hundred and twenty-three sherds of post-Roman pottery representing ninety-six vessels and weighing a total of 2.003kgs was examined for this report. The identifiable assemblage is of middle Saxon to Saxo-Norman type. The material was examined both visually and using a x20 binocular microscope. The fabric codenames (CNAME) of the City of Lincoln Archaeology Unit (Young et al 2005) were used for recording. The assemblage was quantified by four measures: number of sherds, vessel count, weight and Estimated RIM Equivalent (REVE) with the resulting archive being entered onto an Access database (Archive Table 1). Recording of the assemblage was in accordance with the guidelines laid out in Slowikowski, *et al.* (2001) and a Standard for Pottery Studies in Archaeology (2016) and complies with the Lincolnshire County Council's *Archaeological Handbook* (sections 13.4 and 13.5).

Condition

The pottery is mainly in a slightly abraded condition with sherd size varying from 1 gram to 146 grams. Several sherds have post-depositional organic and iron-rich concretions over surfaces and broken edges suggesting deposition in a waterlogged environment. The assemblage is in a stable condition.

The Range and Variety of Materials

In total one hundred and twenty-two sherds of post-Roman pottery representing ninety-five vessels and one sherd of uncertain Roman or late Saxon date were examined. The material was recovered from thirty-five deposits. Eighteen identifiable post-Roman pottery ware types were identified; the type and general date range for these fabrics are shown in Table 1.

Table 1, *Ceramic types with total quantities by sherd, vessel count, weight in grams and REVE*

Codename	Full name	Earliest date	Latest date	Total sherds	Total vessels	Total weight	REVE
EST	Early Stamford ware	870	1010	36	31	500	1.11
IPS	Ipswich-type ware	730	850	15	8	378	0.31
LKT	Lincoln kiln-type shelly ware	850	1000	16	13	285	0.42
LSH	Lincoln shelly ware	850	1000	5	3	97	0
LSX	Non-local late Saxon fabrics	870	1080	2	2	12	0
MAXQ	South Lincolnshire Maxey-type ware	670	800	1	1	10	0
MLSAX	Mid or late Saxon	750	1000	1	1	78	0
MSAXLOC	Local middle Saxon fabrics	700	850	2	1	11	0
RLSAX	Roman or Late Saxon	50	1000	1	1	1	0
RMAX	Southern Maxey-type ware	650	950	2	2	79	0
SLSNT	South Lincolnshire St. Neots-type	980	1100	4	2	48	0
SNEOT	St Neots-type ware	870	1200	4	4	43	0.19
ST	Stamford Ware	970	1200	3	3	22	0
STAMT	Stamford-type variants	950	1150	1	1	1	0
THETT	Thetford-type fabrics	880	1150	7	7	246	0.26
TORK	Torksey ware	850	1100	1	1	4	0

WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	900	1030	7	5	49	0
WLSS	Wheelthrown Late Saxon Shell-tempered	900	1030	13	8	130	0
WLSSQ	Wheelthrown Late Saxon Shell & Quartz-tempered (Lincoln Type)	900	1030	2	2	9	0
Totals				**123**	**96**	**2003**	**2.29**

Uncertain

A single tiny reduced shell-tempered sherd covered in concretions is of Roman or possible late 9th to 11th century date (RLSAX). The sherd, which was recovered during sampling of fill (090) of watercourse [089], appears to be from a small vessel, possibly a jar or bowl.

Middle Saxon

Twenty sherds representing twelve vessels are of middle Saxon date. Additionally a sherd in a fine reduced sandy fabric is of middle or late Saxon date (MLSAX.). A body sherd from a jar or bowl with an external carbonised deposit is most probably of Southern Lincolnshire Maxey-type ware (MAXQ). The sherd is in a fairly fresh condition but the thick carbonised deposit masks the external fabric making positive identification uncertain. Even if this sherd is of Sothern Maxey-type the most likely date for the vessel would still be between the 8th and early 9th centuries. Two sherds of Southern Maxey-type ware (RMAX) are from a large jar and a large jar or bowl. Two other fossil shell-tempered sherds are from a jar of probable local type (MSAXLOC). The mixed shell inclusions and general manufacture of the jar are outside of the densely shell-tempered Maxey-type traditions. A date between the 8th and mid 9th centuries is likely for this jar which has an internal carbonised deposit.

Fifteen sherds from eight vessels are of Ipswich ware type (IPS). The vessels appear at x20 magnification to fit with typical Ipswich ware Fabrics 1 or 2 as defined by Blinkhorn (2012) and are thus dateable to between the mid 8th and mid 9th centuries. Blinkhorn's survey concluded that the type was solely made in Ipswich and that he found no evidence for production elsewhere (ibid, 25), but more recently a kiln producing Ipswich-type vessels of potential 8th to 10th century date has been discovered at Wrenningham in Norfolk (Sudds 2016). It is possible that other centres producing Ipswich-type vessels remain to be found. The Ipswich ware sherds come from three large, two medium and one small-sized jars, a possible pitcher with a burnished external surface and a jar or bowl.

A large fresh fragment from a large rounded dish in a fine reduced sandy fabric may be of middle or late Saxon type (MLSAX). No parallel can be found for this very unusual form and the fabric although similar to a fine Ipswich ware does not exactly match it. The vessel could potentially be an Ipswich or Ipswich-type product of middle or late Saxon mid 8th to 10th century date or even a continental import of similar date. The vessel is wheel-thrown, has a smoothed and partially knife trimmed internal surface and diagonal wipe marks externally. The rim is of slightly in-turned simple rounded shape and there are several slightly burnished horizontal bands possibly for decorative purposes externally.

Late Saxon

Eighty-three sherds from sixty-six vessels are of late Saxon type. Most of these sherds (36 sherds from 31 vessels) are in Early Stamford ware Fabrics A or A/D (EST) and date to between the late 9th and early 11th centuries. Further to the work on Stamford ware by Kilmurray (1980), Leach (1987) divided the industry into three main phases: Early Stamford ware (Fabrics E/F, H, D and early A); a fineware period (ST) represented by Fabrics A, B, G and some vessels in C and a developed phase (DST) often having a copper-rich glaze (Fabrics B and C). Stamford ware fabrics are not always clear-cut, as they appear to form a continuum and are often best described as a mix of two fabrics. The early phase (EST) can be divided into three parts:

1. Fabrics E and F as found at the Castle kiln – the earliest type potentially dating to between the mid and late 9th centuries and including red-painted vessels.

2. Fabric H as found at the Castle kiln – also early but may only have been a single production.

3. Fabric D, A/D and early A – found in mainly late 9th to 10th century deposits in Lincoln (Young et al 2005) and York (Mainman 1990), but also extending into the earlier part of the 11th century and including high quality glazed vessels, lamps and crucibles

The thirty-one Early Stamford ware vessels recovered from this site are with one exception unglazed and fall within the third group listed above (Fabrics A/D and early A). All the closely identifiable unglazed forms are small, medium or large-sized jars or bowls but a tiny rim sherd may come from a miniature jar or bowl. One bowl and two of the jars have roller-stamped decoration on the shoulder of the vessel otherwise the vessels are undecorated. A glazed handle sherd in Fabric A/D is from a pitcher. A tiny sherd from a small vessel in an oxidised fabric is of Stamford type (STAMT) but possibly not Stamford manufacture. The fabric which is coarser than, but similar to a Stamford Fabric A/G mix suggests a late Saxon date.

Sixteen sherds are from thirteen Lincoln Kiln Type vessels (LKT). This ware was produced at several sites in Lincoln between the mid/late 9th and late 10th centuries (Young 1989 and Young et al 2005). Most of the sherds can be identified as coming from jars or bowls but two basal sherds are from a cup or miniature jar form. The two sherds have been listed as individual vessels as visually they do not appear to be from the same vessel, but as they are so similar in manufacture and both have internal wear marks it remains possibly a single vessel is represented. Five sherds are from three Lincoln Late Saxon Shell-tempered ware (LSH) vessels in light firing Fabric E. The only identifiable form is a large jar. Most vessels in this fabric pre-date the mid 10th century.

Thirteen further wheel-thrown shell-tempered sherds from eight vessels of late 9th to 10th century Lincoln type are in unidentified shell-tempered fabrics (WLSS). Similar vessels in different fabrics are found on several 10th century sites in East Lincolnshire. Identifiable forms are small, medium and large-sized jars. Two further sherds are in similar fabrics with addition of visible grains of quartz sand (WLSSQ). These sherds are from jars or bowls of similar date.

A small number of vessels are in quartz-tempered fabrics, but only one industry can readily be identified. The small sherd covered in concretions is from a Torksey ware (TORK) jar or bowl of potential late 9th to early/mid 11th century date. Seven sherds are from five wheel-thrown vessels in a range of reduced quartz-tempered fabrics (WLSG). Two medium and one large-sized jar are the only forms identifiable. The production sites for these vessels are unknown but they are all of Lincoln type and are likely to date to between the late 9th and mid 11th centuries. Two further wheel-thrown quartz-tempered sherds are probably regional imports (LSX) of similar date.

Saxo-Norman

Eighteen sherd representing sixteen vessels are of Saxo-Norman type, but probable pre-conquest date. Three glazed Saxo-Norman-type Stamford ware sherds (ST) recovered come from a small jar or pitcher of late 10th to early/mid 11th century type in Fabric A and two medium-sized jars or pitchers of probable early to early/mid 11th century date in Fabric G.

Four sherds are from three jars and an unknown form in fossil shell-tempered St Neots ware (SNEOT). The Punctate Brachiopod suggests a possible Cambridgeshire source. Four other sherds are from two South Lincolnshire St Neots-type jars (SLSNT). The two types are most likely to date to between the 10th and pre-conquest mid 11th centuries.

Seven sherds in reduced sandy fabrics are of Thetford ware type (THETT). The seven vessels potentially date to between the late 9th and pre-conquest mid 11th centuries and include three large pitchers or storage jars of which two are decorated with applied pressed strips. Also identifiable is a pitcher handle and a medium-sized jar. Two of the vessels are light firing and may not be products of kilns in Thetford itself.

The Site Sequence

The recovered pottery came from thirty-five deposits spread across the excavation. The pottery is discussed here, where possible, in blocks using a matrix supplied in January 2022. Only two deposits (fill (090) of watercourse [089] and fill (123) of ditch [121]) produced more than ten sherds.

Phase 2A

Six sherds from a single middle Saxon jar of mid 8th to mid 9th century date with a ridged shoulder were retrieved from fill (079) of gully [078].

Fill (194) of ditch segment [193] contained a single sherd from a large Ipswich-type ware jar of potential mid 8th to mid 9th century date.

Fill (238) in ditch segment [237] contained two sherds from Early Stamford ware jars of !0th to early/mid 11th century date.

Phase 2B

Two sherds of shell-tempered Lincoln Kiln-type pottery from jars or bowls of late 9th to 10th century date were recovered from fill (018) of ditch [017].

Gully [039] (fill 040) produced three tiny sherds from a single small Lincoln Shelly ware vessel of late 9th to 10th century date.

A single sherd from a large Wheel-thrown Shell-tempered ware jar of potential late 9th to 10th century date was recovered from fill (030) of ditch [028].

Four sherds of middle Saxon pottery were recovered from lower fill (219) of ditch [218]. Three of the sherds are of Ipswich-type ware and come from a small jar, a pitcher and a jar or bowl of potential mid 8th to mid 9th century date. The other sherd is of South Lincolnshire Maxey-type and comes from a jar or bowl of 8th to early 9th century date. If the four vessels are contemporary, a date between the mid 8th and early 9th centuries is suggested.

Fill (186) of ditch [185] produced two sherds from a single large Lincoln Kiln-type bowl of early/mid to late 10th century type and two basal sherds from a Wheel-thrown shell-tempered ware jar or bowl of potential late 9th to 10th century date.

Phase 2C

An upper fill (deposit 070) of ditch segment [061] produced a single small sherd from a late 9th to 10th century Lincoln Kiln-type jar or bowl.

Fill (123) of watercourse segment [121] contained twelve sherds from eleven vessels of late Saxon and Saxo-Norman type. Four Early Stamford ware sherds in Fabric A are from a jar, a bowl and a jar or bowl. The jar and bowl are decorated with roller-stamping. A small sherd of late 9th to probable mid 10th century date is from a

Lincoln Shelly ware jar or bowl in Fabric E. A second shell-tempered sherd is from a Wheel-thrown Shell-tempered jar. A rare occurrence in the area is a sherd from a Torksey ware jar or bowl. This group is unusual in that despite the limited number of vessels present five Thetford-type ware vessels are present. Three of the vessels are large pitchers or storage jars of which two are decorated with applied thumb-pressed strips. These vessels were probably used to transport food or drink commodities from East Anglia and as with these vessels are most commonly found with internal attrition due to a reaction with the contents. The other sherds are from a small jar or bowl and a pitcher. The unusual composition of this group suggests a 10th century date.

The largest group of pottery to be recovered from the site came from fill (090) of watercourse [089]. The twenty-four recovered sherds come from nineteen vessels of late Saxon or Saxo-Norman type and a small shell-tempered sherd of late Saxon or Roman date. The eight Early Stamford ware sherds come from five unglazed jars of small, medium and large size, a large bowl and a glazed pitcher. The presence of a lid-seated jar rim and three vessels in Fabric A/D suggest that these vessels probably date to the 10th century. Three 10th century Lincoln Kiln-type sherds come from two 10th century vessels including a spouted bowl. Three other shell-tempered sherds come from a St Neots ware jar and two Wheel-thrown Shell-tempered ware vessels. Two further sherds are from Wheel-thrown Shell and Quartz-tempered ware jars or bowls. A small body sherd with internal attrition is from a Thetford ware jar, bowl or pitcher. Six reduced quartz-tempered sherds are from four Lincoln-type Wheel-thrown Greyware vessels of unknown origin. Each vessel is in a different fabric of Lincolnshire or regional origin and probable 10th to early/mid 11th century date. Some, but not all, of the sherds have typical concretions often found on pottery recovered from waterlain deposits. There is no way of determining if this group is contemporary or was deposited over a period of time. It does however fit into the period between the mid/late 10th and early/mid 11th centuries.

A single sherd from a Lincoln Kiln-type bowl of mid/late 9th to mid 10th century date was recovered from fill (007) of ditch segment [006]. The bowl has extensively been used as there is a wear mark around the inner rim edge and there are external and part internal soot residues.

Ditch segment [057] (fill 058) contained a sherd from an Early Stamford ware jar of 10th to early/mid 11th century date in Fabric A and segment [144] produced twelve sherds from ten vessels found in two fills (fills 145 and 146). Fill (145) contained a single sherd from a small Stamford ware glazed jar or pitcher of late 10th to early/mid 11th century date. The nine vessels found in fill (146) comprise unglazed Early Stamford ware (EST) and Stamford-type vessels (STAMT), shell-tempered jars (SLSNT) and a wheel-thrown Late Saxon Greyware jar. The Early Stamford ware vessels include two small and one medium-sized jars and a sherd from a miniature jar or cup. The Stamford-type ware sherd is from a small vessel. This group most probably dates to between the late 10th and early 11th centuries.

Pit, or ditch terminal, [147] produced twelve sherds from eight vessels found in four fills (148, 150, 152 and 153). A small reduced quartz-tempered sherd is from a jar whilst the other sherds are from shell-tempered vessels (LKT, SNEOT and WLSS). Two basal Lincoln Kiln-type sherds of 10th century date (found in the lowest fills 148 and 150) are from one or two miniature jars or cups. The latest sherds in this group date to between the late 10th and early/mid 11th centuries.

Two sherds from a single large jar or bowl in Early Stamford ware Fabric A were recovered from fill (108) of pit [109]. The flanged rim suggests that the unglazed vessel is of 10th to early/mid 11th century date.

Five sherds from three vessels of Early Stamford ware and one of Saxo-Norman Stamford ware type were recovered from fill (026) of gully [025]. The two small unglazed Early Stamford ware jars and Type 12 bowl are in Fabric A whereas the Stamford ware sherd is from a glazed jar or pitcher in Fabric G. Currently the earliest considered date for vessels in Fabric G is the earlier part of the 11th century. The three Early Stamford ware vessels are most likely to date to between the 10th and early/mid 11th centuries. If all four vessels are

contemporaneous they belong to the early part of the 11th century otherwise the Fabric G vessel is of pre-conquest 11th century type.

Gully segment fill (111) of ditch [110] produced a single rim sherd from an Ipswich-type ware jar of mid 8th to mid 9th century date.

A single basal sherd from a small Early Stamford ware jar of 10th to early/mid 11th century date was recovered from fill (014) of ditch [013]. A small sherd from a glazed Stamford ware jar or pitcher of pre-conquest 11th century date was recovered from fill (053) of gully [052]. Fill (009) of ditch [010] produced five sherds from three small jars of Early Stamford ware type and one in a Wheel-thrown Late Saxon Shell-tempered fabric. The sherds are of probable late 10th to early 11th century date.

Fill (104) of ditch [103] produced a single sherd from a large Early Stamford ware jar or bowl of similar date.

A sherd from a large Lincoln Shelly ware jar of late 9th to mid 10th century date was found in fill (106) of pit [105] cutting ditch [103].

Fill (214) listed as an upper fill of ditch [197] produced a single sherd from a large middle Saxon Ipswich-type ware jar of mid 8th to mid 9th century date. Lower fill (198) contained four sherds from a small unglazed jar, a further jar and two jars or bowls, all in Early Stamford ware Fabric A and of 10th to early/mid 11th century date.

Fill (269) of ditch [267] contained four Lincoln Kiln-type ware sherds from two medium and one large-sized jars of probable late 9th to mid 10th century date. Also in this fill is a sizeable fairly fresh fragment from a large rounded dish in a fine reduced fabric (MLSAX). The vessel is of high quality and cannot easily be paralleled in known middle or late Saxon industries, although the form and manufacture suggest a 8th to 10th century date and possible continental source.

Two Early Stamford ware sherds found in fill (236) of ditch [235] are from jars. The folded rim of one jar suggests a late 10th to early/mid 11th century date. A single sherd from a late 9th to 10th century Lincoln Kiln-type jar was recovered from fill (263) of ditch [262].

Phase 3

Fill (125) of ditch [124] contained two quartz-tempered sherds produced at unknown regional centres from a jar or bowl and a small vessel of potential late 9th to mid 11th century date.

A single shell-tempered sherd of local middle Saxon type was recovered from fill (102) of ditch [101]. The vessel is of potential 8th to mid 9th century date.

Summary and Recommendations

This is a small but important group of pottery indicating middle and late Saxon activity in the local area. Unfortunately the lack of stratified sequences and small groups recovered preclude forming a tight chronological sequence for this activity. Few groups occur in the local area with which to directly compare this assemblage so the conclusions tendered here are tentative.

The middle Saxon pottery recovered from the site suggests occupation between the 8th and mid 9th centuries with the eight Ipswich ware vessels indicating a post-mid 8th century date. Even in such a small group the high proportion of Ipswich ware vessels seems unusual, although given the proximity of Holbeach to the coast with easy access to the type, it precludes using this as a status indicator. What is more pertinent to the possible status

of occupation in the local area is the presence of what appears to be a sherd from a heavily burnished pitcher sherd indicating consumption of wine.

For such a small assemblage a wide range of late 9th to early/mid 11th century pottery ware types were recovered from the site. Few vessels were in themselves chronologically distinct and most ware types are in production for at least 100 years. It is possibly to say however that vessels of late 9th to mid 10th, early/mid to late 10th and late 10th to early/mid 11th century date are present in the assemblage suggesting several generations of occupation. The recovered late Saxon assemblage from this site is entirely domestic in character with no evidence for industrial use of ceramics. What is different in this assemblage, are glimpses of possible higher status occupation. Certainly the unidentified dish found in ditch (267) is of high quality. Other indications are the presence of Early Stamford ware and Thetford ware pitchers and miniature jars or cups in Early Stamford ware and Lincoln Kiln-type ware. There are too few groups of this period in the local area to use the wide variety of ware types as a status or site function indicator especially given the easy access of Holbeach to coastal trade.

Several vessels recovered from this site should be included in any study of late Saxon pottery in Lincolnshire in order to characterise production areas in the County.

One vessel has been added to the County Fabric Type Series. The remaining assemblage should be retained for future study.

CERAMIC BUILDING MATERIAL

By Jane Young and Johanna Gray

Introduction

Twenty-seven fragments of fired clay and a fragment of modern land drain weighing a total of 0.398 kgs. were submitted for examination. The fragments were examined under a x20 binocular microscope and then recorded at archive level by type in accordance with the Medieval Pottery Research Group's (Slowikowski 2001) and Archaeological Ceramic Building Materials Group (2001) Guidelines and complying with the Lincolnshire County Council's *Archaeological Handbook* (sections 13.4 and 13.5). The resulting archive was recorded on an Access database (Archive Table 2).

Condition

All of the recovered material is in an abraded to very abraded, mainly stable, condition. The collection ranges from tiny scraps weighing below 1gram to the largest piece at 137grams.

The Range and Variety of Materials

A single fragment found in fill (081) of land drain cut [080] is the only piece of dateable ceramic building material to be recovered. The basal piece comes from an extruded land drain of late 19th to 20th century date. All other fragments submitted for examination are fired clay in mainly micaceous and silty fabrics. The majority of pieces are either abraded or much abraded featureless lumps or flakes, however a small number exhibit attributes that may tentatively suggest their original form or function. These fragments include nine pieces from three original objects that suggest an industrial use (INDUS), a possible piece of daub and salt-working association including a potential briquetage clip.

The Site Sequence
The recovered material was found in eleven deposits across the site with no deposit producing more than ten fragments. The assemblage is discussed here, where possible, in blocks using a matrix supplied in January 2022 and was revised at the end of March using an early site text.

Phase 2A
Fill (192) of gully terminus [191] produced a single featureless flake of fired clay. A small and very abraded piece of fired clay was recovered from fill (189) of gully segment [190]. The piece has been pulled or formed by hand into a shape similar to that of a briquetage clip.
Fill (194) of gully [193] contained a single featureless fragment of fired clay. The surfaces are vegetal marked and partially salt-bleach possibly suggesting association with salt working.
Fill (238) of ditch segment [237] contained two abraded fragments of fired clay from the same original object. The pieces have a slightly smoothed upper surface but no further evidence for form or function.

Phase 2B
Ten fragments of fired clay from two original objects were recovered from lower fill (219) of ditch [218]. Three very abraded featureless lumps come from the same original object. The other seven pieces are abraded flakes with surface bleaching similar to that found on Saxon moulds or crucibles due to heat reduction from the molten metal. There are possible impressions on one surface but the condition of the flakes prevents definite identification.
Pit [209] (fill 211) contained five fragments of fired clay from two original objects. One piece is a curved flake whilst the other four much abraded fragment may represent daub with a c.25mm wattle impression.
Fill (230) of ditch segment [222] produced a tiny featureless flake of fired clay.

Phase 2C
Four fragments of fired clay were recovered from fill (090) of watercourse [089]. The smallest piece weighs 1gram and is a much abraded formless lump. Another much abraded fragment forms a thin slab of 35mm thickness. The object appears to have been formed by pressing the clay onto bare earth and has a possible stick impression on the upper surface. The fabric contains abundant organic voids. There is no evidence for excessive exposure to heat or traces of slag. Two separate fragments consist of a thick vesicular glassy slag backed and fused to by a thin clay layer. The smaller piece has no further evidence for function, but the large one has evidence for an aperture of c.20mm diameter, possibly to accommodate a tuyere.
Ditch segment [144] (fill 146) produced a small and very abraded 6mm thick fragment of fired clay with two parallel flat vegetal marked surfaces. This piece potentially could come from a briquetage, or less possibly, Prehistoric vessel.
A small and very abraded featureless lump with some salt-bleaching was recovered from fill (196) of ditch segment [195].

Summary
The potential of the recovered fragments to provide evidence for form or function was considerably hampered by their poor condition and small size. There are hints of possible industrial and salt-working activity in the vicinity of the site.

Some small, featureless and unstable fragments have been discarded. The remaining material will need careful packaging but should be retained.

SLAG AND INDUSTRIAL RESIDUES

By Charles Simpson BSc (Hons), MA.

Introduction

Eight fragments of slag, weighing 77g, recovered during archaeological trenching at Fen Road, Holbeach, were submitted for analysis and reporting. There was provisional dating evidence available at the time of writing from ceramics evidence. The material was recorded in April 2022.

Methodology

The fragments were cleaned of surface debris, measured, weighed and macroscopically examined to identify diagnostic material and features. Exceptionally encrusted fragments were washed and dried in line with recommendations from Dungworth (pers.comm.) to reveal diagnostic surface features if present.

Full reference was made to published slag guides (Crew, 1995 & 1996; Dungworth et. al., 2012a, b & c; Historic England, 2015 & 2018; HMS, 2009; Tylecote, 1990) and reference material.

Results

A summary of the assemblage is recorded below in Table 3 below.

Context No.	Material	Date	No. Pieces	Mass (g)	Comments
090	blm	Sax	8	77	Moderately dense, mildly-vesicular, non-magnetic, grey and tan furnace slag.

Key

furn = furnace slag (undiag.) pio = possible iron object tap = tap slag fas = fuel ash slag

shb = smithing hearth bottom pcb = plano-convex bottom blm = bloomery slag lin = furnace lining

(f_n) = fractured into multiple pieces irnb = iron bloom ore = metal working ore cru = crucible

Rm = Roman (RB = Romano British) med = medieval pm = post medieval mod = modern

Discussion

The assemblage was small in terms of overall numbers of fragments (8).

The fragments from context (090) consisted of one large, two small and five tiny fragments. The largest of these slag fragments weighed 66g with the other seven fragments distributed within the remaining 11g.

The large fragment showed some interesting differentiation in terms of structure. Comprised of two distinct layers, bounded by a thin light coloured meridian. The base layer is crystalline, non-vesicular and mid grey in colour. It likely cooled slightly outside the furnace before the next layer flowed over the top of it. The upper layer is slightly darker, moderately vesicular and whilst it does not take the traditional diagnostic form of a 'run' of cooled slag (a prill), it does display evidence of flow across a surface and would tie the origin of this piece of slag to a tapping furnace. All of the fragments are non-magnetic.

With regard to the other smaller pieces, given the same colour and macro features, it is highly likely they were produced in the same event.

The shape and lack of visible abrasion (and fresh clean breaks/edges) on the slag fragments recovered suggests they have not travelled far once deposition occurred.

The use of tapping bloomery furnaces, from which these fragments likely originated, were most common in British late iron age and the Roman period falling into decline in favour of non-tapping furnaces until around the 9th-10th century when they rose in favour once more (Historic England, 2018). This places the likely date of this material in the late Saxon / early medieval and ties in with other dating evidence.

This may be further supported by more accurate dating of the fragments using techniques such as sectioning and via XRD / XRF analysis.

Recommendations
No further work is recommended at this stage. The fragments of slag need not be retained as part of the archive unless desired and may be discarded.

Any environmental samples taken from the features or deposits that produced slags, should be scanned for small fragments of metalworking debris such as hammerscale, which may indicate any associated industrial activity in the vicinity and provide further details of casting or smithing occurring in the vicinity.

Should further investigations be undertaken at any of the monitored locations, it would be advisable to seek appropriate advice on any sampling strategies.

OTHER FINDS
By Denise Buckley

Introduction
A total of fifteen other finds, together weighing 1049g, were recovered during archaeological investigations at Fen Road, Holbeach. The material was recorded in October 2021.

Condition
The other finds are in stable condition, although the nail is heavily encrusted.

Results
Table 4, Other Materials

Cxt	Material	Description	NoF	W (g)	Date
070	Stone	Unworked stone; burnt. Discard.	1	490	
090	Charcoal	Discard.	1	1.8	
	Iron	Concretion. Discard.	1	482	
	Burnt silt	Discard.	1	60	
102	Charcoal	Discard.	1	<1	
145	Charcoal	Discard.	2	2	
146	Iron	Nail. Heavily encrusted. Discard.	1	5.4	
150	Charcoal	Discard.	1	1.1	
152	Charcoal	Discard.	1	1.9	
153	Stone	Unworked limestone; burnt. Discard.	1	729	
216	Stone	Unworked stone; burnt. Discard.	1	13	
238	Stone	Unworked stone; heavily burnt. Discard.	1	85	
243	Stone	Coarse sandstone; burnt; smooth on underside. Potential quernstone.	1	206	

249	Charcoal		1	5.6	
Total			15	1049	

Provenance
The other finds were retrieved from (070) the top fill of broad ditch [061], (090) the lower fill of watercourse [089], (102) the fill of ditch [101], fills (145 and 146) in ditch [144], fills (150, 152 and 153) in pit or ditch terminus [147], (216) the fill of ditch [215], (238) the fill of ditch [237] (which is a continuation of [215]), dumped fill (243) in ditch [241], and (249) the fill of gully or small creek [248].

Summary and Recommendations
Six pieces of charcoal were retrieved. As they are single pieces from individual features (mostly ditch fills) with no other finds (except 090), they are of no further potential and can be discarded.

Five pieces of burnt stone were retrieved, also from individual features, mostly ditch fills. All are unworked, although the piece from (243) is possibly part of a quern stone. This piece should be retained. The others can be discarded.

One piece of iron concretion was recovered from (090), the lower fill of a watercourse [089]. It can be discarded.

A heavily encrusted small nail came from ditch fill (146). As the only other finds from this context date to the 9th to 11th century, the nail should be retained.

The burnt stones and charcoal indicate fires / burning took place on the site.

ABBREVIATIONS

ACBMG	Archaeological Ceramic Building Materials Group
BS	Body sherd
CBM	Ceramic Building Material
CXT	Context
LHJ	Lower Handle Join
NoF	Number of Fragments
NoS	Number of sherds
NoV	Number of vessels
PCRG	Prehistoric Ceramic Research Group
TR	Trench
UHJ	Upper Handle Join
W (g)	Weight (grams)

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ARCHIVE CATALOGUES

Archive catalogue 1, Post Roman Pottery

cxt	cname	full name	sub fabric	form type	No S	No V	W (g)	decoration	part	Sample no	description	rim diam	rim EVE
010	EST	Early Stamford ware	Fabric A	small jar	2	1	21		rim & BS		folded everted rim; post-firing cut marks on rim; ext soot & int rim	12	17
010	EST	Early Stamford ware	Fabric A	small jar	1	1	1		base		spalled int surface; soot/burnt	0	0
010	EST	Early Stamford ware	Fabric A	small jar	1	1	14		BS		soot ext ?;fe concretions	0	0
014	EST	Early Stamford ware	Fabric A	small jar	1	1	9		base			0	0
026	EST	Early Stamford ware	Fabric A	bowl; Type 12	2	1	16		rim & BS		flanged rim	18	12
026	EST	Early Stamford ware	Fabric A	small jar	1	1	3		BS		burnt incl break	0	0
026	EST	Early Stamford ware	Fabric A	small jar	1	1	5		BS		soot ext & breaks	0	0
058	EST	Early Stamford ware	Fabric A	jar	1	1	14		BS		reduced; fingerprint in ext surface; soot part ext & int	0	0
090	EST	Early Stamford ware	Fabric A / D	pitcher	1	1	7		handle		glaze; lower handle join pressing	0	0
090	EST	Early Stamford ware	Fabric A	jar	1	1	80	diamond roller stamping on shoulder	rim		hollow everted rim; ext & part int soot	14	30
090	EST	Early Stamford ware	Fabric A	small jar	1	1	3		BS		int soot	0	0
090	EST	Early Stamford ware	Fabric A	small jar	1	1	4		BS			0	0
090	EST	Early Stamford ware	Fabric A	large bowl	2	1	48		rim & BS		flanged rim	26	13
090	EST	Early Stamford ware	Fabric A / D	large jar	1	1	34		BS		dirty fabric; int & ext soot; burnt; concretions	0	0
090	EST	Early Stamford ware	Fabric A / D	large jar	1	1	17		BS		int burnt/soot; concretions	0	0
104	EST	Early Stamford ware	Fabric A + fe	large jar / bowl	1	1	24		BS		concretions incl breaks	0	0
108	EST	Early Stamford ware	Fabric A	large jar / bowl	2	1	31		rim & BS		flanged rim; soot on ext rim edge	26	8
123	EST	Early Stamford ware	Fabric A	jar	1	1	7	faint ?? Roller stamping on shoulder	BS		line of finger nail impressions below stamping	0	0
123	EST	Early Stamford ware	Fabric A	bowl	2	1	48	Rectangular roller stamping on rim top	rim & base		flanged rim; soot on ext rim underside; concretions incl breaks	22	8
123	EST	Early Stamford ware	Fabric A	Jar / bowl	1	1	12		base		concretions	0	0
146	EST	Early Stamford ware	Fabric A / D	Jar?	1	1	30		BS		dirty fabric; slightly ribbed body; ext carbonised deposit	0	0
146	EST	Early Stamford ware	Fabric A	small vessel	1	1	1		Base		concretions incl breaks	0	0
146	EST	Early Stamford ware	Fabric A	miniature jar / cup ? Jar	1	1	1		Rim	Sample 04		8	5
146	EST	Early Stamford ware	Fabric A	small jar	1	1	4		BS	Sample 04	ext soot patches; concretions	0	0
146	EST	Early Stamford ware	Fabric A	small jar	1	1	7		BS	Sample 04		0	0
198	EST	Early Stamford ware	Fabric A	small jar	1	1	6		BS			0	0
198	EST	Early Stamford ware	Fabric A	jar	1	1	24		rim		hollow everted rim;soot on int & ext rim; concretions incl breaks	15	10
198	EST	Early Stamford ware	Fabric A	Jar / bowl	1	1	3		BS		ext soot	0	0

198	EST	Early Stamford ware	Fabric A	Jar / bowl	1	1	5		BS		ext soot	0	0
236	EST	Early Stamford ware	Fabric A	jar ?	1	1	10		base		soot ext on walls; internal deposit	0	0
236	EST	Early Stamford ware	Fabric A	jar	1	1	11		rim		folded rim; soot on int rim	16	8
081	IPS	Ipswich-type ware	Fine / sandy (Group 1/2)	jar	8	1	62		rim & BS		? ID or IPST; ridged shoulder; fabric incl greensand; slightly out-turned rim with sharp edge; fabric incl greensand; ext carbonised deposit	13	25
111	IPS	Ipswich-type ware	Fine (Group 1)	jar	1	1	6		rim		? ID or IPST; slightly out-turned rim	14	6
194	IPS	Ipswich-type ware	Fine / sandy (Group 1/2)	large jar	1	1	44		BS		slightly polished ext surface; concretions incl breaks	0	0
214	IPS	Ipswich-type ware	Fine (Group 1)	large jar	1	1	22		base		wear around basal edge	0	0
219	IPS	Ipswich-type ware	Fine (Group 1)	small jar	1	1	87		base		smoothed ext surface; fresh condition; concretions incl breaks	0	0
219	IPS	Ipswich-type ware	Fine (Group 1)	jar/bowl	1	1	16		BS			0	0
219	IPS	Ipswich-type ware	Fine / sandy (Group 1/2)	pitcher ?	1	1	75		BS		burnished ext surface; smoothed int surface; high % fe incl slag in fabric; concretions incl breaks	0	0
238	IPS	Ipswich-type ware	Fine (Group 1)	large jar	1	1	66		BS		ext burnishing & smoothing; burnt ?	0	0
007	LKT	Lincoln kiln-type shelly ware		bowl	1	1	54		rim		EVER12;mid/late 9th to mid 10th;wear on rim edge; soot ext & part int;concretions incl breaks	26	8
018	LKT	Lincoln kiln-type shelly ware		large jar / bowl	1	1	19		BS		concretions	0	0
018	LKT	Lincoln kiln-type shelly ware		Jar / bowl	1	1	7		BS		fe conccretions; spalling	0	0
070	LKT	Lincoln kiln-type shelly ware		Jar / bowl	1	1	7		BS		concretions incl breaks	0	0
090	LKT	Lincoln kiln-type shelly ware		?	1	1	1		BS	Sample 02		0	0
090	LKT	Lincoln kiln-type shelly ware		spouted bowl	2	1	53		spout & BS		int thick carbonised deposit on int spout; ext soot;concretions	0	0
148	LKT	Lincoln kiln-type shelly ware		miniature jar / cup	1	1	14		base		poss same vessel in 150;flat base; odd basal finishing; fresh break no joining sherds ;int wear ?	0	0
150	LKT	Lincoln kiln-type shelly ware		miniature jar / cup	1	1	3		base		poss same vessel in 148;flat base; odd basal finishing; fresh break no joining sherds; int wear ?	0	0
186	LKT	Lincoln kiln-type shelly ware		large in-turned rim bowl	2	1	28		rim		INT 1 rim;;concretions incl breaks	24	5
263	LKT	Lincoln kiln-type shelly ware		jar	1	1	8		BS		ext smoothed surface; slighly leached int surface	0	0

269	LKT	Lincoln kiln-type shelly ware		large jar	1	1	48	diamond roller stamping on ??	rim		late 9th to mid 10th;EVERA1 rim; soot	18	15
269	LKT	Lincoln kiln-type shelly ware		jar	1	1	33		rim		EVERA3 rim; late 9th to mid 10th;soot over rim; concretions incl breaks	14	14
269	LKT	Lincoln kiln-type shelly ware		jar	2	1	10		base & BS	incl Sample 07	flakes; well finished ext surface	0	0
040	LSH	Lincoln shelly ware	Fabric E	small vessel	3	1	2		BS	Sample 01	? Fabric ID; shell mostly leached; thin walled	0	0
106	LSH	Lincoln shelly ware	Fabric E	large jar	1	1	88		BS		thick walled; ext soot ;int carbonised deposit with strong demarkation line	0	0
123	LSH	Lincoln shelly ware	Fabric E	Jar / bowl	1	1	7		BS		concretions incl breaks ;re-oxidised over break; part leached surfaces	0	0
125	LSX	Non-local late Saxon fabrics	dull oxid med sandy	Jar / bowl	1	1	11		BS		? ID; abundant fine subround to round quartz & rare flint	0	0
125	LSX	Non-local late Saxon fabrics	OX/R/OX med sandy	small vessel	1	1	1		BS		? ID; abundant fine quartz below 0.3mm moderate larger incl well rounded & sparse flint; fresh breaks no joining frags	0	0
219	MAXQ	South Lincolnshire Maxey-type ware		Jar / bowl	1	1	10		BS		? ID or RMAX;ext carbonised deposit; fairly fresh condition	0	0
269	MLSAX	Mid or late Saxon	fine reduced sandy	large rounded dish	1	1	78		rim		large fresh fragment; fabric as fine Ipswich ware; smoothed & part knife trimmed int; simple slightly in-turned rounded rim; several slightly burnished horizontal bands ext ;internal diagonal wipe. marks; wheelthrown. **Type Series.**	0	0
102	MSAXLOC	Local middle Saxon fabrics	mixed med-coarse shell	jar	2	1	11		base		common mainly coarse shell; int carbonised deposit; burnt incl breaks	0	0
090	RLSAX	Roman or Late Saxon	mixed reduced shelly	small vessel	1	1	1		BS	Sample 02	concretions incl breaks	0	0
238	RMAX	Southern Maxey-type ware		large jar	1	1	58		base		soot int & break; ext soot walls only; flat base; wear around basal edge	0	0
238	RMAX	Southern Maxey-type ware		large jar / bowl	1	1	21		BS		ext soot	0	0
146	SLSNT	South Lincolnshire St. Neots-type		jar	2	1	24		BS		EVERC rim; soot stain on inner rim; concretions incl breaks	0	0
146	SLSNT	South Lincolnshire St. Neots-type		jar	2	1	24		base		burnt	0	0
090	SNEOT	St Neots-type ware		jar	1	1	1		base	Sample 02		0	0
152	SNEOT	St Neots-type ware		large jar	1	1	25		rim		EVERB1 rim	18	9
152	SNEOT	St Neots-type ware		?	1	1	2		BS		abraded	0	0
150	SNEOT	St Neots-type ware		jar	1	1	15		rim		EVERC1 rim; wear on rim edge; concretions	15	10
026	ST	Stamford Ware	Fabric G	Jar / pitcher	1	1	14		BS		early; ext glaze full of clay scraps; int glaze runs	0	0

053	ST	Stamford Ware	Fabric G	Jar / pitcher	1	1	2		BS		ext glaze; concretions incl breaks	0	0
145	ST	Stamford Ware	Fabric A	small jar / pitcher	1	1	6		BS		ext glaze; late 10th to early/mid 11th	0	0
146	STAMT	Stamford-type variants	oxid fine sandy	small vessel	1	1	1		BS		as ST Fabric A/G but coarser	0	0
090	THETT	Thetford-type fabrics		Jar / bowl / pitcher	1	1	7		BS		East Anglia; int surface attrition	0	0
123	THETT	Thetford-type fabrics	light firing	pitcher	1	1	33		handle		reduced medium sandy; strap handle; poss not a Thetford product	0	0
123	THETT	Thetford-type fabrics	light firing	large pitcher / storage jar	1	1	34	applied vertical pressed strip	BS		poss not Thetford product; internal attrition; med sandy	0	0
123	THETT	Thetford-type fabrics		large pitcher / storage jar	1	1	145	finger pressings around rim top;applied vertical pressed strip from neck downwards	rim		oxid ext surfaces; everted rim; upper handle join for strap handle coming off rim;int attrition; concretions incl breaks	20	26
123	THETT	Thetford-type fabrics		large pitcher / storage jar	1	1	21		BS		int attrition; tool trimming int	0	0
123	THETT	Thetford-type fabrics		small jar / bowl	1	1	2		BS		? ID; concretions incl breaks	0	0
153	THETT	Thetford-type fabrics		jar	1	1	4		BS	Sample 05	concretions incl breaks	0	0
123	TORK	Torksey ware		Jar / bowl	1	1	4		BS		concretions	0	0
090	WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	reduced med sandy	small vessel	1	1	1		BS	Sample 02	concretions incl breaks	0	0
090	WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	reduced med-coarse sandy	large jar	1	1	22		BS		int surface oxidised; fabric incl mixed quartz incl rounded grains up to 1.2mm & rounded ca	0	0
090	WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	reduced med sandy	jar	3	1	21		BS		incised shoulder grooves with a vertical line break; fabric incl mixed but mainly round quartz & rare flint; concretions	0	0
090	WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	reduced fine-med sandy	small jar / bowl	1	1	2		base		? ID or STAMT; fine sandy fabric as EST Fabric A	0	0
146	WLSG	Wheelthrown Late Saxon Greyware (Lincoln Type)	reduced fine-med sandy	jar	1	1	3		BS	Sample 04	abundant fine quartz & some coarse ca incl	0	0
010	WLSS	Wheelthrown Late Saxon Shell-tempered		small jar	1	1	3		BS		int wear	0	0
030	WLSS	Wheelthrown Late Saxon Shell-tempered		large jar	1	1	96		BS		leached int surface; part ext carbonised deposit; concretions incl breaks	0	0
090	WLSS	Wheelthrown Late Saxon Shell-tempered		small vessel	1	1	1		BS	Sample 02	ext soot; concretions incl breaks	0	0
090	WLSS	Wheelthrown Late Saxon Shell-tempered		Jar / bowl	1	1	6		BS		ext soot	0	0

123	WLSS	Wheelthrown Late Saxon Shell-tempered		Jar	1	1	16		BS		Abraded	0	0
153	WLSS	Wheelthrown Late Saxon Shell-tempered		?	5	1	1		BS	Sample 05		0	0
153	WLSS	Wheelthrown Late Saxon Shell-tempered		small jar	1	1	2		BS		leached; abraded	0	0
186	WLSS	Wheelthrown Late Saxon Shell-tempered		Jar / bowl	2	1	5		base		smoothed basal surface int & ext; fabric incl occ large rounded quartz;? Internal deposit	0	0
090	WLSSQ	Wheelthrown Late Saxon Shell & Quartz-tempered (Lincoln Type)		Jar / bowl	1	1	2		base	Sample 02	? ID or LSH Fabric C;leached; spalled int surface	0	0
090	WLSSQ	Wheelthrown Late Saxon Shell & Quartz-tempered (Lincoln Type)		Jar / bowl	1	1	7		BS		concretions incl breaks; worn int surface	0	0

Archive catalogue 2, Ceramic Building Material

context	cname	fabric	frags	weight	description
081	DRAIN	orange med sandy + ca & fe	1	26	field drain;flat base;extruded;late 19th to 20th
090	FIRED CLAY	dull oxid micaceous	1	137	very abraded;large slab 35mm thick;bedded on earth ?;abundant organic voids;possible stick impression on upperside
090	FIRED CLAY	fine OX/R	1	1	very abraded formless lump
090	INDUS	dull oxid fine-med sandy	1	15	thick vesicular glassy slag backed & fused to by a thin clay layer
090	INDUS	dull oxid silty	1	28	thick glassy fuel ash type slag backed by & fused to a thin layer of clay;apature of c 20mm diameter - ? Hole for tuyere
146	FIRED CLAY	buff micaceous	1	4	very abraded;2x parallel flat surfaces;6mm thick;veg marked surfaces? ID as briquetage vessel or prehistoric pot
190	FIRED CLAY	oxidised silty	1	6	very abraded;? Original surfaces;pulled/formed into a shape;? Briquetage clip
192	FIRED CLAY	oxidised micaceous	1	3	formless flake
194	FIRED CLAY	micaceous fine sandy + fe	1	4	salt bleached ext surface;common fe in fabric;veg marked;fresh break no joining frags;formless
196	FIRED CLAY	oxidised micaceous& silty + fe	1	2	some salt bleaching;very abraded;formless

211	FIRED CLAY	dull oxidised micaceous & silty + fe	1	10	fabric incl vegetal/organic;slightly curved flake
211	FIRED CLAY	dull oxidised micaceous & silty + fe	4	58	same original object;very abraded;fabric incl vegetal/organic;poss daub with ? Wattle impression c25mm
219	FIRED CLAY	dull oxidised micaceous & silty + fe	3	49	same object;very abraded;formless lumps
219	INDUS	dull oxidised micaceous & silty + organics	7	28	same original object;abraded;flakes;surface bleaching as found on moulds/crucibles from heat reduction;poss impression remains;?? Mould
230	FIRED CLAY	oxidised micaceous & silty + organic	1	1	formless flake
238	FIRED CLAY	oxidised micaceous & silty + organic	2	17	abraded;slightly smoothed upper

Appendix 3

The Human Remains



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Introduction

The human remains discussed in this report were recovered from Holbeach, Fen Road (HBFR21). They have been given the context number (109), and will subsequently be referred to as SK109.

Methodology

Analysis of the remains was done by hand macoscopically utilizing White and Folkens (2005) to confirm the identity of adult skeletal elements, alongside Buikstra and Ubelaker (1994) for recording forms and diagrams.

Inventory

SK109 consists of a total of 7 larger fragments and 4 very small unidentifiable fragments. The remains present make up an area of the frontal aspect of the cranium, consisting of the elements described in Table 1 and shown in Figure 1. Diagrams showing the remains present can be seen in Figure 2, with dentition present shown in Figure 3.

Skeletal Element	Side	Percentage present
Frontal	L	75%
Frontal	R	25%
Sphenoid	L	15%
Zygomatic	L	80%
Maxilla	L	85%
Molar 1 maxillary	L	85%
Molar 2 maxillary	L	90%
Molar 3 maxillary	L	100%

Table 1 Inventory of the remains



Figure 1 Elements present for SK109

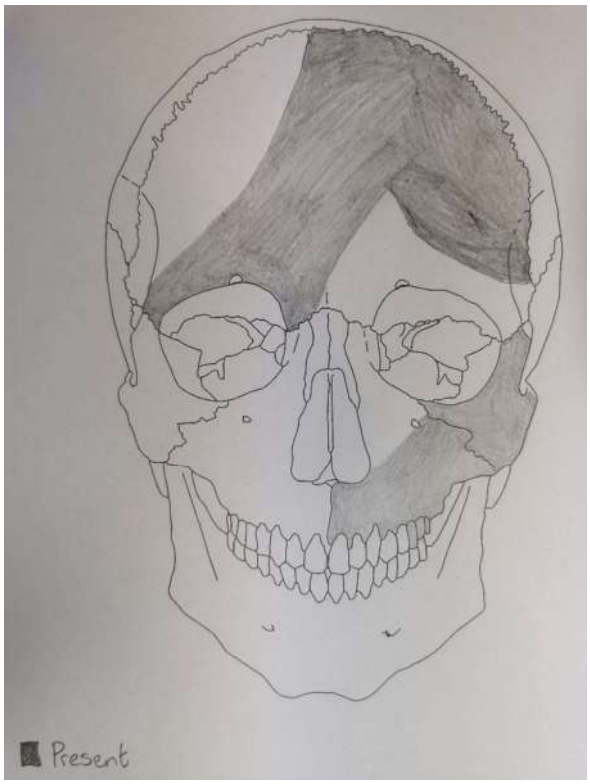


Figure 2 Diagram of the skeletal remains present

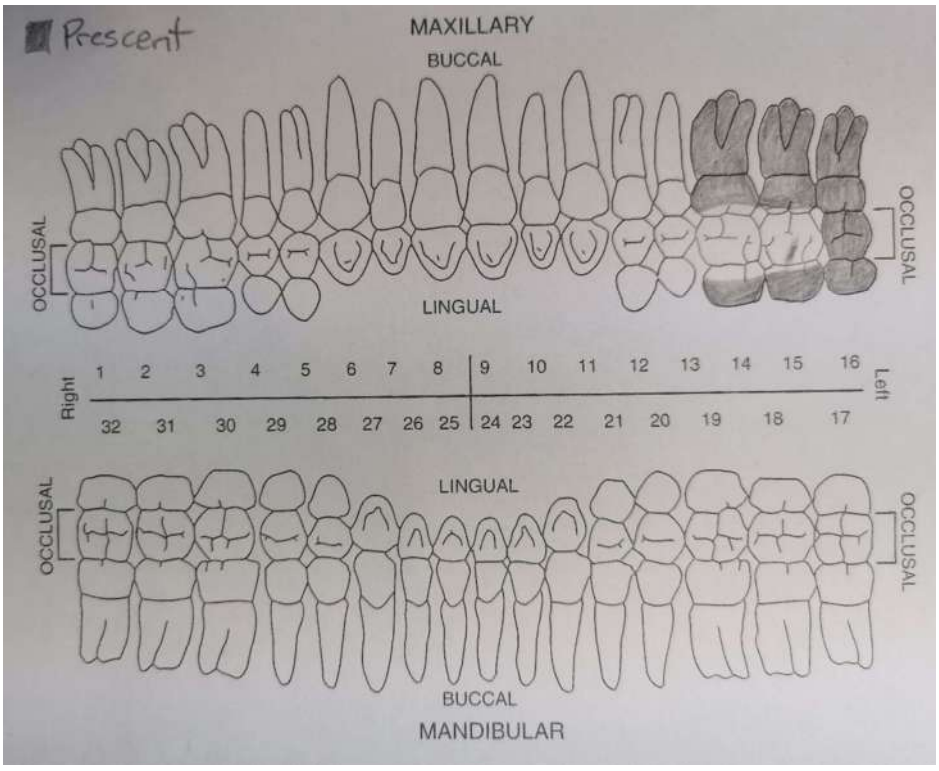


Figure 3 Diagram of dental remains present

Age

The age of the individual can be determined by both the overall morphology and the open sutures on 2 of the fragments (likely from postmortem disturbance), as well as the suture closure on the maxilla-zygomatic suture present in the remains. Using the Atlas of Human Tooth Development and Eruption (AlQuhatani, 2009) the eruption of the third molar on the left maxillary remains indicates that the individual is over the age of 23.5 years. Tooth wear on the 1st and 2nd molars is also indicative of an adult individual.

Overall it can be said that it is very likely that this is an individual who is over the age of 21 years of age.

Sex

There is a supra-orbital margin present on one of the fragments. Utilising the diagram for determining sex from the features of the skull (Buikstra and Ubelaker, 1994:20) it is possible to determine that it is closest to image 2, making it more likely to be a female than a male, but not definitive.

Overall on a balance of the evidence available in the remains it can be said that it is more likely the individual is female rather than male.

Pathology

No changes indicating any pathology were observed on these remains.

Conclusion

The remains present are from an adult individual, with only a small part of the cranium present. It is likely the individual is a female. There was no pathology present.

Appendix 4

ENVIRONMENTAL ARCHAEOLOGY REPORT

Introduction

Archaeological excavations carried out by Archaeological Project Services at Fen Road, Holbeach, Lincolnshire resulted in the collection of nine bulk environmental samples and a small assemblage of hand collected animal bone. The site lies on former tidal flats deposits of clays and silts *(Geology of Britain viewer | British Geological Survey (BGS)*. The samples derive from late Saxon and Saxo-Norman deposits, including ditches, a pit, possible ditch termini, a possible grave cut and a linear or watercourse (Table 1). The samples and hand collected animal bone were submitted to the Environmental Archaeology Consultancy for processing and analysis.

Table 1: Fen Road, Holbeach – HBFR21. Samples submitted for environmental assessment

sample no.	context no.	sample volume (l)	sample wt kg.	feaure	Spot date/pot
1	040	27	36	Fill of ditch terminal 039	850-1000AD
2	090	28	42	Lower fill of watercourse/linear 089	870-1200 AD
3	108	3	6	Fill of pit or grave cut 107, surrounding head of SK109	870-1010 AD
4	146	17.5	23	Fill of ditch 144	950-1150 AD
5	153	9	12	Fill of pit/terminus 147	900-1030 AD
6	152	15	18	Fill of pit/terminus 147	870-1200 AD
7	269	15	18	Dumped fill of ditch 267	750-1000 AD
8	133	16	19	Fill of pit 130	
9	219	16	24	Lower fill of ditch 218	670-850 AD

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet sieve of 1mm mesh for the residue. Both residue and flot were dried and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured and the volume and weight of the residue recorded.

The residues were sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheets and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerscale and prill and a count made of the number of flakes or spheroids of hammerscale collected. The residue was then discarded. The flot of each sample was studied using x30 magnifications and the presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The flots were then bagged and along with the finds from the sorted residue, constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2-3 with more detailed analyses presented in Tables 4-6.

Results

The samples washed down to a small residue of concreted sediment, occasional root pseudomorphs and archaeological debris. Archaeological finds included pottery, fired earth, animal bone, marine shell, slag and hammerscale (Table 2). Hammerscale occurred in two of the samples but at low densities so it is difficult to establish whether this material is contempory or has moved down through the soil from more recent activities as a result of soil processes and worm action. Slag occurs in all samples except the grave fill, but this is silicaceous slag, most of it very small fragments and apart

from sample <2> where some of the slags are quite large and may derive from industrial activity it could all derive from vitrified and partially vitrified mineral material within peat or turf deposits used as fuel.

The environmental finds from the samples include charcoal, charred cereal grain and chaff, charred seeds, uncharred seeds, mammal, bird and fish bones, bird eggshell, snail shells, ostracods and foraminifera. These finds have been preliminarily identified (Table 3) and some subsequently studied in more detail. The marine shell includes fragments of common cockle, common mussel and tellen. The latter may be incidental catches and cockle and mussel both occur in half the samples (excluding the grave sample). Bird eggshell has been recovered from three of the samples. These have been provisionally identified visually with a total of 77 fragments assigned to *cf* chicken, 15 to *cf* goose and two others to unidentified 'large' bird. Only analysis using ZooMS (Stewart *et al* 2013) would allow confident identification of the bird species for the eggshells. Charcoal was present in all the samples but not in great abundance, with unidentifiable comminuted fragments the most common. Two samples, contexts (040) and (146), produced numbers of charcoal fragments potentially identifiable to species. Three of the samples produced foraminifera tests (shells). These are generally marine and probably derive from the tidal silts that formed the natural soils at the site. A few ostracods, a group of small shelled aquatic crustaceans, valves were also recovered. These can be both marine or freshwater and may also be derived from the marine sediments across the site. Detailed analysis would be required to substantiate this but no archaeological gain is envisaged from such a study on these samples. The charred plant remains, bones and snails have been studied in more detail to aid the interpretation of the site.

In contrast to the other samples sample (<3>) from the fill of pit or grave cut [107] produced very little evidence. The sample was much smaller than the other samples (see Table 1) and produced no archaeological finds and very limited environmental evidence (Table 3). This may in part reflect the size of the sample but could also suggest that there was limited occupation activity around the grave when it was dug.

The Charred Plant Remains (*John Giorgi)*
Variable amounts of identifiable charred plant remains were present in eight of the nine samples and consisted mainly of cereal grains and wild plant/weed seeds with smaller amounts of legumes and cereal chaff fragments (Table 4).

Table 2: Fen Road, Holbeach – HBFR21. Finds from the processed samples

sample no.	context	sample vol. l.	residue volume (ml)	pot no/wt (g)	fired earth wt. g.	coal wt g.	magnetic wt. g.	hammer-scale no.	slag wt g.	marine shell wt g.	bone wt. g.	
1	040	27	300	3/1.6	8		<0.1	17fl 1sph	+		59	Lots vitrified fuel ash slag in flot – peat fuel?;
2	090	28	90	9/14.8	0.6		0.2	7fl	8.4	0.6	8	Slag- Iron Age grey or large fuel ash slag
3	108	3	3									
4	146	17.5	600	4/16.8			0.5		+	0.4	248	Lots vitrified fuel ash slag in flot – peat fuel?;
5	153	9	40	5/5			0.4		+		9	Ash in flot – peat fires?;
6	152	15	100	2/5					+		48.8	Ash in flot – peat fires?
7	269	15	200	1/1						0.6	2	Possible carbonised peat in flot;
8	133	16	100		1.4				+	0.4	8	Lots vitrified fuel ash slag – peat fuel?
9	219	16	580		237				+	0.8	17.6	Possible charred peat, fired earth crumb, vitrified fuel ash slag – peat fuel?

Table 3: Fen Road, Holbeach HBFR21. Summary of the environmental finds from the processed samples

sample no.	cont. no.	sample vol. (l)	flot vol. (ml)	char-coal *	charred grain *	chaff *	charred seed *	mineralised seed *	uncharred seed *	snails *	comment
1	040	27	54	4/5	3		3		2	1	Charred barley, oat? grain, HNS (3), straw/culm nodes, bean?, pea/bean, lots small seeds; uncharred nettle, Chenopodiumj/Atriplex; charcoal – several id. Fragments, but mainly comminuted; animal bone – 117 fragments (33 burnt), cattle, pig, sheep size, cattle size, mainly indeterminate; small vertebrates – frog/toad, fish (0.6g) – eel, small fish (see Table 5); snails – see Table 6;
2	090	28	10	2/3	2		1		2	5	Charred barley grain, few seeds incl. grasses; uncharred Juncus, Chenopoium/Atriplex; charcoal – mineralized and comminuted; animal bone – 32 frags (8 burnt), sheep/goat, sheep size, mainly indet.; small vertebrates – frog/toad, rat/water vole?, small fish (<0.1g) (see Table 5); marine shell – mussel, cockle, tellen; snails – (see Table 6);
3	108	3	0.25	1/1			1		1	1	One charred seed; uncharred Juncus; charcoal – few small fragments; snails – see Table 6;
4	146	17.5	34	4/5	5	2	5	3	3	2	Charred barley, free-threshing wheat, oat grains, a little chaff, pea/bean?, bean, grasses, Chenopodium/Atriplex, small legumes, culm nodes (straw?); uncharred elder, Chenopodium/Atriplex; mineralised seeds – Juncus; charcoal – several identifiable fragments, mainly comminuted; animal bone 381 fragments (20 burnt), partial sheep skeleton and indet fragments; small vertebrates – shrew, frog/toad, fish (2.6g), - stickleback, small fish (see Table 5); marine shell – mussel; snails – see Table 6; foraminfera (score of 1);
5	153	9	3	2/3	2	1	2	2	2	1	Charred barley, oat? grains, a little chaff, bean, grasses, Chenopodium/Atriplex, culm nodes; uncharred seeds – Chenopodium/Atriplex, Juncus; charcoal – all comminuted; animal bone – 18 frags (2 burnt) – sheep/goat, indet frags; small vertebrates – frog/toad (sone burnt), fish (0.5g) – stickleback, small fish (see Table 5); snails (see Table 6);
6	152	15	4	1/3	3	1	4	2	2	1	Charred barley and oat? grains, a little chaff, grasses, Chenopodium/Atriplex; mineralised Juncus and other taxa; uncharred Chenopodium/Atriplex; charcoal – all comminuted except for a couple id. frags; animal bone – 32 frags (20 burnt), sheep/goat, cattle, indet.; small vertebrates – frog/toad, fish (0.5g) – stickleback, small fish (see Table 5); snails – see Table 6;

sample no.	cont. no.	sample vol. (l)	flot vol. (ml)	char-coal *	charred grain *	chaff *	charred seed *	mineralised seed *	uncharred seed *	snails *	comment
7	269	15	20	3/4	3	1	5	5	5	1	Charred free-threshing wheat, barley, oat grain, a little chaff, bean?, grasses, small seeds, herbaceous stems, culm nodes, possible reed; mineralized Juncus; uncharred Juncus, Chenopodium/Atriplex; charcoal – comminuted with just a few identifiable fragments; animal bone – 11 fragments (7 burnt), all indet; small vertebrates – frog/toad, fish (4g) - stickleback, small fish, large fish (see Table 5); eggshell – cf chicken (3), large birds (2 species? – 3 frags); marine shell – mussel, cockle, tellen; snails – see Table 6; ostracods (score 1);
sample no.	cont. no.	sample vol. (l)	flot vol. (ml)	char-coal *	charred grain *	chaff *	charred seed *	mineralised seed *	uncharred seed *	snails *	comment
8	133	16	12	2/4	3		4	4	5	4	Charred barley, oat grain, bean, lots small seeds, culm nodes, grasses, reed?; uncharred Juncus, poppy; mineralized Juncus and couple of other seeds; charcoal, all comminuted; animal bone – 26 fragments (14 burnt), sheep size, cattle size, burnt bird carpal, rest indet; small vertebrate – fish (0.6g), small fish (see Table 5); eggshell – cf chicken (50 frags), cf goose (8 frags); marine shell – cockle, Scrobicularia?, tellen; snails- see Table 6; ostracods (score 1); foraminifera (score 3);
9	219	16	38	1/5	3-4		3	2	1	2	Charred barley, oats, large grass, bean, culm nodes, lots small seeds, small grasses, herbaceous stems; uncharred Juncus; mineralized – couple species; charcoal, a few id. fragments, twigs, mostly comminuted; animal bone – 21 frags (5 burnt), cattle, sheep/goat, cattle size, sheep size, chicken, indet; small vertebrates – frog/toad, fish (1g), stickleback, small fish (some bones burnt) (see Table 5); eggshell – cf chicken (24), cf goose (7); marine shell – mussel, cockle; snails – see Table 6; foraminifera (score 1);

*frequency/score 1=1-10; 2=11-50; 3=51-150; 4=151-250; 5=>250; + present. HNS – hazel nutshell;

Charred cereal grains were recovered from all eight productive samples (Table 4) but preservation was generally poor with a high degree of fragmentation. Barley (*Hordeum vulgare*) in eight samples was the best represented and in some cases virtually the only cereal in the samples with the well-preserved grains showing the presence of hulled straight and twisted grains indicative of six-row hulled barley. There was no evidence for naked barley grains in any of the samples. Barley was also represented by occasional or small amounts of rachis fragments in four samples. There were only small numbers of wheat (*Triticum*) grains in two samples, the better preserved grains identified as free-threshing wheat (*Triticum aestivum/turgidum*); several free-threshing wheat rachis fragments in one sample included one showing the presence of hexaploid bread wheat (*Triticum aestivum*). A similarly small number of oat (*Avena*) grains were also recorded in eight samples. The majority of the grains, however, were too poorly preserved to be identified further. Very occasional or small numbers of grass (Poaceae) culm node fragments were present in six samples; these fragments may belong to wild grasses or cereal straw.

Barley as well as free-threshing wheat and oat are three of the four grains cultivated and used during the Saxon period in southern Britain (Grieg 1991, 315, Carruthers and Hunter Dowse 2019, 105) including evidence for bread wheat throughout the Saxon period (Carruthers and Hunter Dowse 2019, 105).The dominance of barley at the site is replicated at a number of middle to late Saxon sites on the northern silt fens where it is also the main cereal, this dominance is believed to be related to the cultivation of saline soils with barley (along with oats) being one of the most salt tolerant of the cereals (ibid., 105-6). The dominance of barley as the main grain at the site with some threshing wheat, beans and flax (also found at the site see below) is also evident in 8th-century deposits at St Nicholas School, Boston (Giorgi and Rackham 1996) and in late Saxon/early medieval deposits on a 2019 excavation also on Fen Road, Holbeach (Rackham and Giorgi 2019).

Barley would have been used for food, drink and fodder in the Saxon period. Bread made from barley, however, was considered inferior to the preferred white leavened wheat bread made with free-threshing bread wheat grains (Hagen 1994, 20, 125) although all grains at the time could have been ground to produce flour either on their own (except oats) or as mixes for bread. Cereals including barley were also used as gruel or porridge which formed a significant part of the Saxon diet (Ibid., 60), while barley (along with oat) meal was also used in cereal pottage (Wilson 1991, 197). There were no sprouted grains to suggest that barley or the other two cereals were being used for brewing. One of the main uses of barley (along with oats) would have been for animal fodder.

The charred remains of other potential crops included small to modest numbers of legumes in five samples including occasional evidence for broad bean (*Vicia faba*) in four samples with the other large legume seeds in these samples probably also belonging to cultivated pulses, a small number being identified as possible beans/peas (*Vicia/Pisum*). Charred remains of legumes are usually only found in small amounts from this period although broad bean (and pea) have been identified in Saxon deposits from sites in southern England (Greig 1991, 323, Carruthers and Hunter Dowse 2019, 106). Pulses would have been a very important source of protein, with peas and beans used for human consumption including bread, particularly in times of famine (Hagen 1994, 108), and in soups/broths as well as for fodder, beans being fed to horses. Legumes could also have been dried after harvest and stored for long-term use and may have been sown as a means of restoring nitrogen to the soil as part of crop rotations (Campbell *et al* 1993, 134). A single seed of flax (*Linum usitatissimum*) was also identified in one sample. Flax seeds may have been added to enrich cereal based pottage (Hagen 1994, 59) and used in bread and stews (Greig 1988, 122) while oil also may have been extracted from the seeds for cooking/lighting. An important and perhaps main use of this plant, however, was for the fibres for the production of linen cloth. There were also a few fragments of hazel (*Corylus avellana*) nut shell in one sample; these nuts may have been gathered from woodland/hedgerow areas close-by and dried and stored for long term use. With the agricultural landscape reclaimed from the sea woodland resources are likely to have been limited across much of the fens at this time.

Fairly good amounts of charred wild plant/weed seeds were found in the samples some of which may have been from arable weeds associated with cereal cultivation and others with the collection of wild resources from the surrounding fenlands for various uses on site. The limited range of potential cereal weeds cannot provide a great insight into aspects of crop husbandry but a single record for *Fallopia convolvulus* (black bindweed) may reflect the cultivation of the light sandy soils of former marine sand and mudflats and also the spring-sowing of cereals including barley (and also oats) both of which can have a short growing season. A single record for *Galium aparine* (cleaver), however, may also point to the winter sowing of grains, bread wheat usually sown at this time. There were several seeds of *Anthemis cotula* (stinking chamomile) in three samples; this weed is often associated with the cultivation of bread wheats on usually calcareous but often heavier soils; heavier clay sediments may have accumulated in former saltmarsh areas but there is also the possibility that the free-threshing wheat grains may have been brought onto site from further afield. Other potential cereal weeds may be represented by some of the *Chenopdium/Atriplex* (goosefoot/orache) seeds, found in large numbers in several samples, as well as the *Rumex* (dock) seeds and possibly some of the small-seeded leguminous weed seeds including *Medicago/Trifolium* (medick/trefoil).

There were also a large number of seeds associated with wetland and (damp) grassland habitats with particularly good representation of Cyperaceae (sedges) including good numbers of *Carex* (sedge) seeds, species of which may be found in a range of habitats from (damp) grassland to wetland environments. Other wetland species included *Schoenoplectus* (club-rush), *Eleocharis* (spike-rush) and *Juncus* (rushes). Grassy habitats were also represented by both large and small-seeded wild grasses (Poaceae) with other potential grassland species including occasional records of *Ranunculus acris/repens/bulbosus* (buttercup), *Plantago lanceolata* (ribwort plantain) and perhaps some of the *Carex* and *Juncus* species. Several plants may indicate saline conditions; *Plantago major* (greater plantain), often found in heavy soils in disturbed habitats includes one subspecies which grows in damp slightly saline places near the sea, and *Stellaria media* (common chickweed), found in well-watered soils and sometimes in the upper parts of salt marshes.

Table 4: Fen Road, Holbeach HBFR21. Charred, mineralised and waterlogged plant remains from the processed samples

	Feature number	**039**	**089**	**107**	**144**	**147**	**147**	**267**	**130**	**218**
	Context number	**040**	**090**	**108**	**146**	**153**	**152**	**269**	**133**	**219**
	Sample number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
	Vol sample (l)	27	28	3	17.5	9	15	15	16	16
LATIN NAME	vol flot (ml)	54	10	0.25	34	3	4	20	12	38
Cereal grains	ENGLISH									
T. aestivum/turgidum type	free-threshing wheat							5		
T. cf. *aestivum/turgidum* type	?free-threshing wheat				1			3		
Triticum spp.	wheat				4			7		
cf. *Triticum* sp(p).	?wheat				1			8		
Triticum/Hordeum sp(p).	wheat/barley	1				1	2		1	
Hordeum vulgare L.	barley, hulled twisted	7			20	7	13	7	10	22
H. vulgare L.	barley, hulled straight	4			5	1	3		2	6
H. vulgare L.	barley, hulled indet.	5	1		16	1	10	2	3	18
H. vulgare L.	barley, twisted	4			7		4	6	3	
H. vulgare L.	barley, straight	4			9		4	3	1	6
H. vulgare L.	barley, indet	20	3		47	5	32	17	9	15
cf. *H. vulgare*	?barley	16	2		26	8	18	16	6	17
Avena sp(p).	oat				4			1	5	1
cf. *Avena* sp(p).	?oat	1	1		14	1	1	4	4	1
Cerealia	indet. cereal (estimate)	114	18		334	24	59	193	64	133
Cerealia	indet cereal fragments <1mm	++	+		++	+	++	++	++	++
Cereal chaff										
Triticum aestivum type	hexaploid bread wheat rachis							1		
T. aestivum/turgidum type	free-threshing wheat rachis							1		
Triticum spp.	wheat rachis fragments							2		
Hordeum vulgare L.	barley rachis fragments				9	1	3	2		
Other plant/weed seeds										
Ranunculus acris/repens/bulbosus	buttercup	1								
Urtica sp.	nettle					1				
Corylus avellana L.	hazel nut shell fragments >4mm	3								
Chenopodium sp(p).	goosefoot etc					1	67	8	4	4
Atriplex spp.	orache					17	38			
Chenopodium/Atriplex spp.	goosefoot/orache				133		49	24		
Stellaria media (L.) Vill.	common chickweed	3								

	Feature number	**039**	**089**	**107**	**144**	**147**	**147**	**267**	**130**	**218**
	Context number	**040**	**090**	**108**	**146**	**153**	**152**	**269**	**133**	**219**
	Sample number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
	Vol sample (l)	27	28	3	17.5	9	15	15	16	16
Persicaria sp.	knotweed				2		1			
	context number	40	90	108	146	153	152	269	133	219
	sample number	1	2	3	4	5	6	7	8	9
Fallopia convuluvulus (L.) A Love	black bindweed				1					
Rumex sp(p).	dock				4	3		2		1
Polygonaceae indet.	knotweeds etc						1			
V*icia faba* L.	broad bean (whole & cotyledons)				3			1	1	1
cf V. *faba*	?bean fragments (>4mm)	1			2	3			3	2
Vicia/Pisum sp.	bean/pea fragment (>4mm)				1					1
Vicia/Lathyrus sp.	vetch/tare/vetchling (>2mm)									1
Vicia/Lathyrus/Pisum sp.	vetch/tare/vetchling/pea (>2mm)				1					
Medicago/Trifolium sp(p).	medicks/clovers	3			6			7	2	1
Fabaceae indet.	large legumes (cotyledons & frags>4mm)	7			1			1	1	
Fabaceae indet.	legumes (cotyledons & fragments 2-4mm)				9			1	2	5
Fabaceae indet.	small round legumes & fragments<2mm				2			1	2	
Linum usitatissimum L.	flax				1					
Plantago major L.	greater plantain				1					1
Plantago lanceolata L.	ribwort plantain	1								
Galium aparine L.	cleavers					1				
Anthemis cotula L.	stinking chamomile				2			1	1	
Alisma spp.**	water-plantain						+			
Lemna spp.**	duckweed	+	++	+	+	++	+++	+++	+++	+
Juncus spp.**	rushes							+		
Juncus spp.	rushes									12
Eleocharis palustris/uniglumis	spike-rush	1			5*	3	12*	15*	160*	28*
Schoenoplectus sp(p).	club-rush					2	1			4
Carex sp(p).	sedge	28	1		19	2	9	21	3	2
Cyperaceae indet.	sedges etc.	10	1		8	2	4	7	3	6
cf. *Loium* sp.	?rye-grass	1								
Avena/Poaceae indet	oat/wild grasses (large seeds)	1			7	2	1	5		
Poaceae indet.	wild grasses (small seeds)	18			17	6	13		11	4
Poaceae indet.	cereal/wild grasses culm node	5			5	1		6	17	6

	Feature number	**039**	**089**	**107**	**144**	**147**	**147**	**267**	**130**	**218**
	Context number	**040**	**090**	**108**	**146**	**153**	**152**	**269**	**133**	**219**
	Sample number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
	Vol sample (l)	27	28	3	17.5	9	15	15	16	16
indeterminate	herbaceous thin ribbed stem fragments				1		2	14*	5	20
indeterminate	rhizome fragments					1				
indeterminate	wood charcoal (>/<2mm)	++++/+++++	++/+++	+/+	++++/+++++	++/+++	+/+++	+++/++++	++/++++	+/+++++
indeterminate	seeds			1						
	TOTAL	**259**	**27**	**1**	**728**	**94**	**347**	**392**	**215**	**318**
	charred items (per litre of processed soil)	***4.8***	***2.7***	***4***	***21.4***	***31.3***	***86.8***	***19.6***	***13.4***	***8.4***

2166

key: item frequency: + =1-10 items: ++ =11-50 items; +++ = 51-100; ++++ = 101-250; ++++++=>250items: * includes mineralised seeds; ** waterlogged seeds;

There are also records of aquatic plants in the samples represented by good numbers of uncharred *Lemna* (duckweed) seeds in all the samples and occasional uncharred seeds of *Alisma* (water plantain) in one sample. The sedges and rushes in the samples may have been gathered from both damp grassland and wetland areas for use on site as animal bedding, flooring/thatching materials and fuel although some of the grassland remains may have been imported onto site in turves also used for fuel. Some of the *Eleocharis* seeds and herbaceous stem fragments were mineralised which may have resulted during the burning of turves/peats, while being used as bedding materials and/or after being dumped into the pits containing bones to keep the smells down.

The samples were collected from pits and ditches and contained variable amounts and densities of charred plant remains, item densities ranging from 2.7 to 86.8 per litre of processed soil, the highest concentrations being in Pit [147] with item densities of 31.3 and 86.8 for samples 5 and 6 respectively; there was also a rich assemblage in sample 4 (item density 21.4) from Ditch [144] and in sample <7> from Ditch [267] (item density 19.6). There was, however, no significant difference in the composition of the different assemblages, remains of almost fully processed cereal grains of largely barley making up a good proportion of the charred remains. The grains (along with a few legumes) may have been accidentally burnt while being dried before storage or milling or during cooking. There was little crop-processing debris with only traces of chaff from the earlier stages of threshing and small numbers of cereal weeds from the sieving of the grains, both chaff and weed seeds probably having subsequently been used as fuel. Some of the large numbers of *Atriplex/Chenopodium* seeds may have also been cereal weeds but these species may grow in a range of habitats including wetland and saline habitats and are also high seed producing plants. The other charred remains in the samples largely consist of (damp) grassland/wetland species which may have been collected from the surrounding fenland for various uses on site; for example, the sedges and rushes as possible flooring, animal bedding or roofing materials. The wild plant species may also represent the remains of turves/peat gathered and used as fuel. The presence of aquatic species suggest the collection of these plants may have extended to the margins of, or former margins of, shallow water environments.

Fish Remains *(Alison Locker)*
A small assemblage was recovered from pit and ditch fills of early medieval and medieval date. The following species/families were identified; eel (*Anguilla anguilla*), herring (*Clupea harengus*), pike (*Esox lucius*), Gadidae, c.f. garfish (three-spined stickleback (*Gasterosteus aculeatus*), Scombridae, plaice/flounder (*Pleuronectes platessa/Platichthys flesus* and indeterminate flatfish. These are tabulated below (Table 5). Indeterminate fragments (largely fragmented skull bones, ribs and fin rays) have not been included here, though they were recorded. There was evidence of burning on some bones but no particular emphasis on any species.

There is scant evidence for deep-water fishing for fish such as cod except for a few large gadid fragments, as is the pattern on local rural sites. The marine species including herring could have all been caught inshore. The small gadid in sample <6>is a dentary fragment, probably whiting (*Merlangius merlangus*) from a small fish under 20 cms. A single vertebra of ?garfish and also the tail vertebra of a scombrid, likely mackerel (*Scomber scombrus*), were part of coastal fisheries and found on other local sites.

Table 5. Fish remains

Feature Type	Ditch	Ditch	Ditch	Linear	Pit	Pit	Ditch	Pit	
Date	690-850	750-100	850-1000	870-1200	870-1200	900-1030	950-1100	?	
Context	219	269	040	090	152	153	146	133	
Sample	**9**	**7**	**1**	**2**	**6**	**5**	**4**	**8**	**Total**
Eel	0	0	3	0	1	0	0	0	4
Herring	0	0	0	1	0	0	11	0	12
Pike	0	1	0	0	3	0	1	0	5
Large gadid	0	3	0	0	0	0	0	0	3

Small gadid	0	0	0	0	1	0	0	1	2
Garfish	0	0	0	1	0	0	0	0	1
Stickleback	1	11	0	0	2	2	2	1	19
Scombrid	0	0	0	0	1	0	0	0	1
Plaice/Flounder	17	1	15	3	3	2	20	19	80
Flatfish	8	0	0	0	0				
Total ident.	*26*	*16*	*19*	*5*	*11*	*4*	*34*	*21*	*136*
Indet vert Burning		+	+	*2+*	*3*	+	*2+*	*4*	

The most numerous group plaice/flounder (difficult to distinguish apart) were found in every sample. Their presence here reflects a similar pattern at other locally adjacent sites such as Wood Lane School, Fleet where plaice/flounder dominated the slightly later assemblage from medieval pits. Plaice/flounder are also often the most numerous group in sites nearer Boston and not far from the Wash and a thriving coastal flatfish fishery appears to have supplied the locality becoming less relatively numerous further inland. Neither are high status flatfish and the fish here were generally small. Flounder are especially tolerant of freshwater conditions and young fish could be caught (on line or trapped) in inland waters.

Freshwater fish are few, three bones from a small pike in sample <6> and an eroded larger dentary fragment from sample <7>. Eel, so common in many Fenland sites, even when near the coast, are few here. The ubiquitous three-spined stickleback present on so many sites in the area, its robust pelves and spines easily recognisable, were found in the majority of samples and likely to be either an incidental catch or the stomach contents of other piscivorous fish such as pike. They are tolerant of both saline and freshwater conditions and known to have been present in large numbers in local water systems and were once caught for fertiliser.

Snails (*James Rackham*)
While none of the samples produced a significant number of snail shells, the range of species recorded give some indication of the environment or origin of the shells. The most abundant species is *Cecilioides acicula*, a small blind burrowing species that can be found alive at depths up to a metre below ground surface Evans 1972). Its occurrence in these samples is almost certainly as an intrusive species. Its abundance in sample <8> may indicate that this pit was formerly filled with organic debris, attracting the snail. The remaining taxa are likely to be contemporary with the fills of the sampled features.

These shells fall into three groups, species typical of open grassland environments – *Pupilla muscorum*, Vallonids, *Vertigo pygmaea*; freshwater aquatic species – *Lymnaea peregra, Bithynia tentaculata, Planorbis planorbis, Planorbis laevis, Gyraulus crista, Pisidium* sp.; and marine or brackish water taxa – *Hydrobia ulva* and *Hydrobia ventrosa*. *Anisus leucostoma* is a species typically found in ditches that dry up and *Carychium minimum* is normally considered to be a wetland species or found in damp woodland while *Vertigo angustior* favours moist wetland fringes, often near the coast. The marine and brackish water taxa, Hydrobids, may derive from the marine sediments that form the 'natural' on the site and are probably unrelated to the deposits they were found in but derived from the natural sediments on the site. The aquatic elements where present in ditch fills, probably with *A. leucostoma,* indicate ditches carrying water, with *V. angustior* and *C. minimum* reflecting a wetland component in the ditches or some may have been brought onto the site from wetlands with floor or roof coverings – the presence of burnt shells in pit 130 (sample 8) indicates that these shells may have been burnt along with collected wetland vegetation or been present in 'organic sediments' used as fuel.

Table 6. Terrestrial, freshwater & marine shells (not food species) from the samples

sample	1	2	3	4	5	6	7	8	9
context	40	90	108	146	153	152	269	133	219
sample size in l.	27	28	3	17.5	9	15	15	16	15
Cecilioides acicula	1		2	16	1	2		158	3
Pupilla muscorum				1				3	2
Vallonia sp.	1		4	2		2		2	
Vallonia excentrica								4	
Vallonia pulchella				1					
Vertigo spp. Dextral			1	2				2	3
Vertigo pygmaea			1					1*	
Vertigo angustior							1	1	
Helicoideae	1			1				1	
Carychium minimum			2	1					
Anisus leucostoma							11	1	
Lymnaea peregra							1		
Bithynia tentaculata				2	1				
Planorbis sp.							1		
Planorbis planorbis							1		
Planorbis laevis			1						
Gyraulus crista								1	
Hydrobia ulva									6
Hydrobia ventrosa								2	15
Pisidium sp.								2*	
Totals	3	-	11	26	2	4	15	178	29

* burnt shells

The remaining taxa indicate grassland suggesting that all the sampled features probably lay in an open grassland environment. There is a complete absence of taxa associated with woodland or shaded environments suggesting that even the ditches may not have had an associated hedge. However shells numbers are small in all the samples (excluding the probable invasive *C. acicula*) so these remarks should only be used as a guide. A similar picture of open grassland was suggested for the snails from the samples from the prior tremching evaluation of the site (HBFR19 - Rackham and Giorgi 2019).

Hand collected animal bone *(James Rackham)*

A small assemblage (346 fragments) of animal bone was collected by hand during the excavations from 69 contexts and weighing a total of 12188.5 grammes. This material has been identified and catalogued following the procedures of the Environmental Archaeology Consultancy and the catalogue is attached (see Appendices 1 and 2). The assemblage has been assigned to four groups on the basis of spot dates on the pottery but a large proportion derives from contexts that produced no pottery (Group 0). Group 1 is middle Saxon with a ceramic date range of 750-850 AD, group 2 is late Saxon with a date range of 850-1050 AD, group 3 includes pottery in the range 850-1200 AD while context 93 was described as a 'land drain' and has been put into group 4. Fragments listed in Group 0 below (Tables 6 and 7) derive from contexts with no ceramics but are probably assignable to groups 2 and 3 (ie 850-1200 AD). The samples are too small to consider any patterns within phase/group so the assemblage is treated as a single group of late Saxon and early medieval material.

The animal bone is in good condition with no evidence for significant corrosion in the soil. The only limiting factors with respect to the analysis and interpretation of the assemblage will therefore have been the recovery efficiency and the small size of the assemblage.

Cattle bones fragments dominate, followed by sheep/goat, then horse but relatively few pig bones (Table 7). Domestic goose is present, with single bones of probable domestic duck and dog, and a crane or stork tarso-metatarsus. On the basis of fragment and zone counts cattle comprise 51-52% of

the identified assemblage, while sheep/goat make up 36 and 30% respectively. Pig just 6 and 3.5% and horse 6 and 12% respectively, the latter a reflection of their lower level of fragmentation (Table 9). Two other measures have a bearing on the interpretation of the assemblage – the total weight of each species (Table 8) and the frequency they occur in contexts and samples (Table 9). On the basis of recovered bone weight cattle and cattle size comprise 65.5%, horse 22.5%, sheep/goat and sheep size just 8.7% and pig 0.5%. Bone weight more closely represents the relative dietary importance of the different species (ie meat weight) than fragment or zone counts and this indicates that beef consumption could have exceeded that of lamb and mutton by over seven times, and if horse meat was eaten even this could have contributed more than lamb and mutton. Pork appears to have been a minor part of the meat diet. There is one measure that we can use as a control or check on these data, and that is the relative frequency of different species recorded by context in the hand collected assemblage and that in the soil samples. Of the 69 hand excavated contexts producing bone 45 (65%) produced cattle, 33 (48%) produced sheep, 12 (17.5) produced horse and 9 (13%) pig. In contrast 5 of the 9 samples produced fragments of sheep/goat bone, three produced cattle, one produced pig and none produced horse. Since the sample material was sorted down to a mesh size of 2mm we can assume 100% recovery of visually identifiable domestic animal bone from the sample suggesting that the smaller sheep/goat bone and teeth fragments may have occurred in more contexts than cattle, which if true would indicate a bias against the smaller bones of sheep/goat, and probably also pig, in the hand collected assemblage. While this may have a limited impact on the overall dietary importance of the different species (ie relative weights), because the average fragment weight of sheep was less than a fifth that of cattle fragments (Table 9) and would be even less if smaller fragments of sheep/goat had been collected, it would have a major impact on the number of fragments of sheep/goat (and probably pig) relative to cattle, and the frequency of contexts with the different species present. This variation in recovery efficiency between hand collected and sampled is most clearly illustrated by the average fragment weight in the two assemblages. In the hand collected assemblage the average fragment weight of 'domestic' animal bone was 35.2 grammes but in the samples it was 0.85 grammes (see Table 9). Although the bulk of the fragments from the samples are not visually identifiable to species, identifiable small bones, teeth and bone fragments of sheep/goat and pig occur with greater frequency than those of cattle reflecting the bias that can be introduced against the smaller species by hand collection. Unfortunately the number of samples at this site is not sufficient for estimating the potential loss of small bones from the hand collected assemblage so it is difficult to correct for this potential recovery bias.

We can not therefore use the hand collected assemblage as a 'good' guide to the bone originally deposited at the site but can with some confidence suggest that beef was economically the most important meat consumed at the site, while cattle was also probably the numerically most abundant, but not necessarily much more than sheep/goat. Pig was likely to be a bit more important than the figures from the hand collected assemblage would suggest.

Table 7. Fen Road, Holbeach - HBRF21 number of fragments of hand collected animal bone by group (see text)

Species	Group	0	1	2	3	4	*Total*
	Date	850-1200?	750-850	850-1050	850-1200	Land drain	
Horse		5	1	5	3		*14*
Cattle		36	11	41	23		*111*
Cattle size		21	6	20	10	2	*59*
Sheep/goat		34	10	14	14		*72*
Sheep		3		1	1		*5*
Sheep size		22	5	13	9		*49*
Pig		3		4	5		*12*
Dog				1			*1*

Species Group	0	1	2	3	4	*Total*
Duck, domestic	1					*1*
Goose, domestic	2		1			*3*
Goose size	2					*2*
Crane/stork?	1					*1*
Unidentified	10	2	1	3		*16*

Table 8. Fen Road, Holbeach - HBRF21 weight of fragments of hand collected animal bone by group (see text)

Species Group	0	1	2	3	4	*Totals*
Horse	955	22	1489	299		*2765*
Cattle	2558	761	3437	780		*7536*
Cattle size	211	38	145	55	27	*476*
Sheep/goat	423.5	120	179	124		*846.5*
Sheep	106		5	7		*114*
Sheep size	42.5	11	23	9.5		*86*
Pig	87		59	135		*281*
Dog			17			*17*
Duck	2					*2*
Goose, domestic	9		5			*14*
Goose size	1					*1*
Crane/stork	12					*12*
Unidentified	22.5	6	1	4.5		*34*

Table 9. Fen Road, Holbeach - HBRF21 Quantification methods for domestic farm species. All data based on hand collected assemblage except the 'no.samples' column.

Method	No. frags	%	%	No. zones	%	Weight	%	No contexts	%	No. samples	AV frag wt*	Av no. Zone/frag *
Horse	14	**4**	**6**	36	**12**	2765	**22.5**	12	**17.5**	0	197.5	2.57
Cattle	111	**32**	**52**	150	**51**	7536	**62**	45	**65**	3	67.9	1.35
Cattle size	57	**16.5**		1	**0.3**	449	**3.5**	25	**36**	3	7.9	0.02
Sheep/goat	77	**22**	**36**	90	**30.5**	964.5	**8**	33	**48**	5	12.5	1.17
Sheep size	49	**14**		2	**0.6**	86	**0.7**	20	**29**	4	1.75	0.04
Pig	12	**3.5**	**6**	11	**3.5**	281	**0.5**	9	**13**	1	23.4	0.92
Total N=	346		214	294		12188.5		69		9	35.2	0.85

Yet another factor that impacts on the relative importance of the different species is the individual level of fragmentation within each species. The horse bones show the least fragmentation with an average of 2.57 anatomical zones per fragment (Table 9). This indicates relatively low fragmentation and suggests that some of the bones may have been complete when originally deposited or lacked any significant butchery. There is however no suggestion that most of the horse bones derived from buried carcasses since they all occur in different contexts except three vertebral fragments in context 269 which may derive from the same animal. This and the visible chop mark on an ischium in context 136

suggests that horse may have been part of the meat diet at the site. Cattle average 1.35 zones per fragment, sheep/goat 1.17 and pig appear to be the most fragmented with only 0.85 zones per fragment. This suggests that pig bones may be under-represented in the assemblage relative to cattle and sheep owing to fragmentation which itself may be associated with a generally more juvenile (and therefore more fragile) assemblage.

Table 10. Fen Road, Holbeach - HBRF21. Frequency of fragments with butchery marks, burning/calcined, dog gnawing and pathology in hand collected assemblage.

Method	No. butchered	No. burnt	No. gnawed	No. patho-logical	Total N=
Horse	1		2		14
Cattle	11	3	19	1	111
Cattle size	1	4	1		59
Sheep/goat		3	7		77
Sheep size	1	8		1	49
Pig	2	1	1		12
Dog				1	1
Unidentified	4				34

A number of bones show evidence of butchery using both knife and chopper/cleaver, indications of the bones being scavenged after deposition (tooth marks or gnawing), or possibly fed to the settlement dogs, and also bones being discarded onto the fires after consumption/stripping and becoming charred or completely burnt ('calcined' white or grey) (Table 10). Just three bones show evidence of pathology - changes to the distal end of a cattle metatarsus that might indicate its use as a draught animal such as expansion of the distal articulation and bone growth on the distal shaft; a probable healed fracture to a small ungulate rib shaft; and possible severe bruising on the proximal shaft of a dog radius suggested by extra bone growth locally.

There is some data for the age at death of the cattle and sheep/goat bones. Cattle mandibular and maxillary dentition show the presence of calves, juveniles, immature, young adult, adult and elderly stock being slaughtered with slightly more in the younger categories than adults. The epiphyseal data is too limited for any quantification, although juvenile, immature and adults are represented. Among the sheep/goat (no goats were specifically identified) mandibles and maxillae lamb, juveniles, immature, adult and an 'elderly' animal were recorded, with adults and elderly being more abundant. The epiphyseal data was again too limited to be of use although juvenile, immature and adults are represented. The few horse bones indicate sub-adult and adult animals with one fragment from an immature animal, while the pig bones could all come from young animals.

These data are not enough to draw out the husbandry of the domestic farm animals but do suggest a full range of use - milk, meat, hide, wool and possibly even ploughing/draft on the basis of the pathology of a cattle metatarsus bone (see above) in the late Saxon and early medieval period. Domestic goose and probable domestic duck, along with the chicken bone and eggshell from the samples show that domestic birds and their eggs were also kept during this period, supplying both meat and eggs for the table and possibly also feathers for arrows and down. The samples are too small to allow any useful comparison between the Saxon and medieval phases.

Only seven of the contexts produced more than 10 bone fragments, and the largest sample was 60 fragments from context (136), the upper fill of unphased pit [130] (Table 11). Although five of these contexts showed the general pattern of cattle dominant, contexts (136) and (146) had appreciably more sheep/goat and sheep sized bones by both fragment number and weight than cattle. Average

fragment weight in both these contexts was at least half of that in the other five contexts reflecting the higher proportion of sheep/goat and sheep sized bones. But one might pose the question as to whether these two contexts were excavated by a digger that was more methodical, collecting even fairly small bones, rather than a 'real' difference. The presence of a partial adult sheep skeleton in the sample from context (146) could in part account for the relative abundance of sheep and sheep sized bones in this context among the hand collected assemblage, although only the four phalanges (see archive) in the hand collected assemblage could be confidently assigned to this skeleton. The smaller discrepancy between the average fragment weight in the sample and the hand collected assemblage for context 146 when compared with the other four sampled contexts is much lower almost certainly due to the presence of the sheep skeleton and not necessarily more efficient collection so whether recovery has been a significant factor or not for the relative species abundance remains open.

Table 11. Contexts with more than 10 hand collected bones. (fragment numbers/weight)

Species	090	123	136	146	219	238	269
	water-course	ditch fill	pit fill	ditch fill	ditch fill	ditch fill	ditch fill
Group	1	3	0	3	1	1	2
Horse	1/62	1/90	1/87			1/22	3/204
Cattle	14/540	4/119	8/113	1/16	6/373	3/181	10/1546
Cattle size	6/34	3/10	10/102		3/22	2/11	3/32
Sheep/goat	1/5		18/283	7/275	7/64	3/56	
Sheep size		1/3	15/25	5/2	2/4	1/3	4/10
Pig	2/36	2/38		1/61			2/20
Goose, domestic			2/9				
Goose size			2/1				
Unidentified		2/4	4/7		2/6		
Total fragment no.	24	13	60	14	20	10	22
Total weight	677	264	627	106.5	469	273	1812
Average fragment weight	28.2	20.3	10.4	7.6	23.4	27.3	82.4
Average frag weight in sample	0.52			0.65	0.83		0.18

It should be noted that no fish bones were recovered by hand, all deriving from the soil samples, illustrating one of the major biases that hand recovery can introduce.

Discussion

It is clear from the samples that the bulk of the debris present in the deposits can be interpreted as 'domestic waste'. There is very little in the samples to indicate crop processing debris and equally little that could indicate industrial or craft activities. The few flakes of hammerscale in samples <1> and <2> might point to iron smithing taking place somewhere nearby but the density is low and a possibility that this material has travelled through the soil from much more recent activities should be considered. There are quantities of small silicaeous slag in several samples but this seems more likely to derive from turves or peat used as 'domestic' fuel than be from any industrial fires. The woodland resources on the reclaimed fenland in the late Saxon and early medieval period are likely to have been limited and peat cuttings and turbaries would have been an invaluable fuel resource. Elements of the charred plant remains, rushes, spike rush, sedges, some Chenopodiaciae (Table 4) could support this interpretation although the collection of vegetation rather than turves or peats could account for these. Certainly these wetland plants combined with the presence of wetland and aquatic snails shells, a few of which are burnt could have arrived with vegetation collected from wetland zones or in turves or peats gathered from wetland or marsh areas. Charcoal is relatively lacking, although present in all

samples and it might be that the species composition would reflect a wet woodland habitat rather than typical terrestrial woodland. These analyses have not been undertaken for this report.

Table 12 summarises the results of the environmental finds from the samples reflecting primarily the food remains recovered. Additional items from the hand collected animal bone include horse, domestic duck (cf), domestic goose and crane or stork.

The most important food categories are beef, mutton/lamb, small coastal fish, barley and pulses. Plaice or flounder occur in all the samples, the only 'meat' category present in all samples, suggesting that the local coastal fishing may have been one of the most important food resources for the settlement. These two species represent nearly 70% of the edible fish (excluding stickleback which was probably not eaten) from the samples and would have been the most frequent bones (many thousands?) on the site by a very long way if all the excavated soil had been processed as efficiently as the samples. Cockle and mussels were probably regularly available along with chicken and goose eggs. Oats occurs in eight of the samples but its abundance is very low and it may have been an incidental weed in the barley crop rather a crop on its own. Only one sample produced hazelnut fragments. This is often a common food item but it is possible that hazel was fairly uncommon on the reclaimed fenlands at this period. Given the presence of probable chicken eggshell in three of the samples the absence of chicken from the hand collected bone and its presence in only one sample seems likely to reflect recovery and sampling factors rather than a real lack. The only other food item free threshing wheat (bread wheat) occurs in two samples and may have been grown locally or imported to site. As noted above barley has been cited as the preferred cereal on Saxon and early medieval fenland sites because of its salt tolerance, but this becomes less of a factor after years of cultivation and rainfall leaching out the salt unless the area was subject to periodic tidal floods.

Cattle certainly dominated the pastoral economy, but sheep may have been almost as abundant, although less valuable as a meat source. The data are limited but a mixed farming picture is suggested with wool, milk and meat possibly being important products of the pastoral economy. A lack of pannage for pigs may account for the small number of pigs, perhaps kept on the tennements as individuals or small numbers for fattening rather than husbanded in herds. Chicken, geese and ducks were probably also kept as subsistence elements, rather than 'farmed'.

Table 12. Presence/absence of food items and other environmental finds in the samples.

Sample	1	2	4	5	6	7	8	9	Total
Species/category									
Cattle	X				X			X	3
Cattle size	X						X	X	3
Sheep/goat		X	X	X	X			X	5
Sheep size	X	X					X	X	4
Chicken								X	1
Rat/water vole?		X							1
Shrew			X						1
Frog/toad	X	X	X	X	X	X		X	7
Stickleback			X	X	X	X	X	X	6
Eel	X				X				2
Herring		X	X						2
Pike			X		X	X			3
Small gadid					X		X		2
Large gadid						X			1
Garfish		X							1
Scombrid/mackerel					X				1
Plaice/flounder	X	X	X	X	X	X	X	X	9
Flatfish (not identified)	X							X	2
cf chicken eggshell						X	X	X	3

Sample	1	2	4	5	6	7	8	9	Total
cf goose eggshell							X	X	2
Cockle		X				X	X	X	4
Mussel		X	X			X		X	4
Tellen		X				X	X		3
Ostracods						X	X		2
Foraminifera			X				X	X	3
Hulled barley	X	X	X	X	X	X	X	X	8
Free-threshing wheat			X			X			2
Oats	X	X	X	X	X	X	X	X	8
Legumes	X		X			X	X	X	5
Bean vicia faba?	X		X	X		X	X	X	6
Vicia/Pisum?	X		X						2
Hazelnut	X								1

These food remains reflect local agricultural production, local marine resources such as shellfish and coastal fishing, and fishing for eels and pike in the local dykes and waterways. The sea was a few miles to the north with the Welland estuary a similar distance to the east, but extensive fens may have afforded eels, freshwater fish, vegetation for thatch and local fuel, both peats/turves and wood, within a mile or so to the south. The only possible indicators of imported food stuffs are the bread wheat and hazelnut, but both could be local. This picture is very similar to that indicated by the evidence from the prior trenching evaluation of the site – HBFR19 (Rackham and Giorgi 2019) both indicating primarily domestic occupation on the site. The evidence would suggest that the local marine resources, primarily flatfish but also shellfish, were very important and a major element of the diet, while the frequency of pulses, particularly beans, were perhaps also more important than archaeological evidence normally suggests.

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Appendix 1. Archive catalogue of hand collected animal bone and shell from Holbeach – HBFR21

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
007	BOS	RAD	1	R	PF	123				Bp-76.3 Dp-40.2		PROXIMAL END	4
007	BOS	RIB	1	F			CH					DISTAL MIDSHAFT-8CM-ONE END CHOPPED	4
010	BOS	FEM	1	L		4						POST SHAFT WITH DISTAL FOSSA-SURFACE EROSON	4
010	BOS	MAN	1	F								VENTRAL FRAG HORI RAMUS	4
010	BOS	MTT	1	L	DF	12345				GL-246.5 Bp-50.3 Dp-47.9 SD-27.7		ISTAL END DAMAGED- 2 PIECES MODERN BREAK	4
010	BOS	RIB	1	R								PROXIMAL MIDSHAFT-9CM	4
010	CSZ	LBF	1	F								INDET SHAFT FRAGMENT	4
010	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT- 4 PIECES	4
010	OVCA	MAN	1	R		2			F12			DIASTEMAL FRAGMENT WITH PM3	4
014	BOS	AXI	1	F		245						ANT EPI WITH CENTRUM AND ARCH	4
014	BOS	CPI	1	W		1						COMPLETE	4
014	BOS	INN	1	R								DORSAL FRAGMENT ILIAL SHAFT	4
014	CSZ	MAN	1	F								MEDIAL FRAG HORI RAMUS-BOS?	4
014	CSZ	RIB	1	F								DISTAL MIDSHAFT FRAGMENT-6CM	4
014	CSZ	RIB	1	F								MIDSHAFT FRAGMENT-8CM	4
014	CSZ	TIB	1	F	PN							FRAGMENT OF PROX UNFUSED EPIPHYSIS	4
014	SSZ	LBF	1	F								SHAFT FRAGMENT	4
014	SSZ	RIB	1	F								MIDSHAFT FRAG-SL POROUS-3CM	4
016	CSZ	LBF	1	F								SHAFT FRAGMENT	4
016	OVCA	MTT	1	F								ANT PROX END AND BIT OF SHAFT	4
018	EQU	MAN	1	L		45678			FGHIJK			HORI RAMUS WITH TOOTH ROW AND ASC RAMUS- 2 PIECES-ADULT TEETH WITH MED WEAR	4
018	OVCA	FEM	1	F			?					MIDSHAFT-CUT AND WORN GROOVE AROUND PART MIDSHAFT-?UTILISED	4
018	OVCA	INN	1	L	TUBFUS	78	B					POST ISCHIUM AND PUBIS-CHARRED-TUBEROSITY FUSED- 2	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
												PIECES-MOD BREAK	
018	OVCA	RIB	1	L	PF	1						PROX THIRD-1ST RIB	4
018	SSZ	RIB	1	L								DISTAL SHAFT-7CM	4
018	SUS	MC4	1	L	DN	12				L1-46.7		PROX END AND SHAFT-EPI UNFUSED-JUV/IMM	4
020	BOS	RAD	1	L	PF	13		DG		SD-33.4		PART PROX END WOTH SHAFT-DISTAL END GNAWED-HIGH WAIST	4
020	BOS	ULN	1	L		23		DG				SEMILUNARIS & PART SHAFT-CORONOID GNAWED OFF-POSS SAME LIMB AS RADIUS-2 BITS	4
020	OVCA	MTT	1	R				DG				ANT PART PROX END & MOST PROX HALF SHAFT-PROX END CHEWED	4
026	BOS	MTT	1	L				DG				PROX THIRD SHAFT-PROX END CHEWED OFF-SMALL-PROB IMM	4
026	CSZ	CEV	1	F								ZYGAPOPHYSIS	4
026	EQU	INN	1	R	EF	579						ACETAB AND ISCHIAL SHAFT- 2 BITS-ADULT-PUBIS SYMP UNFUSED	4
030	BOS	AXI	1	R	EF							FRAG ANT EPI-RIGHT VENTRAL SIDE	4
034	BOS	TIB	1	L	PN	47				SD-35.8		SHAFT ONLY-BOTH ENDS DAMAGED-IMM/SUB ADULT?	4
038	OVCA	RIB	1	R								PROX AN MIDSHAFT-9CM	4
040	BOS	RIB	1	L								PROX SHAFT- 10CM	4
040	OVCA	RIB	1	L								PROX SHAFT- 8CM	4
042	EQU	INN	1	R	EF	2312345678						LARGELY COMPLETE- 3 PIECES-ADULT	4
044	EQU	PH2	1	W	PF	12		DG				COMPLETE-CHEWED-IRON RICH	4
044	OVCA	CEV	1	W	CFAN	1245						LARGE;Y COMPLETE-POST EPI LOST-UNFUSED	4
044	UNI	UNI	1	F								INDET - IRON RICH-POSS SPLIT RIB FRAG-SSZ?	4
053	OVCA	TIB	1	L						SD-12.4		DISTAL HALF OF SHAFT	4
058	BOS	ATL	1	L			CH					LEFT SIDE-LOTS SUPERFICIAL DAMAGE- CHOPPED ON ANT LEFT	4
058	OVCA	HUM	1	L	PFDF	12345678				GL-141.6 Dp-44.2 SD-		COMPLETE WITH SOME	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
						90				13.1 BT-28.6 BT-17.8		SUPERFICIAL DAMAGE	
063	BOS	RIB	1	R			C					PROX SHAFT-11CM-DISTAL END CHARRED-SL POROUS--SMALL IMM-2 PIECES	4
063	BOS	RIB	1	R								PROX SHAFT-12CM-SL POROUS-SMALL -IMM- 3 PIECES-POSS SAME ANIMAL AS ABOVE	4
066	BOS	CEV	1	R	CNAN	4						RIGHT SIDE CENTRUM-SMALL-JUV/IMM	4
066	BOS	MTT	1	R	DF	12345				GL-202 SD-+23.8 Bd-49.2 Dd-28.6		COMPLETE-PROX POST DAMAGED-4 PIECES-SMALL-MOD BREAK	4
069	BOS	HUM	1	R		5690		DG		SD-24.5		MID 2 THIRDS SHAFT-SL GNAWING BOTH ENDS-POSS IMM	4
069	OVCA	MAN	1	R		278			g13 I12J10			HORI RAMUS WITH TOOTH ROW-DPM4-M2-& PARTS ASC RAMUS -12 FRAGMENTS	4
070	BOS	RAD	1	R	PF	123			DG	SD-43.2		PROX END AND MOST OF SHAFT-DISTAL CHEWED-PROX DAMAGED	4
070	BOS	SCP	1	L		35	CH	DG				NECK AND DISTAL BLADE FRAGMENT-CHOPP TRANS VENTRAL-DISTALE END GNAWED	4
070	OVCA	MAN	1	L		234578			GH6I12J11K6			FRAGMENTED RAMUS-11 PIECES-MODERN BREAKS	4
070	OVCA	TIB	1	L		47				SD-14.4		2 THIRDS MIDSHAFT- 2 PIECES-ROBUST-RAM/GOAT?	4
074	BOS	MAN	1	R		678			H12I7J1K0			ANGLE AND PART OF RAMUS WITH DP4 AND M1-M2 NOT ERUPTED	4
074	UNI	UNI	1	F								INDET	4
076	OVCA	HUM	1	R	PN	5						PROX THIRD SHAFT-EPI UNFUSED	4
076	OVCA	SKL	1	R		2						OCCIPITAL - 3 PIECES	4
076	SSZ	TIB	1	F								POST PROX MIDSHAFT FRAGMENT	4
077	BOS	SKL	1	R								ZYGOMATIC ARCH-POROUS-IMM?	4
080	OVCA	FEM	1	L								POST LATERAL SHAFT	4
090	BOS	ATL	1	F		12345	CH					CHOPPED OBLIQUELT THRU RIGHT VENTRAL-PERIPHERAL DAMAGE	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
090	BOS	CAL	1	R	PF	13				GL-118.4		POTERIRO PART BROKEN OFF-MODERN BREAK	4
090	BOS	DUP4	1	R					h15			ROOTS BROKEN	4
090	BOS	FEM	1	F	PN	1		DG				UNFUSED FEMUR HEAD-TOOTH MARKS	4
090	BOS	HUM	1	R	DF	78	CH	DG				DISTAL CONDYLE- CHOPPED OFF THRU CONDYLE-TOOTH MARKS	4
090	BOS	INN	1	R	PF	59						ANT PART ACETAB WITH PART ILIAL SHAFT	4
090	BOS	MAN	1	L					I12J6			FRAMENT OF RAMUS WITH M1 AND M2-M3 ABSENT BUT PROBABLY IN CRYPT	4
090	BOS	MTC	1	R	DF	345				Bd-65 Dd-32.7		DISTAL END-ARTIC SL EXPANDED MEDIAL AND LATERAL	4
090	BOS	MTP	1	F	DN	6	CH					CHOPPED FRAGMENT DISTAL CONDYLE	4
090	BOS	PH3	1	R		1						COMPLETE	4
090	BOS	SCP	1	F								DISTAL BLADE WITH BASE SPINE- 4 PIECES	4
090	BOS	SCP	1	L	DF	123				SLC-40.6 GLP-59.2 BG-43.4 LG-50.1		GLENOID AND NECK- 2 PIECES	4
090	BOS	SKL	1	L								SUPRAORBITAL FRAGMENT-SUTURE OPEN	4
090	BOS	SKL	1	R		8						TEMPORAL FACET-SL POROUS-IMM?	4
090	CSZ	LBF	1	F								SHAFT FRAGMENT	4
090	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
090	CSZ	RIB	1	F								DISTAL SHAFT FRAGMENT- 8CM	4
090	CSZ	SKL	3	F								DORSAL FRAGS CRANIUM	4
090	EQU	AST	1	R		1				GH-53 GB-54.8 BFd-46.7 LmT-55.5		COMPLETE	4
090	OVCA	SKL	1	F		3						POST DORSAL OCCIPITAL FRAGMENT	4
090	SUS	HUM	1	L		0				SD-17.1		DISTAL MIDSHAFT-SL POROUS	4
090	SUS	SKL	1	F								DORSAL POST FRAGMENT FRONTAL	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
093	CSZ	UNI	2	F								HEAVILY MINERALISED FRAGMENTS-SAME BONE?-LONG BONE?	4
100	SSZ	RIB	1	F			KN					DISTAL SHAFT-6CM-KNIFE CUTS	4
102	SSZ	RIB	1	F								DISTAL SHAFT-POROUS-IMM	4
104	BOS	MAN	1	L								VENTRAL FRAG HORI RAMUS	4
104	BOS	RAD	1	L	PF							MEDIAL FRAGMENT PROX END	4
104	BOS	RAD	1	R	PF	123	CH			Bp-77.2 SD-39.8		PROX END AND SHAFT- 2 PIECES-MODERN BREAK-CHOPPED OBLIQ THRU PROX FACET	4
104	BOS	RAD	1	R	DF	U4						FRAG DISTAL EPI WITH ULNA FUSED ON	4
104	BOS	TIB	1	R		4				SD-29.5		2 THIRDS SHAFT	4
104	CSZ	LBF	1	F								SHAFT FRAGMENT	4
104	CSZ	UNI	1	F								INDET	4
104	CSZ	UNI	1	F								INDET-SHAFT FRAG?	4
104	EQU	MAN	1	R					P2-M3			HORI RAMUS - FRAGMENTED-13 PIECES-COMPLETE TOOTH ROW-MED WEAR-ADULT	4
109	BOS	LMV	1	F	CNAN	145						SPINE CENTRUM AND ARCH-LOTS DAMAGE	4
109	CSZ	LBF	1	F								INDET SHAFT-THIN WALLED-PIG YOUNG BOS?/	4
109	OVCA	TIB	1	L	DF	5						SPLIT FRAGMENT DISTAL END	4
109	SSZ	LBF	1	F								MIDSHAFT FRAGMENT-? TIB	4
109	SSZ	UNI	1	F								INDET	4
109	SUS	RIB	1	L			CH					PROX AND MIDSHAFT-12CM-DISTAL END CHOPPED	4
109	UNI	UNI	1	F								INDET	4
111	SSZ	RIB?	1	F							P	SHAFT-LOOKS MALFORMED OR BROKEN AND REPAIRED AT PROX END	4
116	CSZ	FEM	1									FRAGMENTED MIDSHAFT-8 BITS-	4
116	OVCA	TIB	1	F								DISTAL SHAFT- 2 PIECES	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
123	BOS	SKL	1	R		9						MAXILLA- 4 BITS-PREMOLAR ALVEOLI-	4
123	BOS	TIB	1	L	DF	56		DG				MOST OF DISTAL END-LARGE-TOOTH MARKS	4
123	BOS	TRV	1	F								BASE SPINE AND PART NEURAL ARCH4	4
123	BOS	UM1	1	R					I16			COMPLETE	4
123	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
123	CSZ	SKL	1	F								INDET-OCCIPTAL?	4
123	CSZ	UNI	1	F								INDET- INNOM?	4
123	EQU	FEM	1	R								POSTERIOR HALF OF SHAFT	4
123	SSZ	TIB	1	F								SHAFT FRAGMENT	4
123	SUS	HUM	1	L		690				SD-13.5		DISTAL 2 THIRDS SHAFT-POROUS-IMM-SMALLISH	4
123	SUS	M2	1	W								SL WEAR	4
123	UNI	RIB	1	F								SPLIT SHAFT EDGE FRAGMENT	4
123	UNI	UNI	1	F			C					CALCINED FRAGMENT	4
131	BOS	LMV	1	F	AF	34						POST EPI AND MOST OF CENTRUM-LAST LUMBAR-SAME ANIMAL AS BELOW	4
131	BOS	SAC	1	F	CF	24	CH					ANT EPI AND PART OF CENTRUM-SAME ANIMAL AS ABOVE-ARTICULATED?-CHOPPED VENTRALLY	4
135	BOS	RIB	1	F								DISTAL SHAFT FRAGMENT-9CM	4
135	CSZ	LBF	1	F								INDET SHAFT FRAGMENT	4
136	BOS	CQ	1	F				DG				JUST UNDER HALF	4
136	BOS	HUM	1	F		0						MIDSHAFT FRAGMENT	4
136	BOS	MAN	1	L		5	C					FRAGMENT WITH CONDYLE-CHARRED	4
136	BOS	PH1	1	F								PART OF DISTAL END AND SPLIT SHAFT	4
136	BOS	PH2	1	L	PF	12						MEDIAL SIDE-SPLIT AXIALLY	4
136	BOS	SCP	1	F		4						PART OF SPINE	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
136	BOS	SKL	1	L								ANT FRAG PREMAXILLA	4
136	BOS	TIB	1	R		4						PROX SHAFT FRAGMENT	4
136	CSZ	LBF	1	F								INDET SHAFT FRAG	4
136	CSZ	LBF	1	F								MIDSHAFT FRAGMENT-? FEM	4
136	CSZ	LBF	2	F								SHAFT FRAGMENT	4
136	CSZ	RIB	1	F								DISTAL SHAFT-14CM	4
136	CSZ	RIB	1	F								DISTAL SHAFT FRAGMENT-5CM	4
136	CSZ	RIB	1	R								MIDSHAFT-17CM	4
136	CSZ	TRV	1	F		5	CH	DG				BASE OF SPINE-ANT CHOPPED TRANSVERSELY-CHEWED	4
136	CSZ	UNI	1	F								INDET	4
136	CSZ	UNI	1	F								INDET	4
136	EQU	INN	1	L		7	CH					ISCHIAL SHAFT-POSTERIOR DORSAL CHOPPED	4
136	GOOS	HUM	1	F								DISTAL MIDSHAFT	4
136	GOOS	HUM	1	L						Bd-24.8 Dd-13.9		DISTAL END-DOMESTIC	4
136	GSSZ	LBF	2	F								INDET SHAFT FRAGMENT	4
136	OVCA	FEM	1	F								POST MIDSHAFT FRAGMENT	4
136	OVCA	FEM	1	L								DISTAL ANT SHAFT FRAGMENT	4
136	OVCA	FEM	1	R								MIDSHAFT	4
136	OVCA	HUM	1	L						SD-12.6		DISTAL SHAFT-SL POROUS	4
136	OVCA	MAN	1	L		1237			BCDGH18J17K14	7-60.3		HORI RAMUS WITH COMPLETE TOOTH ROW-ELDERLY	4
136	OVCA	MAN	1	R		45						DORSAL PART ASC RAMUS- 2 PIECES	4
136	OVCA	MAN	1	R		2			I12J10K6			ANT HAL RAMUS WITH M1-M3- 2 PIECES	4
136	OVCA	MAN	1	R		1237			FGH14I18J15K13	7-60.5		MOST OF HORI RAMUS WITH COMPLETE TOOTH ROW	4
136	OVCA	MAN	1	R		278			FGH16J16K14	7-63.8		HORI RAMUS WITH COMPLETE TOOTH ROW	4
136	OVCA	MAN	1	R		12367			gh12 I10J7K2			MOST OF HORI RAMUS WITH TOOTH ROW-M3 UNERUPTED- 2 PIECES	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
136	OVCA	MTC	1	F								SPLIT SHAFT FRAGMENT	4
136	OVCA	MTT	1	F								MIDSHAFT-GRACILE-PARALELL	4
136	OVCA	RAD	1	L				DG				MID AND DISTAL SHAFT-ISTAL END GNAWED	4
136	OVCA	RAD	1	R	PF	1				SD-16.6		MEDIAL PROX END AND 2 THIRDS SHAFT	4
136	OVCA	SCP	1	L		5						CAUDAL MARGIN OF BLADE AND DISTAL BLADE WITH BASE SPINE	4
136	OVCA	TIB	1	L						SD-8.3		MID AND DISTAL SHAFT-VERY SMALL-JUV	4
136	OVCA	TIB	1	L				DG		SD-13.3		2 THIRDS SHAFT-DISTAL END SL CHEWED	4
136	OVCA	TIB	1	L						SD-13.8		MID AND DISTAL SHAFT	4
136	SSZ	FEM	1	F								MIDSHAFT FRAGMENT	4
136	SSZ	HUM	1	F								ANT SHAFT FRAGMENT	4
136	SSZ	LBF	1	F								SHAFT FRAGMENT	4
136	SSZ	LBF	1	F								SHAFT FRAGMENT-POROUS	4
136	SSZ	LBF	1	F								SHAFT FRAGMENT	4
136	SSZ	RIB	1	F								SHAFT FRAGMENT-8CM	4
136	SSZ	RIB	1	F								PROX SHAFT-4CM	4
136	SSZ	RIB	1	F								DISTAL MIDSHAFT-5CM	4
136	SSZ	RIB	1	F								DISTAL SHAFT FRAGMENT-6CM- PIG SIZE	4
136	SSZ	RIB	1	F								MIDSHAFT	4
136	SSZ	RIB	1	R								PROX MIDSHAFT-9CM	4
136	SSZ	RIB	1	R								MIDSHAFT-9CM	4
136	SSZ	SCP	1	F		2						GLENOID ONLY	4
136	SSZ	SKL	1	F								INDET	4
136	SSZ	TIB	1	F								POST SHAFT FRAGMENT	4
136	UNI	SJKL	1	F								FACIAL FRAGMENT	4
136	UNI	UNI	2	F								INDET FRAGMENTS	4
136	UNI	UNI	1	F			C					CALCINED FRAGMENT-SSZ?	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
145	BOS	RIB	1	L			CH					PROX SHAFT-10CM-DISTAL END CHOPPED	4
145	OVCA	MAN	1	L		4			J12K12			POST RAMUS AND CORONOID- 7 PIECES-MODERN BREAK	4
145	OVCA	UM	1	F								FRAGMENT OF CUSP	4
145	UNI	UNI	1	F								INDET	4
146	BOS	MTC	1	F				DG		SD-19		MIDSHAFT-SMALL-IMM?-ONE END CHEWED	4
146	OVCA	MAN	1	R		7			K12			RAMUS FRAGMENT WITH M3	4
146	OVCA	MTT	1	F			C					ANT MIDSHAFT FRAGMENT-CALCINED	4
146	OVCA	PH1	1	L	PN	2						PROX EPI LOST	4
146	OVCA	PH1	1	L	PF2							PROX END BROKEN-SL ERODED	4
146	OVCA	PH1	1	R	PF	12						COMPLETE	4
146	OVCA	PH3	1	L		1						COMPLETE	4
146	OVCA	SKL	1	L		8	C					CALCINED TEMPORAL FACET	4
146	SSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
146	SSZ	LBF	2	F			C					CALCINED SHAFT FRAGMENT	4
146	SSZ	RIB	1	F								SHAFT FRAGMENT-2CM	4
146	SSZ	UNI	1	F								INDET	4
146	SUS	SKL	1	F			C/CH					FRAGMENTED BURNT POST SKULL-7 PIECES-OCIP-PAR-FRNTCHOPPED	4
148	GOOS	FEM	1	L						SD-11.7 Bd-23.1		DISTAL END AD SHAFT - 2 PIECES-LARGE-SIMILAR SIZE TO MOERN DOMESTIC	4
148	OVCA	TIB	1	L		4		DG				PROX SHAFT-PROX END CHEWED OFF	4
148	SSZ	LBF	2	F			C					INDET CALCINED SHAFT FRAG	4
150	BOS	AST	1	L		1				L1-56.8 L2-52.4 Bp-40.3 Bd-36.2 Dd-28.4		COMPLETE	4
150	BOS	MAN	1	L				DG				POST FRAG ASC RAMUS-CHEWED-ERODED	4
150	OVCA	MAN	1	L				DG	GH12I14			FRAGMENT OF RAMUS WITH P3-M1 - 2 PIECES	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
150	OVCA	MAN	1	L		12357			FGH14I17J14K13	7-66.9		MOST OF HORI RAMUS WITH COMPLETE TOOTH ROW- 3 PIECES	4
150	OVCA	PH3	1	L								VENTRAL FRAGMENT	4
150	SSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
151	CR/ST	TIB	1	L						Bd-15.5 Dd-18.4 SD-8.9		DISTAL END AND SHAFT-CRANE OR STORK?	4
152	OVI	MTT	1	L	DF	345				Bd-22.6 Dd-15.2		DISTAL THIRD	4
152	SSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
152	SSZ	LMV	1	F	CNAN	4						CENTRUM	4
158	BOS	LM1	1	R					I17			COMPLETE	4
160	BOS	FEM	1	L	DF	567						FRAGMENTED DISTAL END-12 PIECES	4
162	BOS	PH1	1	F								SPLIT DISTAL END	4
162	BOS	UM1	1	R					I15			ROOT BROKEN	4
168	CSZ	RIB	1	L								PROX HALF SHAFT- 2 PIECES-ERODED	3
174	BOS	INN	1	F								SYMPHYSIAL FRAG OF ISCHIUM	4
174	BOS	INN	1	L	EF	2345679						MOST OF INNOMINATE- 3 PIECES-POST ISCHIUM ABSENT	4
174	BOS	MAN	1	R		123678			GH10I15J14K12			LARGELY COMPLETE- 7 PIECES-P2 CONGENITALLY ABSENT	4
174	SUS	MAN	1	R		67			H9I11J7K3			POST HALF HORI RAMUS- 3 PIECES-P4-M3, M3 UNERUPTED	4
186	BOS	PH2	1	L	PF	12		DG				COMPLETE-PROX FACET SWOLLEN/EXPANDED-CHEWED\?	4
186	BOS	SCP	1	L								FRAGMENT OF GLENOID	4
186	CAN	RAD	1	L	PF	1236					P	PROX END & SHAFT-PROXIMAL SHAFT-BRUISED WITH BONE GROWTH-GRACILE TYPE	4
186	CSZ	RIB	1	F								SPLIT SHAFT FRAG-6CM	4
186	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT-6CM	4
186	CSZ	RIB	1	F								SHAFT FRAGMENT-9CM	4
186	OVI	HC	1	R								TIP OF HORN CORE	4
188	CSZ	UNI	1	F			C					INDET FRAGMENT-CHARRED BLACK	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
188	UNI	UNI	1	F								INDET-STRANGE BONE-POSS ERODED PIG PATELLA??	4
190	BOS	SCP	1	R								DISTAL CRANIAL MARGIN OF BLADE WITH BASE SPINE	4
190	OVCA	MTC	1	R	DN	125				L1-96.5 Bp-22.3 Dp-15.7 SD-12.8 Bd-24.9		PROX END AND SHAFT- 2 PIECES-JUV	4
190	OVCA	TIB	1	L	DF	4567				SD-14.3 Bd-29.4 Dd-20		DISTAL END AND SHAFT	4
190	OVI	SKL	1	R		905			gh12 I12J7K2			RIGHT SIDE SKULL-MAXILLA WITH TEETH-HORNCORE-12 PIECES	4
190	SSZ	LBF	2	F								INDET SHAFT SPLINTERS	4
190	UNI	UNI	1	F								INDET	4
192	BOS	FEM	1	F								PRIOX SHAFT FRAGMENT	4
192	BOS	LM1	1	L					I17			ROOT BROKEN	4
192	BOS	LPM2	1	R					F			COMPLETE-WELL WORN	4
192	BOS	UM2	1	R					J6			COMPLETE-CUSPS WESAR JUST STARTING	4
192	CSZ	MAN	1	F								FRAG HORI RAMUS	4
192	CSZ	RIB	1	R								PROX MIDSHAFT-10CM-SMALL-POROUS-IMM	4
192	CSZ	UNI	1	F								INDET-POSS ERODED RIB FRAG	4
192	OVCA	TIB	1	R		4				SD-12.2		PROX MIDSHAFT	4
192	OVCA	ULN	1	F								SHAFT FRAGMENT	4
192	SSZ	LBF	1	F								INDET SHAFT FRAGMENT	4
192	SSZ	LBF	1	F								INDET SHAFT FRAG-POSS PROX FEM SHAFT	4
192	SSZ	RIB	1	R								PROX SHAFT- 2 PIEES-4CM	4
192	UNI	SKL	1	F								INDET	4
194	SSZ	SKL	1	F								INDET SKULL FRAG	4
196	BOS	RIB	1	L								PROXIMAL SHAFT-12CM	4
196	CSZ	RIB	1	F								SPLIT SHAFT FRAG-6CM	4
196	CSZ	RIB	1	F								SPLIT SHAFT FRAG-6CM	4
196	DUCK	TIB	1	R						Bd-12.4 Dd-12.2		DISTAL HALF-DOMESTIC?	4
196	OVCA	MAN	1	R		68						ANGLE-SMALL--IMM?	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
196	OVCA	MTT	1	F								FRAG PROX ARTIC	4
196	OVCA	RAD	1	R		3		DG				SPLIT SHAFT-DISTAL END CHEWED	4
196	UNI	SKL	1	F			C					INDET SKULLO FRAG-CHARRED BLACK	4
198	BOS	HUM	1	L		69						DISTAL THIRD OF SHAFT	4
198	CSZ	LBF	1	F			C					BLACK CHARRED SHAFT FRAGMENT	4
198	CSZ	TIB	1	F								PROX SHAFT FRAGMENT	4
198	SUS	TIB	1	R		4		DG		SD-19.5		PROX AND MIDSHAFT-BOTH ENDS WITH SLIGHT TOOTH MARKS	4
211	BOS	CEV	1	F		5						NEURAL ARCH AND POST ZYGAPHOPHYSES	4
211	CSZ	SKL	1	F								DORSAL FRAG CRANIUM-BOS FRONTAL?	4
212	BOS	MAN	1	L		23			gh8 I3J0			RAMUS WITH TOOTH ROW AND DIASTEMA- M1 ERUPTING-CALF	4
212	BOS	MTT	1	L		125		DG				SHAFT AND BIT OF PROX END-BOTH ENDS CHEWED	4
214	BOS	INN	1	R		23		DG				ANT ILIAL SHAFT AND PART SCAR-ANT END CHEWED	4
214	BOS	SKL	1	R		0			H12I16J15K15			MAXILLA CONCRETED AND MINERALISED	4
214	CSZ	UNI	1	F								INDET CONCRETED-SKL?	4
216	BOS	CAL	1	R		23		DG		Dd-47		DISTAL 2 THIRDS	4
216	BOS	TIB	1	L	PFDF	1234567				GL-325 SD-32.5 Bd-55.5 Dd-39.9		COMPLETE EXCEPT FOR SPINE- 2 PIECES	4
216	BOS	TRV	1	F		5						BASE SPINE & NEURAL ARCH	4
216	OVCA	TIB	1	L	PNDN	47				L2-127.7 SD-10.6		MOST OF SHAFT-JUV	4
219	BOS	CAL	1	R	PN	2						UNFORMED-CALF-DISTAL LOST	4
219	BOS	INN	1	L	EF	459	CH?					ACETAB-POSS CHOPPED THRU PUBIS	4
219	BOS	MAN	1	L		458						DORSAL PART ASC RAMUS-ADULT?	4
219	BOS	MAN	1	R		123			fgh14 I9J2			DIASTEMA AND TOOTH ROW-9 PIECES-LM2 UNERUPTED-MOD BREAK	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
219	BOS	SKL	1	L								POST FRAG PREMAXILLA	4
219	BOS	TIB	1	L								PROX LATERAL SHAFT FRAGMENT-POROUS	4
219	CSZ	CC	1	F								COSTAL CARTILAGE	4
219	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
219	CSZ	TIB	1	L								ANT MIDSHAFT FRAGMENT	4
219	OVCA	LM2	1	R					J12			COMPLETE	4
219	OVCA	MAN	1	R		2						DIASTEMA AND PM ALVEOLI FRAG	4
219	OVCA	MTC	1	R						SD-8.4		SHAFT WITH TINY PART PROX END-UNFORMED-VERY SMALL-LAMB	4
219	OVCA	RAD	1	R								MIDSHAFT	4
219	OVCA	SCP	1	R		3						DISTAL 2 THIRDS BLADE-DAMAGED	4
219	OVCA	SKL	1	L					I12J10			MAXILLARY FRAG WITH M1 AND M2-LOOSE	4
219	OVCA	TIB	1	R	DN	7						MID AND DISTAL SHAT-PART Z7	4
219	SSZ	LBF	1	F								SHAFT FRAGMENT	4
219	SSZ	RIB	1	L								PROX MIDSHAFT-5CM-POSS PIG	4
219	UNI	LBF	1	F			C					CALCINED SHAFT FRAG	4
219	UNI	UNI	1	F								INDET-?RIB FRAG	4
224	BOS	SKL	1	R		ZYG						ZYGOMATIC ARCH	4
224	EQU	MAN	1	R		23			FGHIJ			ANT 2 THIRDS RMUS WITH P2-M2-M3 ERUPTED BUT LOST-SURFACE EROSION, SYMPHYSIS	4
224	OVI	SKL	1	F								PARIETAL AND DORSAL OCCIPTAL	4
224	OVI	SKL	1	R								HORN CORE & SMALL PART FRNT- 3 PIECES-EWE?	4
238	BOS	HUM	1	L		90		DG				LATERAL SIDE OF SHAFT-DISTAL END CHEWED-TOOTH MARKS ON PROX END	4
238	BOS	HUM	1	R		9	C					POST DISTAL SHAT-Z9-CHARRED BLACK	4
238	BOS	MTT	1	F				DG				SPLIT DISTAL HALF SHAFT-DISTAL END CHEWED	4
238	CSZ	RIB	1	F								DISTAL SHAFT-10CM	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
238	CSZ	RIB	1	F								DISTAL SHAFT FRAG-6CM	4
238	EQU	MTT	1	F								POST PROX FRAGMENT OF ARTIC	4
238	OVCA	MAN	1	L		237			GH13I15J12 K12	7-64.9		HORI RAMUS WITH TOOTH ROW	4
238	OVCA	MTC	1	F	DF	6						SPLIT DISTAL FRAGMENT WITH CONDYLE	4
238	OVCA	MTT	1	R				DG		SD-11.3		MOST OF SHAFT-PROXIMAL END CHEWED	4
238	SSZ	FEM	1	F								POST SHAFT FRAGMENT-PIG?	4
243	OVCA	SCP	1	L								DISTAL CRANIAL MARGIN OF BLADE AND BASE SPINE	4
243	SSZ	TIB	1	F								POST DISTAL SHAFT FRAGMENT	4
247	OVCA	RAD	1	R								PROX MEDIAL SHAFT SPLINTER	4
247	SUS	SKL	1	R					I6			MAXILLARY FRAG WITH M1-UNWORN M2 UNERUPTED- 4 PIECES	4
249	CSZ	RIB	1	L								PROX AND MIDSHAFT-15CM	4
263	BOS	UM1/2	1	L					I/J15			COMPLETE	4
265	CSZ	LBF	1	F								INDET SHAFT FRAGMENT	4
268	BOS	MTT	1	R		2	CHW					LATERAL SIDE OF PROX END AND SHAFT-CHOPPED AXIALLY-EDGE WITH CHOP MARKS-WASTE?	4
268	OVCA	MAN	1	R		13						SYMPHYSEAL FRAGMENT	4
269	BOS	HC	1	R		HC				HC MAXD42.3 MIND-34.3 L-120		SHORT HORN-POSS SAME SKULL AS ABOVE	4
269	BOS	FEM	1	F								ANT DISTAL SHAFT FRAGMENT	4
269	BOS	HUM	1	L	DF	67890		DG		SD-31 HT-42.2		DISTAL END AND MOST O SHAFT-PROX END CHEWED OFF	4
269	BOS	MTT	1	L		125				Bp-49.6 Dp-46.9 SD-28.2	P	PROX END AND SHAFT-BONE GROWTH BOTH SIDES OF DISTAL SHAFT-PLOUGH OXEN??	4
269	BOS	SKL	1	F								POST DORSAL CRANIUM-FRNT- 3 PIECES-SUTURES CLOSED	4
269	BOS	SKL	1	L		Z						ZYGOMATIC ARCH	4
269	BOS	SKL	1	L		HC3				HC MAXDIAM40		SHORT HORN WITH POST FRONTAL	4

context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preserv-ation
										MINDIAM-34.2 L-124		AND PART PARIETAL-SUTURES COMPLETELY CLOSED	
269	BOS	SKL	1	R		124856						FRONTAL TEMPORAL AND OCCIPITAL-SUTURES ALL CLOSED-POSS CHOPPED DOWN MIDDLE	4
269	BOS	SKL	1	R		HC				HC MAXD-63.3 MIND-51.2 L-240		HORN CORE WITH FRAG FRONTAL-LARGE HORN	4
269	BOS	TIB	1	L	DF	567				Bd-58.2 Dd-43.3		DISTAL END AND ANT PART DISTAL HALF SHAFT	4
269	CSZ	RIB	1	F								MIDSHAFT-13CM	4
269	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
269	CSZ	RIB	1	F								MIDSHAFT-9CM	4
269	EQU	ATL	1	F		234						CENTRUM AND PART ARCH-WINGS BROKEN	4
269	EQU	TRV	1	F	CFAN	1245						CENTRUM AND SPINE- 2 PIECES	4
269	EQU	TRV	1	F	CFAF	12345						COMPLETE-SPINE BROKEN-SAME ANIMAL AS ABOVE?	4
269	SSZ	FEM	1	F								MIDSHAFT FRAGMENT-SPLIT	4
269	SSZ	LBF	1	F								SPLIT SHAFT FRAGMENT-FEM?	4
269	SSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
269	SSZ	RIB	1	F								MIDSHAFT-SMALL-6CM	4
269	SUS	HUM	1	L								POST FRAG DISTAL SHAFT-POROUS-IMM	4
269	SUS	SCP	1	R	DF	12						GLENOID	4
271	BOS	RUL	1	L	PF	123/3		DG		Bp-71.2 Dp-37 SD-33.7		PROX END AND SHAFT OF RAD-DISTAL CHEWED-ULNA SHAFT & DISTAL PART PROX ARTIC-FUS	4
273	EQU	TIB	1	L				DG		SD-27.9		2 THIRDS SHAFT-MIDSHAFT-BOTH ENDS CHEWED-ERODED-POROUS-IMM	4

APPENDIX 2. THE ENVIRONMENTAL ARCHAEOLOGY CONSULTANCY

Key to codes used in the cataloguing of animal bones and marine shells

SPECIES:

SPECIES CODE			SPECIES CODE	
MAN	human		DOVE	Dove species
EQU	Horse		FER	Feral dove
EQSZ	Horse size		PART	Partridge
BOS	Cattle		SWAN?	Swan?
BOSL	Cattle-large		WOOD	Woodcock
CSZ	cattle size		CURL	Curlew
SUS	Pig		WADE	wader
OVCA	sheep or goat		CROK	Crow or rook
OVI	Sheep		CORV	Crow or rook
CRA	Goat		JACK	Jackdaw
SSZ	sheep size		OWL	Owl indet.
FEL	Cat		BUZZ	Buzzard
CAN	Dog		GULL	Gull sp.
AUR	Aurochs			
AUR?	Aurochs?		TURD	Turdidae
CER	red deer		BIRD	Identifiable but not id'd
DAM	Fallow deer		PASS	Passerine
CLS	roe deer		LBIRD	Large bird
LEP	Hare		UNIB	Bird indet
ORC	Rabbit			
LAG	Lagomorph		FROG	Frog
CARN	Carnivore		FRTO	Frog or toad
FOX	Fox			
POLE	Polecat/ferret			
WEA	weasel		GAD	Gadid, cod family
BADG	Badger		LING	Ling
SEAL	seal		HADD	Haddock
SQU?	Squirrel?		RAY	ray
BEAV	Beaver		FISH	Fish
ROD	Rodent		UNIF	Fish indet
RAT	Rat			
AGR	Field vole		OYS	oyster
ARV	Water vole		COK	Cockle
MUS	House mouse		MUSS	Common Mussel
SORA	Common shrew		WHELK	Common whelk
MOLE	Mole		HEL	Helix aspersa
SMA	Small mammal		HELIX	Helix sp.
UNI	Unknown		HELN	Helix nemoralis
			SNAIL	snail
CHIK	Chicken			
CHKZ	Chicken size		FOSS	Fossil bone
GOOS	Goose, dom			
GOOS?	Goose, dom.?			
GSSZ	Goose size			
GSSP	Goose species			
GOSZ	Goose, poss. Wild			
DUCK	Duck, domestic sp.			
DUCK?	Duck?			
DKSP	Duck species			
DSP	Duck species indet			
MALL	Duck, dom.			
TURK	Turkey			

BONE ELEMENT:

BONE CODE		BONE CODE	
SKEL	skeleton	SCP	scapula
SKL	skull	HUM	humerus
ANT	antler	RAD	radius
ANT?	antler?	ULN	ulna
ATT	antler tine	RUL	radius and ulna
HC	horn core	C/T	carpus/tarsus
TEMP	temporal	C23	carpus 2+3
FRNT	frontal	CAR	carpus
PET	petrous	CPA	accessory carpal
PAR	parietal	CPI	intermediate carpal
OCIP	occipital	CPR	radial carpal
ZYG	zygomatic	CPU	ulnal carpal
NAS	nasal	MTC	metacarpus
PMX	premaxilla	MC1-5	metacarpus 1-5
MAN	mandible	MTP	metapodial
MNT	mandibular tooth	MPL	lateral metapodial
DLI	deciduous lower incisor	INN	innominate
DLPM1-4	deciduous lower premolar 1-4	ILM	ilium
LI	lower incisor (and 1-3)	PUB	pubis
LC	lower canine	ISH	ischium
LPM1-LPM4	lower premolar 1-4	FEM	femur
LM1-LM3	lower molar 1 - molar 3	PAT	patella
MAX	maxilla	TIB	tibia
DUI	deciduous upper incisor	FIB	fibula
UI	upper incisor (1-3)	LML	lateral malleolus
UC	upper canine	AST	astragalus
DUPM	deciduous upper premolar	CAL	calcaneum
DUPM1-4	deciduous upper premolar 1-4	CQ	centroquartal
UPM1-UPM4	upper premolar 1-4	TAR3	tarsus 3
UM1-UM3	upper molar 1 - molar 3	T4	tarsus 4
MXT	maxillary tooth	TAR	tarsus
TTH	indeterminate tooth	MTT	metatarsus
INC	incisor	MT1-5	metatarsus 1-5
HYD	hyoid	MTL	lateral metatarsus
ATL	atlas	SES	sesamoid
AXI	axis	PH1	1st phalanx
CEV	cervical vertebra (and 3-7)	PH2	2nd phalanx
TRV	thoracic vertebra (and 1-13)	PH3	3rd phalanx
LMV	lumbar vertebra	PHL	lateral phalanx
SAC	sacrum	LBF	long bone
CDV	caudal vertebra	UNI	unidentified
VER	vertebra		
STN	sternum	CLV	clavicle
CC	costal cartilage	COR	coracoid
RIB1	first rib (2 etc)	CMP	carpo-metacarpus
RIB	rib	CMC	carpo-metacarpus
		WPH1-3	wing phalanges 1-3
URO	urostyle	WPH	wing phalanx
		LSA	lumbosacrale
DENT	dentary		
CLEI	cleithrum		
RAY	fin ray		
SHELL	shell		
UV	upper valve		
VAL	valve		

NUMBER: number of fragments in the entry

SIDE: W - whole L - left side R - right side F - fragment P – partial skeleton

FUSION: records the fused/unfused condition of the epiphyses
P - proximal; D - distal; E - acetabulum; N - unfused; F - fused; C - cranial; A - posterior

ZONES: records the part of the bone present.
The key to each zone on each bone is on page 4

BUTCHERY: records whether a bone has been chopped (CH), cut (KN), worked (W), burnt (C)

GNAWING: records if a bone has been gnawed by dogs (DG), cats (FEL) or rodents (RG)

TOOTH WEAR - Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites*, 91-108.

Teeth are labelled as follows in the tooth wear column:

Deciduous	Permanent
f ldpm2/dupm2	F lpm2/upm2
g ldpm3/dupm3	G lpm3/upm4
h ldpm4/dupm4	H lpm4/upm4
	I lm1/um1
	J lm2/um2
	K lm3/um3

MEASUREMENTS :Any measurements are those listed in A.Von den Driesch (1976*) A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA

Some measurments have been taken on juveniles. Measurements marked L1 are the greatest length of long bones lacking one unfused epiphysis – the measurement being taken from the epiphyseal junction. Measurements marked L2 are the greatest length of the long bones between epiphyseal junctions when both epiphyses are unfused.

PATHOLOGICAL: A 'P' indicates that the bone fragment carries a pathology

COMMENTS: This may include a short description of the fragments, any pathologies, butchery or gnawing evidence

PRESERVATION: records the condition of the bone in the following manner

1- enamel only surviving
2- bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine
3- surface pitting and erosion of bone, some loss of cementum and dentine on teeth
4- surface of bone intact, loss of organic or mineral component, material chalky, calcined or burnt
5- bone in good condition, probably with some organic component

ZONES - codes used to define the zones on each bone

SKULL	1. paraoccipital process	METACARPUS	1. medial facet of proximal articulation, MC3
	2. occipal condyle		2. lateral facet of proximal articulation, MC4
	3. intercornual protuberance		3. medial distal condyle, MC3
	4. external acoustic meatus		4. lateral distal condyle, MC4
	5. frontal sinus		5. anterior distal groove and foramen
	6. ectorbitale		6. medial or lateral distal condyle
	7. entorbitale		
	8. temporal articular facet	FIRST PHALANX	1. proximal epiphysis
	9. facial tuber		2. distal articular facet
	0. infraorbital foramen		
		INNOMINATE	1. tuber coxae
MANDIBLE	1. Symphyseal surface		2. tuber sacrale + scar
	2. diastema		3. body of illium with dorso-medial foramen
	3. lateral diastemal foramen		4. iliopubic eminence
	4. coronoid process		5. acetabular fossa
	5. condylar process		6. symphyseal branch of pubis
	6. angle		7. body of ischium
	7. anterior dorsal acsending ramus posterior M3		8. ischial tuberosity
	8. mandibular foramen		9. depression for medial tendon of rectus femoris
VERTEBRA	1. spine	FEMUR	1. head
	2. anterior central epiphysis		2. trochanter major
	3. posterior central epiphysis		3. trochanter minor
	4. centrum		4. supracondyloid fossa
	5. neural arch		5. distal medial condyle
			6. lateral distal condyle
SCAPULA	1. supraglenoid tubercle		7. distal trochlea
	2. glenoid cavity		8. trochanter tertius
	3. origin of the distal spine		
	4. tuber of spine	TIBIA	1. proximal medial condyle
	5. posterior of neck with foramen		2. proximal lateral condyle
	6. cranial angle of blade		3. intercondylar eminence
	7. caudal angle of blade		4. proximal posterior nutrient foramen
			5. medial malleolus
HUMERUS	1. head		6. lateral aspect of distal articulation
	2. greater tubercle		7. distal pre-epiphyseal portion of the diaphysis
	3. lesser tubercle		
	4. intertuberal groove	CALCANEUM	1. calcaneal tuber
	5. deltoid tuberosity		2. sustentaculum tali
	6. dorsal angle of olecranon fossa		3. processus anterior
	7. capitulum		
	8. trochlea	METATARSUS	1. medial facet of proximal artciulation, MT3.
	9. coronoid fossa		2. lateral facet of proximal articulation, MT4
	0. teres tubercle		3. medial distal condyle, MT3
RADIUS	1. medial half of proximal epiphysis		4. lateral distal condyle, MT4
	2. lateral half of proximal epiphysis		5. anterior distal groove and foramen
	3. posterior proximal ulna scar and foramen		6. medial or lateral distal condyle
	4. medial half of distal epiphysis		
	5. lateral half of distal epiphysis		
	6. distal shaft immediately above distal epiphysis		
ULNA	1. olecranon tuberosity		
	2. trochlear notch- semilunaris		
	3. lateral coronoid process		
	4. distal epiphysis		

References

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Appendix 5

GLOSSARY

Alluvium Deposits laid down by water. Marine alluvium is deposited by the sea, and fresh water alluvium is laid down by rivers and in lakes.

Anglo-Saxon Pertaining to the period when Britain was occupied by peoples from northern Germany, Denmark and adjacent areas. The period dates from approximately AD 450-1066.

Briquetage A coarse ceramic material used to make evaporation vessels and supporting pillars used in extracting salt from seawater.

Bronze Age A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.

Context An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, *e.g*. [004].

Cropmark A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.

Cut A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, *etc*. Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded**.**

Domesday Survey A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.

Dumped deposit A layer of material, often rubble, deliberately dumped in order to level up an area.

Fill Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) that become contained by the 'cut' are referred to as its fill(s).

Geophysical Survey Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry and resistivity survey.

Intrusive Artefacts of later date found in deposits that must pre-date them are said to be intrusive. Such intrusive artefacts will usually be small and have worked down in the soil through cracks, or by root, worm or rodent action. Intrusive artefacts will generally be isolated and be distinctively later than a larger assemblage of earlier artefacts, for example, a single 19th century pottery fragment found in a large collection of medieval ceramics in a refuse pit.

Iron Age A period characterised by the introduction of Iron into the country for tools, and subsequent home production, between 800 BC and AD 50.

Layer A layer is an accumulation of soil or other material that is not contained within a cut

Medieval The Middle Ages, dating from approximately AD 1066-1500.

Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity
Norman	Architectural style current in the 11th-12th centuries. Also known as Romanesque.
Old English	The language used by the Saxon (*q.v.*) occupants of Britain.
Palaeochannel	A remnant of an inactive river or stream that has been filled by younger sediment.
Posthole	The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post. Alternatively, the posthole may have been formed through the process of driving the post into the ground.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Redeposited	An artefact that is redeposited is one that has been removed in the past from its original place of deposition. Redeposition can introduce earlier artefacts into later deposits, ie. medieval or post-medieval ditch or pit digging may have invaded Roman levels, bringing Roman artefacts to the surface. When the medieval/post-medieval features are infilled the Roman artefacts become incorporated with those deposits; these Roman artefacts are said to be redeposited. If the age differences within an assemblage are not great it is sometimes difficult to determine if an artefact is redeposited or residual (*q.v.*).
Residual	Artefacts that are noticeably earlier than others in an assemblage are often described as residual. Residual artefacts may be ones that were used for a very long time, or items that were maintained as heirlooms/antiques. If the dates of artefacts within a group do not exhibit major differences it can be difficult to determine if an artefact is residual or redeposited (*q.v.*)
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Saltern	Saltmaking site where salt is obtained from sea water through evaporation.
Saxon	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany, Denmark and adjacent areas. Divided into Early (AD 410-660), Middle (AD 660-900) and Late Saxon (AD 900-1066.
Saxo-Norman	Pertaining to the period either side of the Norman Conquest of 1066, dating from about 1000-1100 AD.
Terrier	A record system for an institution's land and property holdings.
Till	A deposit formed after the retreat of a glacier. Also known as boulder clay, this material is generally unsorted and can comprise of rock flour to boulders to rocks of quite substantial size.
Unstratified	Not related to definable layers (strata).
Victorian	Pertaining to the period of Queen Victoria's reign, dating from 1837-1901.

Appendix 6

THE ARCHIVE

The archive consists of:

14	Context register sheets
274	Context record sheets
4	Photographic record sheets
1	Plan record sheet
3	Section record sheets
26	Daily record sheets
1	Sample record sheet
9	Environmental sample sheets
1	Small finds sheet
37	Sheets of scale drawings
1	Box of finds

All primary records are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

Lincolnshire City and County Museum
The Collection
Danes Terrace
Lincoln
LN2 1LP

Accession Number:	LCNCC: 2019.95
Archaeological Project Services Site Code:	HBFR 21
OASIS Record No:	archaeol1-508401

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

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Summary for archaeol1-508401

OASIS ID (UID)	archaeol1-508401
Project Name	Strip, map and sample excavation, land at Fen Road, Holbeach, Lincolnshire
Sitename	Fen Road, Holbeach
Activity type	Open Area Excavation
Project Identifier(s)	4482
Planning Id	H09-0276-19
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	Archaeological Project Services
Project Dates	01-Mar-2021 - 08-Apr-2021
Location	Fen Road, Holbeach NGR : TF 35800 23940 LL : 52.7959398027006, 0.012659862287352 12 Fig : 535800,323940
Administrative Areas	Country : England County : Lincolnshire District : South Holland Parish : Holbeach
Project Methodology	The excavation followed a previous evaluation (HBFR19) and revealed the ditches and pits of a farmstead of Middle to Late Saxon date (c. 750-1050). There was also a single boundary ditch of 13th to 14th century medieval date.
Project Results	A watercourse, ditches and pits of a Late Saxon farmstead were revealed. Animal bone suggested cattle and sheep husbandry while environmental evidence indicated the site was in open grassland at the time and that barley was being grown. Small coastal flat fish, cockles and mussels were also being consumed. There was also a medieval field boundary ditch of 13th to 14th century date.
Keywords	Watercourse - EARLY MEDIEVAL - FISH Thesaurus of Monument Types
Funder	
HER	Lincolnshire HER - unRev - STANDARD
Person Responsible for work	M, Peachey
HER Identifiers	
Archives	Physical Archive, Documentary Archive, Digital Archive - to be deposited with The Collection: Art and Archaeology in Lincolnshire;