



WYAS
**Archaeological
Services**

**Brough South
East Yorkshire**

Archaeological Strip, Map and Sample

Archive Report

Report no. 3175
September 2018

Client: BWB Consulting



Brough South, East Yorkshire

Archaeological Strip, Map and Sample

Summary

A scheme of archaeological strip, map and sample at Brough South, East Yorkshire has investigated the remains of a multi-phase roundhouse with associated pits, two trackways and various enclosures or field systems defined by ditches. Features on the site date from the prehistoric period through to the medieval period, with the majority dating to the Iron Age.



Report Information

Client: BWB Consulting
 Address: Whitehall Waterfront, Leeds
 Report Type: Archaeological Strip, Map and Sample
 Location: Brough
 County: East Yorkshire
 Grid Reference: SE 94999 26134
 Period(s) of activity represented: Prehistoric - Medieval
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 N Sewpaul (animal bone)
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Authorisation for
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1 Introduction

Archaeological Services WYAS (ASWYAS) were commissioned by BWB Consulting, on behalf of Horncastle Group PLC, to undertake a programme of excavation on a site at Brough South, East Yorkshire.

The work was undertaken between October and December 2017. The work was undertaken in accordance with the National Planning Policy Framework (NPPF) and a specification produced by BWB Consulting (Appendix 1) and approved by Lucie McCarthy of the Humber Archaeological Partnership (HAP).

Site location and topography and land-use

The proposed development is situated to the southeast of Brough at NGR SE 94999 26134 and covers an area of approximately 1.08ha (Fig. 1). The site currently comprises a large open field with a light aircraft taxi way in the centre of the site, extending north from the former airfield.

Soils and geology

Previous ground investigations identified that topsoil was generally found to depths of 0.30m to 0.70m below ground level and was described as brown clayey sand or soft sandy clay with rootlets (Scales 2017).

Superficial deposits consisted of material thought to comprise the Bielby Sand Member. It was encountered below the topsoil and ranged in thickness from 1.5m to 2.0m. It comprised loose and medium dense orangey-brown clayey slightly gravelly to gravelly sand. Below this lay glacial deposits comprising variable layers of Glacial Lake Deposits, Glaciofluvial Deposits and Glacial Till (BGS 2018). Soils are described as the marine alluvium of the Newchurch 2 association (Soil Survey of England and Wales 1983).

2 Archaeological and Historical Background

A number of archaeological investigations have been undertaken within the site and its immediate vicinity. The majority of these were undertaken to fulfil planning condition 37 associated with Phase II of the Brough Relief Road Scheme. These encompass the following:

- Trial trenching on land to the south of Welton Road (May 2000)
- Geophysical Survey for Brough Relief Road, Phase II (2010)
- Strip Map and Sample for the Brough Relief Road, Phase II (Winter 2014)
- Open area excavation for the Brough Relief Road Phase II (Spring 2014)

The trial trenching was undertaken by Humber Field Archaeology in May 2000 and consisted of nine trenches excavated ahead of the construction of a large number of residential properties. Opportunity was also taken to examine groundworks being carried out as part of the Brough Relief Road Scheme. The investigations proved negative for archaeology relating

to any period. There was no evidence of medieval farming practices implying that the land had remained as pasture or marshland grazing.

A geophysical survey was undertaken by GSB Propection Ltd in 2010 to the west of Common Lane. The survey concluded that there were no anomalies of clear archaeological interest. Numerous weak trends were detected, generally barely visible above background levels. The survey was followed by a strip map and sample exercise which revealed extensive evidence of occupation and land use during the prehistoric and Roman periods. This suggested that the site conditions were not favourable for geophysical survey, possibly due to the moisture content and nature of geology.

The strip map and sample revealed evidence of archaeological features. The features fell within the footprint of the Brough Relief Road. As such open area excavation was undertaken over 3ha. The report detailing the results is not yet in the public domain, but an online synopsis of the results show that the excavation revealed extensive evidence of Iron Age and Romano-British activity. The features were largely concentrated to the east of the excavation area. The features included a rectilinear enclosure, a ring gully and several pits and ditches.

Archaeological test pits undertaken to the southwest of the site (HER intervention number 1439) and the results of two watching briefs both to the south and south east (HER intervention 1632 & 1095) of the site, proved negative. The lack of activity may be due to the change in topography, with the northern end of the site being further from the banks of the Humber and on higher ground, therefore more favoured for settlement.

A geophysical survey was undertaken by Phase Site Investigation in October 2016. The results suggested the presence of potential archaeological features. As a result of this, trial trenching was undertaken by ASWYAS in December 2016 (Scales 2017). The trial trenching identified a small number of archaeological features within the north-eastern corner of the Borrow Pit area.

3 Aims and Objectives

The Strip Map and Sample aims were:

- to determine the nature, depth, extent, significance and date of any archaeological features revealed within the area to be impacted;
- to determine the likely range, quality and quantity of artefactual and environmental evidence present;
- to investigate, sample and record archaeological features, structures and deposits according to the methodology detailed in this WSI;
- to preserve by record the archaeological remains that will be impacted by the works;
- to confirm and enhance the results of the previous phases of investigation; and

- to recover all artefacts, where appropriate.

The objective of the work was to monitor the removal of top and subsoil horizons and assess the resultant areas for their archaeological potential. Any remains were then subject to archaeological excavation. Recovered artefacts were subject to analysis and environmental data were sampled.

4 Methodology

All work was carried out in accordance with accepted professional standards and guidelines, specifically *Standards and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists 2014), and *MoRPHE PPN3: Archaeological Excavation* (Historic England 2008). ASWYAS's own methodologies (ASWYAS 2011) were also adhered to.

An area of 1.08ha was excavated (Fig. 2). All topsoil and subsoil deposits were removed in level spits (not more than 0.2m) using a 360° excavator equipped with a toothless ditching bucket under direct archaeological supervision. All machining was stopped at the first identifiable archaeological horizon or natural deposits. Excavation limits and archaeological features, survey point and drawing points were surveyed using a GPS system with 5mm accuracy.

Once the site had been fully stripped, a strategy for excavation was agreed between BWB Consulting and HAP. During the ongoing monitoring of the site, it was agreed that four additional trenches (Trenches A – D, Fig. 2), each measuring 30m by 2m, would be excavated to confirm the extent of features which appeared to extend beyond the limits of the site.

All archaeological features were excavated in accordance with the specification (Appendix 1). Archaeological features were accurately recorded in plan at a scale of 1:20 and all excavated features were recorded in section at scales of either 1:10 or 1:20. All plans and sections include spot heights with respect to their heights above Ordnance Datum (OD) in metres. A full written and photographic record was made of all archaeological features. A soil sampling programme was undertaken for the identification and recovery of carbonised remains, vertebrate remains, molluscs and small artefactual material.

During the excavation the main ditches were ascribed Groups and these terms have been retained for the report.

The work was monitored throughout by BWB Consulting and HAP. ASWYAS currently hold the entire site archive in a stable and secure location. It is anticipated that this will eventually be deposited with The Treasure House, Beverley. A copy of the specification is presented in Appendix 1 with an inventory of the primary archive provided in Appendix 2 and a concordance of contexts held in Appendix 3.

5 Results

A layer of topsoil (5000) comprising dark brown friable silt with frequent small stone inclusions was present across the entirety of the site. It measured between 0.35m and 0.55m deep. Below the topsoil was a layer of subsoil (5001), which comprised a light grey-brown friable silt with frequent small and medium-sized stone inclusions measuring between 0.27m and 0.32m. These layers sealed all the archaeological features and deposits on site. The underlying geology (5002) comprised a light yellow-brown sand with frequent small stone inclusions changing to a light yellow-brown gravel in the west of the site. Occasional patches of flint were also observed.

Feature visibility and reliability

The geophysical survey By Phase SI identified minimal archaeological anomalies within the site. A subsequent trial trench evaluation of the site (Scales 2017) identified far more archaeological features. As with a previous phase of work (see Section 2), this was probably due to the nature of the geology and/or the moisture content of the soil.

The archaeological features that were revealed were clearly visible against the geological background (Plate 1) and no problems were encountered in finding the depth or extent of features. Small animal burrows were seen on the western part of the site, dug into the gravel natural, which were difficult to differentiate from post-holes. Relatively few geological features were encountered.

East trackway (Ditch Groups D and F)

Running on a north-south alignment across the eastern part of the site were two parallel ditches forming a trackway (Fig. 3). No trackway surface was visible between the ditches, and it had presumably been ploughed away. An additional trench (Trench D) to the south of the main strip area confirmed the trackway continued to the south, heading towards the beck.

The eastern ditch (Ditch Group D) ranged between 0.90m and 1.38m wide with a depth between 0.31m and 0.54m and tended to be both wider and deeper at the northern end of the site. It contained two fills; a lower fill of mid-blue/grey clay with occasional small gravel inclusions and an upper fill of light grey-brown sandy clay (Plate 2, Fig. 4; S.5004). A third basal deposit was observed in some of the deeper slots and comprised a mid-brown/grey clay with small gravel inclusions.

The western ditch (Ditch Group F) ranged between 1.24m and 2.06m wide and 0.42 and 0.65m deep. It also had a tendency to be deeper in the northern part of the site, although the width varied across the site. It contained two clay fills, as with Ditch Group D, in the northern part of the site (Plate 3, Fig. 4; S. 5129), whereas in the southern part of the site two additional clay fills were observed.

Small gullies were recorded outside of the main trackway ditches, parallel to the west (Cuts 5069, 5593, 5570, 5566 and 5587) and to the east (Cuts 5589, 5618 and 5620). The western gully measured approximately 0.85m wide and 0.35m deep and the eastern gully measured

1.20m wide and 0.30m deep. Both had a U-shaped profiles with a single mid-brown/grey clay fill. Given their position, adjacent to the main trackway ditches, the gullies are likely to be contemporary and probably provided additional drainage from the trackway.

Between the two main ditches, in the north of the site, a shallow pit (5557) containing an articulated horse skeleton (Plate 4) was excavated. The horse skeleton is discussed below in Section 7.

West ditches (Ditch Groups B and E)

Further to the east of the east trackway was another pair of parallel ditches (Fig. 3, Ditch Groups B and E).

The western ditch (Ditch Group B) ranged between 1.00m and 2.14m with a depth of between 0.15m and 0.41m. It contained two fills in the majority of slots excavated; a lower fill of dark grey silty clay with very occasional small stone inclusions and an upper fill light grey clayey silt with frequent small stone inclusions (Plate 5, Fig. 5; S. 5102). In the south of the site (Cuts 5006, and 5023) a third fill of light orange gravel was also observed in the base of the ditch .

The east ditch (Ditch Group E) ranged between 0.44m and 1.62m wide, with a depth of between 0.09m and 0.46m. It contained two fills; a lower fill of light brown/grey sandy clay with small stone inclusions and an upper fill of mid-orange/brown sandy clay with small stone inclusions (Plate 6, Fig. 5; S. 5067). The ditch terminated close to the southern limit of the site.

Both of these ditches appear to converge into a single alignment in two places. In the south of the site (Cuts 5023 and 5022), the ditches appear to be contemporary (Plate 7) and have fallen out of use at the same time whereas in the northern part of the site, to the south of Trench 8, the western ditch cuts the eastern ditch (Plate 8, Fig. 5; S. 5108). It is also possible that Ditch E terminates (eastern branch with Cuts 5013 and 5003) instead of converging. Because of this convergence and the possible termination of Ditch Group E, it is unlikely that these ditches formed a trackway and they instead represent a boundary that shifted over time.

Rectangular enclosure (Ditch Group A)

Cutting Ditch Groups B, D, E and F was a large rectangular enclosure (Ditch Group A). The ditch measured between 0.48m and 0.90m wide, between 0.11m and 0.37m deep and contained a mid-grey/brown sandy silt fill with occasional small stone inclusions (Plate 9, Fig. 5; S. 5045). The eastern side of the enclosure was not identified, and it is likely to have been truncated away.

East-west ditch (Ditch Group C)

In the southern part of the site another small narrow ditch runs east-west across the site, on the same alignment as the southern part of Ditch Group A. The ditch measured between 1.40m and 0.60m wide and 0.08m and 0.17m deep (Plate 10). The ditch cut Ditch Groups B, D, E and F. Given its identical alignment to Ditch Group A and similar dimensions, it is

possible that this ditch is part of the same enclosure system. If this is the case, the gap in the ditch between Cuts 5555 and 5513, may represent an entrance into the enclosure.

Roundhouse

In the north of the site, to the west of the Ditch Group B, were two parallel ditches on an east-west alignment, approximately 6.70m apart, leading in a roundhouse. The roundhouse comprised a curvilinear ditch of three phases, within which were multiple pits and post-holes, mostly discretely cut. A larger curvilinear ditch surrounded the northern and western parts of the ditch (Plate 11, Fig. 6).

The parallel ditches leading to the roundhouse from the west trackway were different to each other. The northern ditch (5126) measured 1.44m wide and 0.39m deep and contained a dark grey clay-silt fill with occasional small stone inclusions (Fill 5127). The southern ditch comprised three cuts (5208, 5210 and 5212), one containing a dark yellow-brown sandy silt fill (5209) and the other two containing dark grey silty fills, similar to Ditch 5126. Despite these differences it is likely they were contemporary and formed an entranceway into the roundhouse.

The inner curvilinear ditch comprised three identifiable phases (Phases 1-3, Fig. 7, Plate 12). The earliest phase of ditch is the smallest: it measured between 0.44m and 1.2m wide and approximately 0.27m deep with a diameter of 12.11m. The next phase is the largest of the three, measuring between 0.62m and 1.58m wide and approximately 0.31m deep with a diameter of 14.97m. The final phase lies approximately between the previous two phases and measured between 0.72m and 1.66m wide and approximately 0.29m deep with a diameter of 13.31m.

Within the limits of the roundhouse were 47 post-holes and small pits. Very few of these were inter-cut with each other and only two (Post-holes 5336 and 5412) had any visible relationship with the curvilinear ditches. Post-hole 5336 was truncated by the Phase 2 ditch and Post-hole 5412 by Phase 1 ditch. Excluding the exceptions discussed below, the majority of these internal features were approximately 0.75m in diameter and 0.25m deep. There was some evidence of post-pipes within the post-holes (Plate 13) and these are probably structural in nature, with the posts they once held supporting a roof structure and/or internal divisions.

Of particular note within the roundhouse structure is Post-hole 5447 (Plate 14, Fig. 8; S. 5201) which is situated approximately in the centre of the structure. It was noticeably larger (0.87m diameter and 0.28m deep) and, unlike the other post-holes, contained a dark grey clay fill (5448). It is likely to be the main supportive post given its larger size and packing material.

A dog burial was also recovered from Pit 5403 within the roundhouse (Plates 15 and 16, Fig. 8; S. 5175). This is discussed in Section 7, below.

The outer ditch comprised a single shallow ditch measuring between 0.70m and 1.01m wide and between 0.10 and 0.22m deep. Only a single phase was identified with the exception of a

single post-hole (5443, Fig. 8; S. 5196, Plate 17) cutting through the eastern part of the ditch. This post-hole contained a large quantity of a Middle Iron Age jar, which was also recovered from the central post-hole within the roundhouse (5447, see Section 6), strongly suggesting a contemporary date.

The ditches and post-holes were all 100% excavated for finds retrieval.

Pit cluster

To the south-west of the roundhouse was a small cluster of post-holes and pits (Fig. 3). Of particular note was a series of large intercutting pits (5609, 5612 and 5614, Fig. 9) which produced a small quantity of pottery and several small finds (see Section 6 below). The individual pits were impossible to separate in section and plan, so were only clearly defined in the very base of the feature (Plate 18). Several post-holes were also recorded, although some may have been due to animal burrowing (see below).

To the west of these intercutting pits were two more possible pits (5559 and 5656) and post-holes which produced animal bone and pottery finds.

To the north and east of the pits were a series of possible post-hole features. Unfortunately, much of this area had suffered from extensive animal burrowing (Plate 19) which made confident identification of some features difficult. The features do not appear to form a structure.

These features were 100% excavated for finds retrieval.

Other features

A narrow sinuous ditch (Cuts 5188, 5204, 5220 and 5737) runs on an approximate north-south alignment from the north-east corner of the site. It measured between 0.80m and 1.40m wide and 0.10m and 0.31m deep. It contained a single dark grey silty clay fill with occasional small stone inclusions.

To the east of this ditch was another, shorter north-south aligned ditch (Cuts 5190, 5244 and 5626). It measured approximately 1.18m wide and 0.31m deep and contained a light grey/brown silt fill. This terminated to the north-east of Ditch Group A.

Both ditches run as far as a small curvilinear section of ditch in the north-east corner. This was excavated in two places (Cuts 5239 and 5712) and was shown to truncate the eastern ditch (5244) and was truncated by the western ditch (5716). This would imply that the north-south aligned ditches were not contemporary, despite their similarities.

Further to the east was a wide, shallow ditch (5722, 5700, 5726, 5724, 5621 and 5683) measuring approximately 1.60m wide and 0.20m deep. This ditch turned on an east-west alignment in the north of the site and terminated in the south of the site.

In the north of the site was a shallow east-west aligned ditch (Cuts 5177, 5175 and 5186). Measuring approximately 1.00m wide and 0.18m deep, this ditch cut through both Ditch Groups D and F.

Two shallow, north-south aligned furrows (Cuts 5718 and 5697) were identified in the south of the site. These cut all other features and are thought to relate to modern agricultural practices.

Phasing (Fig. 3)

Ditch Groups A and C appear to be a later imposition on the landscape as they both cut Ditch Groups B, D, E and F showing them to have been in use after both the trackway and western ditches had fallen out of use.

There is an east-west aligned ditch running between Ditch Groups D and E which does not continue beyond either ditch group. It appears to be contemporary with Ditch Group E but truncates Ditch Group C. This suggests that the trackway ditch falls out of use before Ditch Group E.

Where the Ditch Group B meets the roundhouse entrance, it cuts the entranceway ditch (Fig. 5, Sections 5056, Plate 19), indicating that the roundhouse entrance fell out of use before Ditch Group B was established.

6 Artefact Record

Prehistoric and Roman pottery by I M Rowlandson and H G Fiske with G Monteil

Introduction

In total, 675 sherds of prehistoric and Roman pottery and fired clay (5.956 kg, RE 2.36) were presented for study. The majority of the pottery is handmade and predominantly gritted with local soluble rock. The forms present suggest that the majority of activity on the site could be dated to the later Iron Age to the early Roman period. In contrast to other assemblages from adjoining parishes, there are few wheelmade Roman sherds suggesting that there was little settlement in the immediate vicinity of the site in the 3rd and 4th century AD.

A small quantity of formless fired clay was also recorded.

Methodology

The pottery has been archived using count and weight as measures according to the guidelines laid down for the minimum archive by The Study Group for Roman Pottery (Darling 2004) using the codes developed by the City of Lincoln Archaeological Unit - CLAU (see Darling and Precious 2014). For ease of reference attributes of the rims, body shape and bases of the handmade vessels have been recorded using the codes established for the East Midlands (Knight 1998). Where possible close parallels to published vessels have been made to clarify the vessels described. Rim equivalents (RE) have been recorded. A context by context description and a full sherd archive are presented in Appendix 4. Sherds considered to be of post-Roman date have been presented to Jane Young for further consideration.

Results

Table 1. Prehistoric to Roman pottery fabric summary

Fabric code	Fabric group	Fabric details	Sherd	Sherd %	Weight (g)	Weight %	Total RE %
SAMCG	Samian	Central Gaulish	1	0.15%	4	0.07%	0
SAMLG	Samian	La Graufesenque samian ware	5	0.74%	60	1.00%	10
MOSPT	Mortaria	Swanpool type	1	0.15%	46	0.77%	6
OX	Oxidised	Misc. oxidized wares	2	0.30%	4	0.07%	0
GREY	Reduced	Miscellaneous grey wares	2	0.30%	18	0.30%	0
IAGR2	Reduced	Iron Age tradition 'Gritty': Site fabric 2	3	0.44%	41	0.68%	0
IASA	Reduced	IA type sandy wares	15	2.22%	59	0.98%	0
IACALCS	Calcareous	Iron Age- Sparry Mineral Calcite	10	1.48%	445	7.42%	18
IACV	Calcareous	Iron Age with voids from leached calc. inclusions	246	36.44%	906	15.11%	50
IALIM	Calcareous	Iron Age Limestone tempered	78	11.56%	828	13.81%	51
IALIM?	Calcareous	Iron Age Limestone tempered	1	0.15%	25	0.42%	0
IAOOL	Calcareous	Iron Age- Early Roman oolitic gritted	23	3.41%	186	3.10%	8
IASH	Calcareous	Native tradition shell-tempered	239	35.41%	3156	52.64%	86
IASH?	Calcareous	Native tradition shell-tempered	1	0.15%	1	0.02%	0
CPCC	Prehistoric	Clay pellets: common coarse	1	0.15%	2	0.03%	0
IAFLINT	Rock	Flint tempered	1	0.15%	4	0.07%	0
IVCC	Handmade	Indeterminate voids common coarse	32	4.74%	113	1.88%	7
IVSC	Handmade	Indeterminate voids sparse coarse	2	0.30%	32	0.53%	0
FCLAY	Fired Clay	Fired Clay	3	0.44%	22	0.37%	0
FCLAY?	Fired Clay	Fired Clay	9	1.33%	44	0.73%	0

Table 2. Prehistoric to Roman pottery forms summary

Form	Form Type	Form Description	Sherd	Sherd %	Weight (g)	Weight %	Total RE %
BD	Bowl/dish	-	2	0.30%	14	0.23%	0
CLSD	Closed	Form	10	1.48%	89	1.48%	0
18/31	Dish	Samian form- see Webster 1996	5	0.74%	60	1.00%	10
J	Jar	Unclassified form	144	21.33%	3183	53.09%	113
JBR	Jar	Bead rimmed	2	0.30%	19	0.32%	14
JCH	Jar	Channel rim- Iron Age type	10	1.48%	118	1.97%	24
JEV	Jar	Everted rim	13	1.93%	76	1.27%	18
JIR	Jar	Inturned rim	7	1.04%	55	0.92%	22
JL	Jar	Large	5	0.74%	110	1.83%	0
JB	Jar/Bowl	Unclassified form	1	0.15%	25	0.42%	0
JBL	Jar/Bowl	Large	12	1.78%	46	0.77%	2
MBF	Mortaria	Bead-and-flange rimmed	1	0.15%	46	0.77%	6
-	Unknown	Form uncertain	459	68.00%	2057	34.31%	20

Handmade pottery

The majority of the handmade pottery present is in the Iron Age to Roman native tradition. A few sherds may be of earlier date most notably a thin walled sherd with clay pellet inclusions from Pit 5750 and a small flint-gritted sherd from Ditch 5410. The small size of these sherds suggest that if there was earlier prehistoric activity in the vicinity there was little pottery in use.

The merits and demerits of dating Iron Age pottery in Eastern Yorkshire by form have been extensively discussed elsewhere with varying levels of optimism (Cumberpatch 2016, Rowlandson 2012, Rigby 2004, Didsbury 2004, Evans 1995, Challis and Harding 1975). One of the main problems facing the researcher is the strong conservatism amongst both potter and consumer on rural sites from the 1st Millennium BC into the Roman period. There is a change from the more angular forms common in earlier Iron Age assemblages to the late Iron Age repertoire but this then continues on with few changes into the early Roman period. Discerning the Roman transition can be difficult with certainty on a site with very low levels of wheelmade pottery.

Fossil shell-gritted pottery (IASH) is common with the vast majority of the sherds coming from handmade jars. Many of the sherds are featureless body sherds and therefore it was difficult to date them more closely than Iron Age to perhaps the 2nd century AD. Forms recognised include a large proportion of a handmade jar with a flattened lip with the outer face gently rounded, a globular body and a plain flat base (Fig. 10, No. 2). This vessel has thick internal carbonised residue suitable for lipid analysis and/or radiocarbon dating. The rim form is similar to examples from Brandywell (Cumberpatch 2016, No. 93) or Melton (Didsbury and Vince 2011, fig. 131.9). Also notable is a handmade jar with a flattened top featuring fingertip decoration and internal channel from Ditch 5419 (Fig. 10, No. 1, the rim was as Challis & Harding 1975, fig. 35.7 from Ousethorpe with added fingertip decoration). Similar material has been published from a number of sites along the north bank of the River Humber including sites such as South Cave, unpublished material from Welton Wold villa and Melton (Challis and Harding 1975; Didsbury 1999; Didsbury and Vince 2011). Whilst shell-gritted vessels were manufactured in northern Lincolnshire, the range of forms from this site would appear to fit the range of material known from other sites from the north bank of the River Humber where potters probably exploited the fossiliferous Jurassic deposits that were available to them locally.

Limestone inclusions can be recognised in a proportion of the handmade pottery (IALIM) including a vessel with a hollow pedestal base (from Ditch 5230), jars with everted rims (Pit 5311 and Posthole 5368), a channel-rimmed jar (Pit 5230) and jars with inturned rims (Pits 5325 and 5327) similar to Challis and Harding's 'Barrel shaped jar' form (1975). Also present are vessels with calcareous oolitic inclusions (IAOOL) including a jar with an internal bevel from Ditch 5268 (Cumberpatch 2016 No. 92) and a jar with a flattened lip from Ditch 5303 (Didsbury and Vince 2011, Fig. 135.8). Material with similar limestone

inclusions was noted amongst the Iron Age pottery from Melton (eg. Didsbury and Vince 2011). These fabrics are seldom seen in northern Lincolnshire and a production source on the western edge of the Yorkshire Wold appears most likely.

A single rim fragment from a jar with a flattened lip expanded internally was recorded that had sparry mineral calcite inclusions which may have been transported from the north of the Yorkshire Wolds (IACALCS, Fig. 10, No. 3). A considerable proportion of the handmade pottery has lost its calcareous inclusions due to acidic soil conditions and therefore the type of soluble rock that they had been gritted with could not be identified with certainty (IACV). Forms present include a jar with a channelled rim from Ditch 5379 (Fig. 10, No. 4, as Didsbury and Vince 2011, fig. 136.3), a jar with a flattened lip and gently rounded outer edge from Ditch 5268 (Cumberpatch 2016 No. 106), a bead rimmed jar from Ditch 5247, everted rim type jars and a jar with an inturned rim (Cumberpatch 2016 No. 66) from Pit 5286.

A further group with voids of uncertain type, possibly also calcareous (IVCC, IVSC) were noted from Ditch 5233. The leached condition of these sherds and their small size prevented certain identification of what these sherds had been tempered with.

A small group of handmade sherds with quartz sand-gritted fabrics were recorded (fifteen sherds) but none of these vessels have diagnostic features and can only be dated to the Iron Age or Roman period.

A small group of handmade shell-gritted transitional sherds including grog or clay pellet inclusions were also recorded (IAGR2) from Ditches 5141, 5226 and 5230. These sherds are likely to represent 1st to 2nd century AD activity and similar wares are known from sites along the south bank of the River Humber.

Catalogue for illustrated sherds

- 1 IASH A handmade jar with fingertip decorated rim. *Ditch 5419, Fill 5420, D04*
- 2 IASH handmade jar. Posthole 5443, Fill 5444 and Posthole 5447, *Fill 5447, D01*
- 3 IACALCS A handmade jar with an internally expanded rim. *Ditch 5391, Fill 5392, D02*
- 4 IACV A handmade jar with fingertip decorated rim. *Ditch 5379, Fill 5380, D03*

Samian pottery

Six sherds of samian ware were recovered from the site. The fabric of each sherd was examined, after taking a small fresh break, under a x 20 binocular microscope and was catalogued by context number. Each archive catalogue entry consists of a context number alongside fabric, form and decoration identification, sherd count, rim or base EVE (Estimated Vessel Equivalent) when appropriate and weight.

Composition, condition and chronology

The assemblage is very small with only six sherds representing two vessels for a total weight of 63g and a total rim EVES figure of 0.08.

The earliest and better-preserved vessel is a dish form Dr.18/31 with four fragments recovered in Ditch 5700. An additional base fragment from the topsoil is most probably from the same dish despite the lack of physical join. The fabric suggests origin in La Graufesenque in South Gaul and the form is more typical of the Flavian period.

The sixth fragment is an abraded bodysherd recovered in Ditch 5593 with a fabric suggesting origin in Lezoux in Central Gaul. The fragment is too small to be assigned to a form and cannot be dated more precisely than AD120-200.

Relatively little can be inferred from such a small collection. In common with contemporary sites in the vicinity the quantitative role played by samian ware is small (Precious *et al.* 2010, table 46; Didsbury 1999, 45). The South Gaulish dish in Ditch 5700 shows traits more typical of the late Flavian period and is in that respect later than most of the South Gaulish material recovered from potentially contemporary groups in Melton (Didsbury 1999, 45; Precious with Rowlandson 2010 with the exception of the dish recovered in area 20). It is closer in date to the little South Gaulish material recovered east of the Roman walled settlement in Brough where the bulk of the South Gaulish samian was Flavian and Flavian-Trajanic in date (Darling *et al.* 2000).

Romano-British wheelmade wares

Very few Romano-British wheelmade sherds were retrieved, these include grey ware sherds from two vessels from Pit 5609 and an oxidised sherd from Ditch 5692 that could be broadly dated to the Roman period. A Swanpool-type mortarium with a bead and flanged rim that dates to the late 3rd to 4th century AD is a notable inclusion but this vessel was retrieved from an unstratified context. Wheelmade Roman-British pottery is found in much greater quantities amongst assemblages dating to the 2nd century AD or later from the Roman settlement at Brough-on-Humber and groups from settlements in the modern parish of Melton (Darling *et al.* 2000; Didsbury 1999, 2002, Precious *et al.* 2011, Rowlandson *et al.* forthcoming). The low level of Roman wheelmade sherds accompanying the handmade pottery from this site would support the suggestion that the majority of the handmade sherds date to the later Iron Age or early Roman period. Evidence for some activity into the late Roman period is unsurprising considering the existing settlement evidence known from the vicinity of this site.

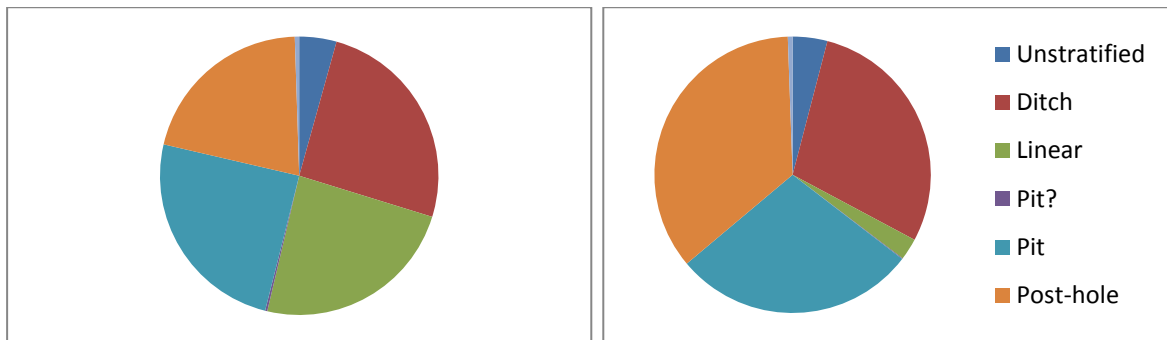
Fired clay

Twelve fragments of fired clay were amongst the pottery presented for study. These fragments were all oxidised and sandy with no obvious form evident. This material has limited potential for further study.

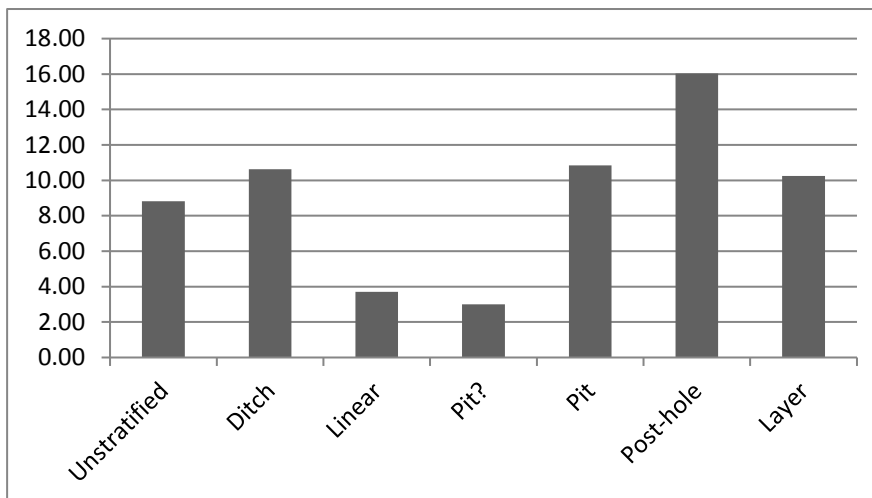
Taphonomy

The sherds were retrieved fairly evenly from pits, post-holes and ditch features (Graph 1). The pottery from post-holes appears to have a higher average sherd weight (Graph 2). This may be due to the use of fresh sherds as primary deposits for post settings (e.g. the fresh fragments from a single vessel found in both Post-holes 5443 and 5447; material from some of the other features is more abraded as they may have been secondary deposits).

Graph 1. Left: Proportion of sherds by deposit type Right: Proportion of sherd weight by deposit type



Graph 2. Average sherd weight by feature type.



Very few features contained more than a handful of sherds which is a common feature of rural settlements. Of the features with more than 25 sherds many of them only have a couple of vessels represented and the largest assemblage, Ditch 5247 with 143 sherds, has fragments from only ten individual vessels. The prevalence of handmade sherds made the close dating of many of the features difficult but the majority of the occupation appears to have occurred in the later Iron Age to the early Roman period. A full context by context description is provided in Appendix 4.

Discussion

The handmade pottery present is similar to published assemblages from Melton (Didsbury and Vince 2011), Brandywell (Cumberpatch 2016), Ousethorpe and South Cave (Challis and Harding 1975). Unpublished early groups of handmade pottery from early in the excavated sequence at Welton Wold villa identified by Mackey are also similar in both form and fabric (Mackey unpublished archive and personal observation). The site lies close to a recently excavated Iron Age barrow burial in the modern parish of Melton which also has an example of a Barrel shaped jar with an inturned rim (Rowlandson forthcoming). A number of forms from this Brough site can also be paralleled amongst the late Iron Age pottery from Crayke Beck, Cottingham (Didsbury unpublished) but the finer 'Dragonby' or 'Late La Tène III type' fine wares (Elsdon 1996a & b, Knight 2002) that were recognised amongst that assemblage and at other sites such as Brantingham (Elsdon 1996a, Dent 1989; 2010) are not noted here. In fact, although this site is in close proximity to the coast and the beach site at Redcliff which had a broad range of continental wares dating to the late Iron Age (Crowther and Didsbury 1988, Willis et al. 1990) and within the known distribution of Dragonby type fine wares (Didsbury and Vince 2011), this assemblage from Brough does not contain any 'fine wares'. This may be due to the period of occupation being predominantly restricted to a time before (or after) such wares were in circulation, or it may be due to site status or the restriction of access for some sections of the society to such novelty vessels or merely due to the limited sample size of handmade pottery from the assemblage. The general nature of this assemblage is that occupation on the site appears to have occurred in the later Iron Age and into the Roman period but the inhabitants of the site appear not to have deposited fine wares on this site in the late Iron Age.

The smattering of samian ware suggests that the site was predominantly occupied in the later 1st and 2nd century AD after the Roman conquest. The proximity to the major settlement at Brough does not appear to have resulted in large quantities of wheel thrown pottery reaching the site. Wheel thrown pottery is more common in groups dating to the 2nd century AD at the A63 and Waste Water sites in the Melton Parish (Precious *et al.* 2011, Didsbury 2002). It is likely that wheelmade Roman pottery became more common in the Antonine period by which time this site may have not been as intensively occupied.

The small quantity of later Roman pottery from the site suggests that it may have been marginal to any settlement but was in a busy landscape near to the main Roman settlement at Brough to the west and a recently excavated late Roman site located a few fields away in the modern parish of Melton to the east (Rowlandson forthcoming).

Post-Roman pottery by J Young and C Bentley

In total, 117 sherds of post-Roman pottery representing 81 vessels were submitted for examination. The material is of Anglo-Saxon to early modern date with the bulk of the pottery probably dating to between the late 17th and 18th centuries.

The pottery was catalogued by ware (common name) using mnemonic codenames based on those used for the Easington to Ganstead (EAG) gas pipeline (Young and Didsbury 2016). Post-medieval and early modern types were identified visually; earlier fabrics were identified using a x20 binocular microscope.

The assemblage was quantified within each context by ware type, with three measures: number of sherds, estimated vessel count using sherds obviously belonging to a single vessel and weight. Estimated vessel equivalent by percentage of rim present (REVE) was not considered suitable for the assemblage as few rim diameters could be accurately measured. Every effort was made to reconstruct cross-context vessels but none were found. The ceramic data including attributes such as decoration, condition and usage were entered on a Microsoft Access Database using ceramic codenames and a copy of this is available in the archive. 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). Forms were identified using the Medieval Pottery Research Group's guide to the classification of forms (MPRG 1998; 2001).

Table 3. Pottery summarised by ware type with sherd count, vessel count and weight in grams

Codename	Full name	Earliest date	Latest date	Total sherds	Total vessels	Total weight
BEVO1	Beverley Orange ware Fabric 1	1100	1230	1	1	6
BEVO2T	Beverley Orange-type ware Fabric 2	1230	1350	1	1	7
CHARNT	Charnwood ware	450	850	1	1	4
CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-	450	850	7	6	50
CHPO	Chinese Export Porcelain	1640	1850	1	1	1
CIST	Cistercian-type ware	1480	1650	1	1	1
EMLOC	Local Early Medieval fabrics	1150	1230	1	1	4
EYQC	East Yorkshire Quartz and Chalk tempered	1140	1250	1	1	3
FREC	Frechen stoneware	1530	1680	8	2	355
GRE	Glazed Red Earthenware	1500	1650	38	25	567
HUM	Humberware	1250	1550	2	2	37
LERTH	Late earthenwares	1750	1900	1	1	5
LHUM	Late Humber-type ware	1550	1750	26	18	585
LIM	Oolitic limestone-tempered fabrics	700	1070	1	1	36
MEDLOC	Medieval local fabrics	1150	1450	1	1	12
RLSAX	Roman or Late Saxon	50	1000	1	1	9
RQOOL	Rounded Quartz and Oolite	450	800	2	2	45
SLIP	Unidentified slipware	1650	1750	6	2	71
SST	Early to mid-Saxon sandstone-tempered	550	850	2	2	32
SSTMG	Early to mid-Saxon sandstone-tempered	450	850	5	3	49
STMO	Staffordshire/Bristol mottled-glazed	1690	1800	5	3	50
STSL	Staffordshire/Bristol slipware	1680	1800	1	1	1
SWSG	Staffordshire White Saltglazed stoneware	1700	1770	2	2	8
TGW	Tin-glazed ware	1640	1770	2	2	6

Discussion

Post-Roman pottery was recovered from eleven deposits on the site and is mainly in an abraded but stable condition with sherd size ranging from 1g to 90g. Twenty-four different local, regional and imported ware types are present in the assemblage. The pottery types are summarised below by ceramic period and then discussed by feature.

The handmade Anglo-Saxon wares

Eighteen sherds of handmade pottery thought to be of broad Anglo-Saxon date representing no more than fifteen vessels were recovered from the site. The vessels are in six recognised fabric groupings. Handmade vessels were manufactured throughout the Anglo-Saxon period in England and continued to be produced in certain parts of the country until at least the mid/late 9th century. In York handmade mainly quartz-tempered fabrics were recovered from the latest deposits at Fishergate (Mainman 1993 and Vince and Young 2004) and the earliest horizons at Coppergate (Mainman 1990). Only one of the vessels recovered from this site has the stamped decoration indicative of Early Saxon 5th to 6th century date. Two other sherds with traces of incised line decoration most probably also are of positive early date, but such decoration is found into the 8th century.

Acid Igneous Rock Group (CHARNT)

A single small sherd from a jar or bowl with an internal carbonised deposit is of Charnwood type. Fabrics in this grouping are characterised by grains of Acid Igneous rock similar to those produced in the Charnwood Forest area of Leicestershire but are more likely to be of local origin as they also contain between *c.* 5% and 15% of other inclusions (Williams and Vince 1997, Ixer and Vince 2009 and Perry forthcoming). The vessel was recovered together with other handmade Saxon sherds in Pit 5656 (Fill 5657). Similar sherds have been recovered from other sites in East Yorkshire (Young and Perry forthcoming and Young forthcoming).

Chalk and Flint Gravel Group (CHFLGVL)

Seven sherds from six vessels fall into this fabric group. The group is the most common handmade Saxon type to be recovered from the site. It is formed of several previously identified visual fabric groupings containing a range of inclusions that mainly comprise chalk, coarse quartz grains and flint or chert in variable proportions together with some vegetal temper. Thin-section analysis (Perry forthcoming) shows that this gravel has been added as a deliberate temper resulting in these markedly different visual fabrics. Detailed analysis of several sites has failed to show a patterning of these individual fabric groups so they are discussed together here but recorded by sub-fabric in the archive.

These fabric sub-groups comprise:

CAQCV – Chalk, quartz and carbonised vegetal fabric (1 example)

CQCH – A coarse quartz and chalk fabric. (5 examples)

This is the major fabric grouping to be found at two major Low Caythorpe sites where it formed between *c.* 20% and *c.* 32% of the handmade Anglo-Saxon pottery found (Young and Perry forthcoming and Young forthcoming) and recently two sherds from a jar or bowl have been recovered from Pocklington (Young 2018). At Low Caythorpe stamp-decorated vessels indicated that the fabrics were in use during the Early Anglo-Saxon period but there was no conclusive evidence to suggest when they went out of use. Three jars and sherds from three jars or bowls were recovered from this site. Three of the vessels have burnished surfaces, two have incised line decoration and one sherd has Briscoe (1981) Type E1div stamps. One vessel has internal attrition whilst another has an internal carbonised deposit. The decorated vessels suggest an Early Anglo-Saxon date for at least some of the vessels recovered from Brough.

Oolitic Limestone Group (LIM)

A single sherd from a jar or bowl with a semi-burnished external surface is in an oolitic-tempered fabric. The sherd was recovered from Pit 5656 (Fill 5657) and potentially could date to anywhere between the 5th and mid-9th centuries.

Rounded quartz and oolitic limestone Group (RQOOL)

Two further unstratified sherds with oolitic limestone inclusions also contain abundant rounded quartz grains. One sherd has a smoothed external surface whilst the other is burnished internally and externally. The sherds come from jars or bowls of potential 5th to mid-9th century date.

Sandstone Group (SST)

This grouping comprises sherds with mainly reduced fabrics that contain a significant amount of aggregated quartz grains derived from sandstones. They comprise a sherd from a jar or bowl with an externally wiped surface and another externally wiped sherd from a jar, both were recovered from Pit 5656 (Fill 5657). Neither sherd is decorated and again they could potentially date to between the 5th and mid-9th centuries.

Very Coarse Sandstone Group (SSTMG)

Five sherds from three vessels contain common very coarse grains of sandstone. Three sherds come from the shoulder of a jar with a semi-burnished external surface. This vessel and two sherd from a jar or bowl were recovered from Pit 5656 (Fill 5657). These vessels are potentially of early to late middle Anglo-Saxon date.

Late Saxon to early medieval

Three sherds are of identifiable early medieval type and a fourth unglazed quartz-tempered sherd in a reduced fabric is of Late Saxon or Roman date (RLSAX). The un-diagnostic sherd was recovered from the subsoil and is from a small bowl with an in-turned rim. Another coarseware sherd is from an East Yorkshire Quartz and Chalk-tempered (EYQC) vessel of mid-12th to mid-13th century date. A small, very abraded unglazed rim sherd found in Pit 5224 (Fill 5225) is from a Beverley 1 jug (BEVO1) of mid-12th to early/mid-13th-century date (Watkins, 1991, 80 and Didsbury and Watkins 1992). This is the most common wheel-thrown fineware type of early medieval date to be found in most of East Yorkshire. The only

other sherd of this period to be identified was recovered from Ditch 5208 (Fill 5209) and is from a small local quartz-tempered (EMLOC) jar of 12th to mid-13th-century date.

Medieval

Only four medieval sherds, each from an individual vessel, were identified. A single, very abraded sherd found in Ditch 5183 (Fill 5184) is from a Beverley2-type jug (BEVO2T) of 13th to early/mid-14th century date. The coarse fabric suggests that it may have not have been made in Beverley itself. Two Humberware sherds (HUM) recovered, as un-stratified finds are from jugs of late 13th to 14th and late 13th to mid-16th-century date. A basal sherd from a jug found in Ditch 5032 (Fill 5033) is of probable local manufacture (MEDLOC) and dates to the 13th or 14th centuries.

Post-medieval to early modern

A group of eighty-eight sherds representing fifty-five vessels can be considered to be of 16th to 18th-century coarseware type. A further two sherds are of early modern type. A basal sherd from a Cistercian ware cup (CIST) is probably the earliest post-medieval vessel in the group. The cup is of mid-16th to mid-17th-century date. Most of the recovered post-medieval sherds are from jars or bowls in Late Humberware (LHUM) or Glazed Red Earthenware (GRE) fabrics and were recovered from Pit 5728 (Fill 5729). Seven of the eighteen Late Humberware vessels are large cylindrical jars of 17th to 18th-century type. A further three vessels can be identified as large bowls of general mid-16th to 18th-century shape and another five vessels are jars of similar date. Few vessels in Late Humberware are closely dateable but the composition of the group of pottery found in Pit 5728 suggests an early/mid- to mid-18th-century deposition date. The twenty-five Glazed Red Earthenware vessels include a similar range of vessels but also include a possible drinking vessel and two small jars. Again close dating is difficult with a late 16th to 18th-century date span for the type. The presence of a pre-mid-17th century bichrome jar in Pit 5728 suggests that it may contain some residual or curated material. An unglazed earthenware sherd (LERTH) is likely to come from a black or brown-glazed flask or costrel of mid-17th to 18th century date.

Twelve of the recovered post-medieval vessels are slipwares. A small sherd is from a Staffordshire-type Slipware cup (STSL) with brown trailed decoration. Five sherds are from two cups and a bowl in Staffordshire-type Mottled ware (STMO). Both of these Staffordshire-type slipwares were produced at several centres in Staffordshire and Yorkshire between the late 17th and 18th centuries. Six further slipware sherds come from two decorated press-moulded dishes (SLIP) made in Yorkshire between the late 17th and 18th centuries.

Two small sherds in poor condition come from a small plate and a small hollow form of 17th or 18th-century date. The plate has traces of internal blue-painted decoration. Eight sherds recovered from Pit 5728 are from two German stoneware vessels. The two vessels are of 17th to 18th-century Frechen-type (FREC) and comprise a large jug, possibly of Bartmann-type and a smaller drinking jug. Neither vessel has traces of decoration.

The latest three closely dateable sherds recovered from the site were found in Pit 5728. Two of the sherds are from Staffordshire-type White Salt-glazed ware vessels of probable early/mid to mid-18th century type. One sherd is from a small plate whilst the other is from a small dish. A tiny sherd with traces of internal blue-painted decoration is from a Chinese Export Porcelain vessel (CHPO) of probable 18th century date.

Site sequence

The post-Roman pottery was recovered from nine cut features with most of the pottery being found in Pits 5656 (Fill 5657) and 5728 (Fill 5729). Ditch 5032 (Fill 5033) produced a single sherd from a local jug of 13th or 14th-century date (MEDLOC). A small unglazed fragment from a black or brown-glazed flask or costrel of mid-17th to 18th-century date was recovered from Ditch 5141 (Fill 5142). Ditch 5183 (Fill 5184) contained a very abraded sherd from a Beverley 2-type jug or 13th to early/mid-14th-century date. A sherd from a small locally made jar (EMLOC) of potential 12th to mid-13th-century date was recovered from Ditch 5208 (Fill 5209) whereas Ditch 5724 (Fill 5725) produced a tiny sherd from a Staffordshire-type Slipware cup of late 17th to 18th-century date. Two pits produced handmade Anglo-Saxon sherds. A single small sherd from a jar or bowl in a Chalk Gravel-tempered fabric (CHFLGVL) was recovered from Pit 5609 (Fill 5611). This vessel can only be dated to the general Anglo-Saxon period but is most likely to be of mid-5th to 7th century date. Pit 5656 (Fill 5657) produced a small group of six handmade sherds from two jars and two jars or bowls. The group includes vessel in Charnwood-type (CHARNT), Sandstone-tempered (SST) and Coarse Sandstone-tempered (SSTMG) fabrics. None of the vessels are decorated but again a date between the mid-5th and 7th centuries is probably most appropriate for the group. A very abraded Beverley Type 1 rim sherd from a small jug of mid-12th to early/mid-13th century date was recovered from Pit 5224 (Fill 5225). The largest group to be recovered from the site came from Pit 5728 (Fill 5729). This pit produced eighty-nine sherd from fifty-six vessels. Most of the vessels are coarsewares in Late Humberware (LHUM) or Glazed Red Earthenware (GRE) fabrics. Both of these type have a long life span covering the mid-16th to 18th and late 16th to 18th centuries respectively with little change in form and no apparent change in fabric. At least one of the GRE vessels is residual in the group as the bichrome jar predates the mid-17th century. The LHUM and GRE coarseware vessels are mainly jars and large bowls that would have been used in the kitchen and dairy. Other vessels in this pit group include a residual Cistercian ware cup, slipware cups (STMO) and press-moulded dishes (SLIP), two Tin-glazed Earthenware sherds and two imported German Stoneware jugs. The latest closely dateable sherds in the group come from two early/mid to mid-18th century Staffordshire-type White Salt-glazed ware vessels and a tiny 18th century Chinese Export Porcelain sherd. This pit group was probably deposited at the end of the first quarter or in the second quarter of the 18th century but it is not possible to determine how much of the group may represent earlier residual material.

Discussion

The small post-Roman assemblage recovered from this site suggests that there was Anglo-Saxon, early medieval, medieval, post-medieval and early modern (18th century) activity in the area of the site. The recovered Anglo-Saxon assemblage is suggestive of possible primary deposition indicating nearby occupation.

Slag by Gerry Macdonald

This report describes and identifies the material recovered during the excavations (Tables 4 and 5). An overview of the material from the site is provided, and the significance of the material is discussed. The report follows the guidelines issued by English Heritage (Dungworth 2015, 13-14). The excavation strategy of excavating a pre-determined percentage sample of the features may not provide a representative sample of the ironworking evidence on the site.

Methodology and Slag Classification

The material was visually examined and the classification is based solely on morphology. The debris associated with metalworking, or submitted in the understanding that they are associated with metalworking, can be divided into two broad groups; residues diagnostic of a particular metallurgical process or non-diagnostic residues that may have derived from any pyrotechnological process (McDonnell 2001). The diagnostic ferrous debris can be attributed to a particular ironworking process; these comprise ores and the ironworking slags, i.e. the macro, hand recovered smelting and smithing slags and the micro-residues such as hammerscale and slag fragments recovered from sieving programmes. The second group, are the diagnostic non-ferrous metalworking debris, e.g. crucibles and moulds. Thirdly, there are the non-diagnostic slags, which could have been generated by a number of different processes but show no diagnostic characteristic that can identify the process. In many cases the non-diagnostic residues, e.g. hearth or furnace lining, may be ascribed to a particular process through archaeological association. The residue classifications used in the report are defined below.

Diagnostic Ferrous Slags and Residues

Smithing Slag - randomly shaped pieces of iron silicate slag generated by the smithing process. In general slag is described as smithing slag unless there is good evidence to indicate that it derived from the smelting process.

Metal – fragments of metallic iron, either small fragment of pieces lacking features that enable the fragment to be identified as a specific artefact type.

Bog Iron Ore – an iron ore formed in low lying areas, e.g. bogs and fens, that may have been exploited for iron smelting.

Hammer Scale (HS) - there are two forms of hammer scale, flake and spheroidal. During heating a piece of iron may develop a thin skin of scale, which is predominantly iron oxide.

This will break from the metal during hammering, and normally falls to the ground as small (usually less than 5 mm long) fishscale - like flakes. During fire welding, the mechanical joining of two pieces of metal at high temperature, the surfaces to be joined will have been cleaned by the addition of a flux (usually sand). The flux reacts with any scale present to form a thin film of liquid slag. When the pieces are hammered together the slag is expelled, and during flight forms balls of liquid slag (<10 mm diameter) and freeze. Both these micro-slags are generated during smithing, and are normally deposited around the working area (around the anvil). The presence of hammer scale is therefore a strong indicator that smithing (primary or secondary) was carried out on the site. Their small size precludes their hand recovery, and they are usually recovered during soil sample sieving (for environmental data). They are therefore not recorded in the context by context listing of the slags, but are noted when present.

Non-Diagnostic Slags and Residues

Iron Concretion- post-burial re-deposition of iron minerals.

Description

The assemblage is very small and comprises one deposit (fill 5558 of Pit 5557) containing 245 grams of smithing slag fragments (included in the weight was the amount recovered from the sieving programme, although some may have been pieces of ferruginous concretion or bog ore) (Table 5). Material from three contexts (5229, 5248 and 5729) was identified as stone; some fragments from Context 5229 have curved surfaces, and the pieces in 5729 are burnt red on the outside but black on the fractured interior. There were nineteen samples recovered from environmental sieving programme (Table 6), but only one (fill 5657) contains a few flakes of hammerscale. The remainder contain either fragments of metal, slag, bog ore or ferruginous concretion.

Table 4. Slag listing (weight in grams)

Context	Sample Number	Smith Slag Count	Smith Slag Weight	Other Weight	Other Type
5229				884	stone
5248				69	stone
5558	27	28	194		
5729				927	stone
Total		28	194	1880	

Discussion

Context 5558 contained the only certain deposit of smithing slag. This context also contained the skeleton of a horse. The majority of the material from the sieving programme is friable natural iron minerals either 'bog ore' or an iron-rich (ferruginous) concretion. Very small metal fragments were present in Contexts 5217, 5229, 5290 and 5363.

Table 5. Listing of samples from the environmental sieving programme (weight in grams)

Context	Sieve Number	HS?	Flake?	Spheroidal?	slag	Fe metal?	Sample Weight
5096	6	n					0.8
5098	7	n					2.3
5108	4	n					1
5196	11	n			13.2		13.2
5209	13	n			13.9		13.9
5211	14	n					12
5217	15	n				9.4	9.4
5225	16	n			1.1		1.1
5229	17	n				4.8	4.8
5254	18	n					14.4
5258	19	n					5.8
5260	20	n			7.8		9.3
5290	23	n				2	9.9
5341	48	n					1.9
5363	51	n				3.5	3.5
5404	24	n					8.1
5436	26	n			19.4		19.4
5558	31	n			50.6		50.6
5657	33	y	y				1.1
Total					106	19.7	182.5

Ceramic building material and burnt clay by Phil Mills

There were 481 fragments weighing 6176g of material presented for study. This includes 74 fragments, 3301g of CBM and 386 fragments weighing 2690g of burnt clay. The material was subject to a rapid scan and recorded to ware type and any identifiable form with material recorded as sherd families by context recording the number of fragments (No) and weight in grams (Wt), as well as any additional comments. The mean sherd weight (MSW) was calculated by Wt/ No.

CBM

Table 6 shows the breakdown by context type of where the CBM was recovered. The majority of the material comes from Pit Fill 5729 with only unidentifiable fragments from the other context types.

Table 6. CBM by context type

Context	No%	Wt%	MSW
Ditch	12.16%	2.12%	7.78
Pit	86.49%	97.12%	50.09
Post-hole	1.35%	0.76%	25.00
N/ AVG	74	3301	44.61

The material is all in a high fired red clean fabric, and all the identifiable forms are post-medieval in date.

The forms noted include ten fragments of brick of 60 to 698 mm thickness, nine fragments of curved tile (from either pan or hip tile), one fragment of pan tile and one nib hip tile fragment. Pan tiles are unlikely to have been made locally before the 18th century (Neave 1991) and this group is probably of late 18th-century or later date.

This is a group of post-medieval or modern CBM mainly from a single pit. They are likely to date from the late 18th-century or later. The deposition in a single pit is of note and this could have been for drainage or preparation for a cess pit. No further work is recommended on this material.

Burnt clay

There were 386 fragments, weighing 2690g of burnt clay presented for study. The material was examined by context, with any forms identified and fragment count (No) and weight in grams (Wt) recorded. The majority of the material was unidentifiable fragments but included portable kiln furniture in the form of fragments of kiln bars and kiln plates typically used in the La Tène III style of temporary kiln utilised in the late Iron Age and Roman period.

The taphonomic profile of the context types where the burnt clay was recovered from is shown in Table 7. The majority of the material was recovered from pits. This would seem to be the normal disposal pattern for portable kiln furniture which could not be reused.

The majority of the material is unidentifiable fragments but there are a large number of fragments of burnt clay lining c. 16mm thick as well as fragments of probable kiln bars, a kiln plate with surface straw impressions and a possible kiln base or bar with luting.

Table 7. Burnt clay

Context	No%	Wt%	MSW
Ditch	3.6%	8.0%	15.36
Pit	96.4%	92.0%	6.65
N	386	2690	6.97

Catalogue

D01 (Plate 21)

This is a hard oxidised fabric with pale brown surfaces and margins and a reduced lack core. It has an irregular fracture and sandy feel. It has inclusions of moderate quartz at 0.4, with clay pellets and occasional grog(?) and moderate to common vegetable voids

D01/1 Kiln Lining

This is burnt clay in irregular thickness which was likely used as lining for the kiln. Identifiable fragments were noted in Pit 5253 (Fill 5254, 12 fragments, 170g) and Pit 5289 (Fill 5290, Sample 23, 34 fragments. 360g).

D01/2 Kiln Bars (Plate 22).

These are square bars used as temporary oven floors. No complete examples were noted so it is not possible to say if any were tapering. The most extant example from Pit 5253 (Fill 5254), comprising 59 fragments, 200g, has a width of 65mm and is greater than 30mm thick. Fragments were also noted in Pit 5289 (Fill 5290, 3 fragments, 250g).

D01/2 Luting (Plate 23)

This is an example of a bar being secured using fresh clay. 1 Fragment, 106g, noted in Pit 5290 (c.f. Swan 1984 Plate 22).

D01/4 Kiln Plates (Plate 24)

These are fragments of kiln plates, c. 16mm thick which were likely used as temporary kiln capping. They have grass or chaff impressions on their surfaces suggesting of packing with straw or turf prior to firing. Noted at Pit 5259 (Fill 5260, 8 fragments, 127g), Pit 5289 (Fill 5290, 1 Fragment, 40g), and Ditch 5360 (Fill 5361, 5 fragments, 80g).

Discussion

This is a relatively large group of burnt clay fragments which are consistent with the portable kiln furniture associated with La Tène III type kilns (Swan 1984, 58). The absence of any identified kiln on the site suggest that this would have been a temporary surface kiln and the material recovered here are fragments of kiln furniture that failed during the local firing with extant pieces retained by the potter for the next firing. This suggests a late Iron Age to end of the 1st century date.

Flint by Anne Clarke

Most of the flints recovered appear to be natural chunks or spalls (recovered from contexts 5444, 5277, 5217, 5272, 5269, 5279, 5065, 5200, 5633, 5424, 5729, and 5252).

Of the rest there is an end scraper that is possibly Early Mesolithic in date, two small secondary flakes, a core trimming flake, a chunk possibly reused as a scraper, and four possibly utilised spalls (Table 8).

Table 8. Identified worked/utilised flint from contexts

Context	Identified flint	Date
5217	Secondary flake	-
5062	Secondary flake	-
5420	Heavily patinated end scraper	Early Mesolithic?
5378	Utilised chunk	Later Prehistoric
5388	Utilised?	-
5131	Utilised?	-
5248	Core trimming flake and utilised?	-
5558	Flint nodule – slightly bashed	-
U/S	Utilised?	-

The end scraper is the most interesting piece: heavily patinated and made on a broad blade/flake. It is probably Early Mesolithic but local comparisons with sites in the region should be sought. It is redeposited and there is no other lithic evidence for an assemblage of this date so is of limited value.

The possibly utilised pieces need closer study of the edge damage but are either damaged through post-deposition activity or else represent ad hoc use of natural flint pieces as cutting or scraping edges. A thick core trimming flake is from a possible multi-platform core. A tabular flint nodule bears damage on one corner.

Small finds by Gail Drinkall

Seven items of iron, lead, stone and bone were recovered during the course of the excavation. The finds were examined and quantified, and the details are presented in Table 9.

Lead and stone spindle whorls

A cast and knife trimmed disc-shaped spindle whorl (Fig. 11; 1) is of a form and size consistent with those used during the Iron Age and Roman period (Bullied 1926, 40-41; Wheeler 1930, 107f). Thin spindles were used for spinning at this time, accommodated within holes ranging between 4 and 8mm (Walton Rogers 1997, 1731). This particular example has a spindle whole measuring 6mm in diameter, which sits comfortably within this range. While only one disc-shaped lead whorl, ascribed to the late Iron Age/Roman period, is recorded on the portable Antiquities Scheme website (Record no. SWYOR-3EFD19, findspot Rotherham), seven were found during excavations at Healam Bridge, North Yorkshire in 2009 (Drinkall 2018, 165-166, Fig. 228). Two of these (nos 1 and 2) came from a late 1st to mid-2nd century deposit.

A second spindle whorl (SF 106, Fig. 11, 2) was retrieved from Pit Fill 5657. It is of a well-executed biconical form with deep, closely spaced, lathe-turned grooves. It appears to be made from chalk, a raw material readily available in the region. A review of stone spindle whorls of Britain down to the 14th century demonstrated that most stone whorls reflect the

geology of the region in which they were found (Walton Rogers 2000, 2531, table 251). This can be seen in the large assemblages from the Anglo-Saxon settlement at Flixborough, where all the stone whorls were of regionally and locally available chalk, limestone, siltstone and mudstone (Gaunt 2000, 285-286). A provenance in the Ferriby or Welton Chalk Formation (East Riding of Yorkshire LCA 2005, 20) is likely, but lithological analysis would be necessary in order to confirm this. At 10-11mm in diameter, its large spindle hole suggests that the whorl dates to the late Anglo-Saxon period when whorls were made to accommodate large spindles: 9-11mm in diameter (Walton Rogers 1997, 1731). Pit 5656 also produced a small group of six handmade sherds dating from the mid-5th to 7th century (cf. Young and Bently, this report). Whorls of biconical form are typically found in assemblages from northern and eastern Britain and Scotland. Published examples can be seen in assemblages from Aberdeen (Trewin 1982, illus. 106, nos 37 and 38) and Eastgate, Beverley (Foreman 1992, Fig. 71, nos 66 and 68), though they tend to be smaller.

Although it is broadly true that heavy whorls such as SF 106, which weighs 48g, were useful for plying threads and that lighter ones, for example SF 102 weighing only 19g, allowed short fibres and fine yarns to be spun, much depended on the size and weight of the spindle, the way the yarn was being wound on, and the skill of the spinner (op. cit., 1744-45).

Bone

A knife-trimmed bone implement (Fig. 12, SF 105) was found in the same context (5657) as the spindle whorl SF 106. It has been manufactured with the bare minimum of working from the long bone of a sheep-sized animal (Jane Richardson, pers. com). It has a slightly curved shaft that sits comfortably in the hand, the proximal, and assumed, working end is missing, though enough survives to show that the shaft tapers down to this end. The distal end has one side flattened, again there is damage here also. The shaft is moderately polished from wear. Its function and date have not been established, as is the case with many tools that are improvised for a specific purpose.

Table 9. Summary of results small finds

Context No.	SF no.	Ctxt description	Material	ID	Description	Weight (g)	Qty	Date
5248	102	Fill of re-cut 5247 of ditch	Lead	Spindle whorl	Cast. Disc shaped. Undecorated, knife trimmed. D: 21.6mm, Height 7mm, D of perforation 6mm	19	1	IA/Roman
5466	103	Fill of pit 5465	Fe	Object	Ten fragments of plate iron. One fragment with a thicker strip running along one side. Function not determined. L 65mm, W 20mm.		11	Not determined, not recent
5657	105	Fill of pit 5656	Bone	Implement	Incomplete. Whittled and crudely finished. Knife marks clearly visible. Slightly tapering strip with a shaped, expanded and flattened distal end. Light use-wear polish along its length. Species: sheep-sized long bone. L 117mm, W 6.4-7.5mm	9	1	Anglo-Saxon, on the basis of dateable finds from this context
5657	106	Fill of pit 5656	Chalk	Spindle whorl	Near complete, some damage on one face. Biconical, deep, close lathe-turned grooves. D 46mm, H 28mm, D of perforation 10-11mm	48	1	Anglo-Saxon
5091		Fill of ditch 5090	Fe	Nail	Incomplete shank; sub-rectangular head, flat. L 30mm+, width of head 13mm.		1	Not determined, not recent
5622		Fill of ditch 5621	Fe	Claw hammer	Details from x-ray only. Incomplete bifurcated pane, rectangular eye 15 x 12mm and short head 25mm in length. Total remaining L 75mm.		1	Medieval to post-medieval
5657		Fill of pit 5656	Fe	Strip	Corroded, roughly semi-circular strip but no original edges. L 60mm+, Max W 22mm+		1	Not determined, not recent

Iron

Fourteen iron objects were recovered. X-rays were used for their identification and measurement. A fragment of sheet iron with a raised ridge (SF 103, 5466) was tentatively identified as a bow brooch when it was first discovered. The X-ray, however, revealed an item that had been more substantial but unfortunately not identifiable. A claw hammer was recovered from the fill of Ditch 5621 (5622). Completely covered in corrosion products, it has only possibly been possible to make an identification from the x-ray plate. Details of a rectangular eye for a handle, an incomplete bifurcated pane and short, narrow head can be seen in plan, but no details of its profile. There are references to claw hammers being used in Roman times (Salaman 1974, 221) but they appear to be absent from major collections, for example those in The British Museum (Manning 1985), and from large assemblages, for example Newstead (Curle 1911); South Shields (Allason Jones and Miket 1984); Healam Bridge (Drinkall 2018) to name just a few. Where hammer-type tools do occur they take the form of cross-pane hammers, sledge hammers and adze hammers (Manning 1985, 5-6; 17-18). Claw hammers do, however, make an appearance in medieval assemblages from the 11th to 15th century (Goodall 2011, 27, figs 3.8 and 3.9) through to the present day. The example from Brough appears to be blacksmith made, rather than machine manufactured, placing it within a broad medieval to post-medieval time frame. There were no other finds in this feature.

An incomplete flat-headed nail came from ditch fill 5090, no dateable finds were in this context.

A curved non-diagnostic strip came from pit fill 5657 and ten small plate fragments from pit fill 5466.

7 Environmental Record

Animal bone by Naomi Sewpaul

A total of 7704 fragments of animal bone were recovered hand-excavated features (93 deposits) as well from bulk soil samples. Two oyster shells from two deposits were also recovered.

Full analysis of deposits from which over 100 fragments were recovered were put forward for further analysis; a total of 13 deposits. Four of these were highly fragmented with no identifiable bone zones and were thus not included in the analysis here. This leaves a total of nine deposits amounting to 5765 fragments (75% of the overall assemblage) for analysis (Table 10).

Only 717 bone fragments were recorded as diagnostic bone zones (12% of the assemblage) (Table 10). Sheep/goat (with four instances of goat) (48%) and pig (21%), dominate the assemblage, with horse (10%), dog (5%) and cattle (4%) also represented. No bird or fish bones were noted.

Methodology

Non-repeatable diagnostic bone zones were recorded for the disarticulated and articulated parts of the assemblage. Bone zones were identified to taxa wherever possible, although lower-order categories (e.g. cattle-size) were also used.

Reference collection and identification manuals (Schmid, 1972) were consulted to facilitate identification. Distinction between sheep and goat was attempted using Boessneck (1969) and Payne (1985) though none were identified as goat, so are recorded here as belonging to sheep/goat.

For age-at-death data, epiphyseal fusion (after Silver, 1969) and the eruption and wear of deciduous and permanent teeth were considered. Dental eruption and wear for cattle and pig were calculated using Grant (1982).

Sexing of cattle and sheep/goat was achieved with reference to sexually dimorphic distinctions of the pelvis (after Prummel and Frisch, 1986, Grigson, 1982) and Schmid (1972) for sexually dimorphic tusks.

Bone condition; that is recent breaks, erosion, weathering, burning, gnawing and butchery were recorded in order to assess the taphonomic nature of the assemblage.

Butchery differentiated in to 'chop' and 'cut' (knife) marks were noted in order to identify dismembering, skinning and filleting activities (after Binford 1981).

Measurements were recorded according to von den Driesch (1976).

Condition and treatment

The small animal bone assemblage is fairly well preserved, with 39% of the assemblage affected by recent breakages. Incidences of butchered fragments were low at 3.6% (chop and cut marks combined), whilst gnawing (carnivore) was lower still at just 2.5%. 8% fragments were recorded as being burnt. All fragments exhibited, to some degree, surface erosion/porosity, weathering, cracking and staining, which may in part be responsible for the low incidence of visible butchery marks. That said, preservation was good enough to preserve 15 incidences of neonatal bone, unfused epiphyses and inter-costal cartilage.

Table 10. Contexts chosen for analysis showing fragment counts and number of identifiable zones (contexts in bold are discussed further below)

Context	Feature	Date/Phase	No. Fragments	Identifiable zones	Other
5232	Roundhouse ditch fill	LIA	148	13	-
5264	pit fill	IA/RB	212	51	-
5265	Pit fill	IA/RB	2618	345	-
5286	Fill of pit cut	MIA-RB	304	59	-
5396	Roundhouse ditch fill	-	156	48	-
5404	Pit fill	-	674	45	-
5558	Pit fill	-	1165	61	Lots fragmented inter-costal cartilage
5657	Pit fill	E. Sax, LIA. Also mid 3rd-4th c.AD	317	76	1 oyster shell
5729	Pit fill	-	171	19	1 oyster shell
TOTAL			5765	717	

Table 11. Number of identifiable diagnostic zones per species

Cattle	Sheep/Goat	Goat	Pig	Horse	Cattle/Horse size	Sheep/Dog size	Pig/Deer size	Dog
27	340	4	152	70	11	73	1	39

Table 12. Partial skeletons

Context	Feature	Taxa	Description
5558	Pit	Horse	Adult horse. Head missing. Sex unknown. Fore, hind & axial skeleton represented. Predominately left side preserved. Withers height c. 153-169cm.
5404	Pit	Dog	Adult dog. All elements of the skeleton are represented. Skull highly fragmented.

Disarticulated assemblage

Overall, for all deposits/species, all body parts are represented, with no particularly high or low incidence of a particular element (headless-horse burial aside). Sheep/goat and pig dominate this assemblage, with a usually low amount of cattle with respect to the three main domesticates.

Epiphyseal fusion and limited tooth wear analysis reveal a broad, prime meat age of 18 months – 3 years for pig and 2-3 years for sheep/goat, with a number of specimens giving a slightly older age of 3-6 years. No senile specimens were present. Neonates are present throughout the assemblage (five for pig, ten for sheep/goat).

Metrical data were few, but did provide a withers height for the horse burial (see below). It should be noted that thirteen incidences of 'skinny or gracile' were present within the assemblage (not suitable for metrical analysis); six from deposits 5264 and 5265, possibly akin to the smaller, gracile Soay sheep as found elsewhere in Yorkshire (Dobney, *et al.* 1994).

Few incidences of sexing data were recorded. For the entire assemblage three males and four females (based on dentition) for pig and zero males and six females (based on pelvic fragments) for sheep/goat.

A small amount of butchery visible on sheep/goat and pig are representative of dismembering and skinning activities of the fore and hind limbs, as well as on ribs and vertebrae. The majority are fine knife marks, rather than chop or saw marks.

Context 5264/5265

These two contexts are considered together as they comprise of the lower and upper fills of the same pit (5263). Both the fragment and diagnostic zone count are high in comparison to the other deposits. Again, a high degree of fragmentation is visible throughout, especially regarding metapodial and long bone shafts.

Sheep/goat and pig are most abundant, with a number of specimens of a juvenile and sub-adult age. Environmental soil samples 021 and 056 contained 614 and 334 fragments respectively and accounts for much of this juvenile and sub-adult material, mainly skull, horncore, rib, vertebral and foot bone fragments. A number of elements may be the result of partially articulated limbs within this deposit. Mandibular maxillary teeth for both species are also present.

Context 5558

A total of 70 identifiable zone were recorded from a shallow pit containing an adult, articulated horse. Unfortunately, the head and mandibles of this specimen were not present, so further ageing could not be determined. Preservation was overall good, with less fragmentation than other deposits (though not exempt from many recent breaks).

The pit seems to have been deliberately cut for burial. The 'head' (absent) is oriented north, with the fore and hind limbs extended and slightly tucked beneath it. Only the left side of the horse was recorded; the right side having not survived possibly through machine truncation.

Only thoracic (most common) and lumbar vertebrae were recorded. Two lumbar vertebrae are fused together, and two ribs also exhibit pathologies, possibly from an injury and lung condition respectively. Two ribs (non zones) exhibit two very fine knife marks, suggesting that the meat from this animal was not wasted.

A withers height (based upon a metatarsal) indicate an animal of approximately 153cm (15-16 hands) using Kiesewalter's (1888) factors (in von den Driesch and Boessneck 1974).

Context 5404

The remains of a small, adult dog (metrical analysis not possible) were recovered from a pit within the roundhouse. The articulated remains appear to have been deliberately placed within the pit.

The skeleton is highly fragmented, with the skull reduced to hundreds of tiny pieces. The mandibles have all teeth present and most cusps show a degree of wear with dentine clearly exposed. All bones are highly weathered, eroded and porous in number of instances. Ribs and vertebrae are also particularly fragmented; very few vertebrae had centrums intact.

Conclusions

Although little can be said about this assemblage in terms of animal husbandry or socio-economics, the animal bone from excavated ditch and pit fills indicate that sheep/goat and pig predominate overall with cattle relatively low in abundance. It is possible that the assemblage is reflective of a more Iron Age type of economy, despite a number of Roman deposits. Animals of prime meat-eating age are present, as well as slightly older animals. In the case of sheep/goat, the presence of neonatal adult and older-adult specimens along with a number of females, is suggestive of milk and wool as secondary products. Cattle remains are too few to comment on. Their infrequency could be taphonomic or a real husbandry pattern. Essentially, sample sizes are too small to be of great interpretative value on a socio-economic scale.

The assemblage should still be considered significant, however, due to the two animal burials. Pathologies exhibited within the horse, perhaps indicative of a lung condition as well as spinal injury, may be suggestive a specific deposition of an old and cared for animal. The small amount of butchery evidence may also suggest that the meat was not put to waste. The absence of a head is probably due to being truncated by plough or machine, rather than a deliberate ritual act. Although undated (through radiocarbon dating), the association of a dog burial within a domestic/roundhouse setting, is likely to represent a ritual act (Grant 1989). Certainly dog skeletons were noted as significant from Iron Age deposits at Wattle Syke (Richardson 2013, 235).

Carbonised plant macrofossils and charcoal by Diane Aldrit

A total of 56 environmental sample flots were examined for carbonised plant macrofossils and charcoal. In addition carbonised remains sorted from ten sample retents were also analysed for identifiable material along with a single spot sample of charcoal.

Methodology

The environmental samples were processed by Archaeological Services WYAS using a Siraf style water flotation system (French 1971). The flots were dried before examination under a low power binocular microscope typically at x10 magnification. Identified plant remains including charcoal were removed and bagged separately by type.

Wood charcoal was examined using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

Results

The environmental samples produced moderate amounts of charcoal and other charred remains including cereal grain and weed seeds in amounts from <2.5ml up to 10ml. The charcoal spot sample contained approximately 40ml of encrusted charcoal, with some geological material and possible slag also present. Modern material is present in small amounts from <2.5ml up to 15ml per sample, consisting mainly of root detritus, modern seeds and occasional earthworm egg capsules indicating potential for a degree of bioturbation through the deposits. Snail shell is fairly common and consist mostly of burrowing types indicating another potential source of bioturbation in the soil. Interestingly post-hole 5083 was possibly originally a waterlogged deposit and consisted of general plant detritus, possibly decayed straw, along with ubiquitous seeds of *Sambucus nigra* (elder) and *Rubus fruticosus* (bramble). Potentially this deposit could have been a cess pit or other area of waste disposal rather than a post-hole. The results are given in Table 13 and discussed below.

Pits

Twenty nine of the samples were taken from pit fills with this category of features producing the largest concentrations of burnt remains, mainly a mixture of fuel waste, cereal grain and weed seeds.

Pit 5058 produced a small concentration of degraded cereal grain mainly *Hordeum vulgare* sl. (barley) with a few grains of *Hordeum vulgare* var. *vulgare* (six row hulled barley) identifiable. This pit also produced a few small fragments of charred rhizome and two *Carex* sp. (sedges), probably originating from peat burnt as fuel, along with single finds of *Galeopsis tetrahit* (common hemp nettle) a weed of arable land and rough ground, and *Myosotis arvensis* (field forget-me-not) which prefers open clearings. These remains are probably waste material deposited from a corn drier or hearth with peat used as fuel. Pit 5224 was found to contain a similar deposit of cereal grain with all barley identified, but this time the fuel used was clearly charcoal with a mixture of *Prunus spinosa* (blackthorn) and Maloideae types recorded. Pit 5467 also contained cereal grain, probably cereal drying or domestic hearth waste with both *Hordeum vulgare* sl. (barley) and *Avena* sp. (oat) recorded along with *Plantago lanceolata* (ribwort plantain) a weed which prefers open grassy land.

Lower rates of cereal grain recovery were recorded from Pit 5099 where two grains of degraded *Hordeum vulgare* sl. (barley) were found along with a small sliver of *Quercus* (oak). Pit 5253 contained traces of highly degraded indeterminate grain, possibly trampled or wind-blown into the deposit. A single stray grain of barley found in Pit 5557 and two degraded grains found in Pit 5656 were probably also intrusive.

A significant deposit of charcoal was recovered in the spot sample from the lower fill of pit 5403 consisting mainly of 15mm to 20mm chunks of *Quercus* (oak) and a small amount of *Betula* (birch). All the charcoal is heavily encrusted with iron panning and forms very hard compacted fragments, possibly from soil conditions or from the charcoal being used in a furnace.

Smaller quantities of hearth fuel waste were recovered from some of the other pits with 5095 containing well-preserved *Betula* (birch), along with a number of large fragments of *Corylus avellana* (hazel) nutshell in good condition, probably food waste. The hazel nutshell would be suitable for radiocarbon dating if required. Pit 5259 also had a small concentration of charcoal with 10mm to 20mm *Quercus* (oak) chunks and a thin sliver of 10mm *Corylus* (hazel). Pit 5263 produced mainly *Prunus spinosa* (blackthorn) charcoal, whilst pit P5289 had mainly *Quercus* (oak).

Pits 5097, 5263, 5285, 5311 and 5750, contained only scarce traces of charred detritus, perhaps intrusive from nearby burning. The remaining pits were sterile of carbonised remains.

Post-holes

Fifteen samples were taken from post-hole features with a number of these proving to be sterile of charred remains.

Three post-hole features were found to contain small amounts of carbonised material, although most likely accidental inclusions from nearby burning. Post-hole 5449 produced a single large slightly degraded grain of *Hordeum vulgare* var. *vulgare* (six row hulled barley) and a fragment of clinker, whilst post-hole 5362 also contained a single grain identified as *Hordeum vulgare* sl. (barley). These are likely to be stray finds perhaps swept in from nearby domestic hearth places or corn driers. Post-hole 3540 was unusual in containing one very large fragment of oak charcoal, 33mm by 28mm in size and found to be iron panned and quite brittle. The oak is perhaps the remains of a post burnt in situ, or could be a stray fragment of fuel waste washed in given the poor preservation.

Post-hole 5083 contained no charred material but was possibly originally a waterlogged deposit with a number of non-carbonised, not modern, seeds mixed into a matrix of general plant detritus resembling degraded straw. The weeds were mostly *Rubus fruticosus* (bramble) type with some *Sambucus nigra* (elder) also present, although recovery was probably biased by the processing method. This deposit could be remains of a cess pit rather than a post-hole.

Post-hole features 5447 and 5451 contained only trace degraded charred detritus, probably intrusive from nearby burning, whilst the remaining post-holes were sterile.

Ditches

Twelve samples were examined from ditch features with generally quite low recovery of carbonised material. Four ditches proved notable exceptions with small concentrations of charcoal and other remains found in 5208, 5210, 5216 and 5408. Ditch 5210, primary fill

5211, contained a mixture of charcoal with brittle 15mm to 20mm chunks of *Quercus* (oak) and better preserved fragments of *Prunus spinosa* (blackthorn) together with traces of cereal grain including *Triticum aestivum* (bread wheat) type suggesting deposition of mixed hearth waste.

Cereal grain and charcoal were also recovered from ditch 5208, primary fill (5209), in this case highly iron panned and degraded fragments of *Betula* (birch) and Maloideae type charcoal along with a single poorly preserved *Hordeum vulgare* sl. (barley) grain. Ditch 5216 contained similar hearth waste material but with the charcoal all identified as *Prunus spinosa* (blackthorn), and a single carbonised rhizome, possibly originating from the use of peat for fuel, also present.

Ditch 5408 was also found to contain blackthorn charcoal along with a number of other very poorly preserved indeterminate fragments of charcoal. The blackthorn could have been fuel waste or may have had a defensive purpose in the ditches as a spiny deterrent to anyone trying to enter the outer enclosure.

Ditch 5141 produced a single large *Prunus* spp. fruit stone, possibly a wild plum type but quite decayed to one side, perhaps food waste or accidentally charred with wood cut for fuel.

Ditch features 5195, 5692, 5704 and 5722 were sterile of carbonised remains. Ditch 5692 contained trace charred detritus probably degraded charcoal from nearby burning activity and not particularly significant.

Conclusion

The environmental samples produced moderate amounts of carbonised plant remains consisting of charcoal fragments along with cereal grain, weed seeds and occasional finds of charred rhizomes and hazel nutshell. The greatest concentrations of burnt material were present in some of the pits and in four of the ditch deposits. This material mostly consisted of mixed hearth fuel waste in the form of charcoal together with small concentrations of cereal grain, probably deposited as waste from corn drying, cooking and other domestic burning activity. The exception to this was the deposit of heavily encrusted oak and birch charcoal found in the base of Pit 5403 which could have been metalworking fuel waste.

The cereal recovery was overall quite low although discrete concentrations of grain were recorded from Pits 5058, 5224 and 5467 as well as in Ditch 5210. The cereal is mostly barley with a few traces of oat and bread wheat type. Carbonised weeds found in Pits 5058 and 5467 indicate cultivation of rough, open grassy land.

Charcoal identification indicated the presence of open woodland and scrub, with oak, blackthorn, birch and hazel recorded. There were probably wetter areas of scrub also present in the vicinity being used as a fuel source. The presence of rhizome fragments and sedge nutlets suggested peat or wet turves were probably being cut as fuel for use on domestic hearths and for cereal drying. The presence of blackthorn in the Phase 3 roundhouse enclosure ditch could possibly have had a defensive purpose as a spikey deterrent.

Table 13. Environmental results

	Context	5059	5084	5094	5096	5098	5100	5102	5106	5108	5139
	Sample	1	2	5	6	7	8	9	3	4	10
	Feature	Pit 5058	PH 5083	Pit 5093	Pit 5095	Pit 5097	Pit 5099	Pit 5101	PH 5105	PH 5107	Ditch 5138
	Total CV	5ml	0	0	5ml	<2.5ml	<2.5ml	0	0	0	0
	Modern	<2.5ml	30ml	10ml	10ml	15ml	10ml	10ml	5ml	10ml	15ml
Carbonised Cereal Grain	Common Name										
<i>Avena</i> sp.	oat										
<i>Triticum aestivum</i>	bread wheat										
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley	5									
<i>Hordeum vulgare</i> sl.	barley	6					2				
Indeterminate cereal grain (+embryo)											
Charcoal											
<i>Quercus</i>	oak							1 (0.02g)			
<i>Corylus</i>	hazel										
<i>Betula</i>	birch				1 (0.16g)						
<i>Prunus spinosa</i>	blackthorn										
Maloideae	apples / hawthorn / whitebeams										
Indeterminate											
Carbonised Wild Resources											
<i>Corylus avellana</i> nutshell	hazel nutshell				4 (0.36g)						
<i>Prunus</i> spp. fruit stone	cherry stone										
Rhizomes		3 (0.07g)									
Carbonised Weeds											
<i>Myosotis arvensis</i>	field forget-me-not	1									
<i>Galeopsis tetrahit</i>	common hemp nettle	1									
<i>Plantago lanceolata</i>	ribwort plantain										
<i>Carex</i> sp.	sedges	2									
Other Remains											
Non-marine mollusc (snail) shell		5+	5+	50+	50+	20+	20+	50+	10+	20+	20+
Clinker											
Modern seeds					20+	10+	5+	1			
Earthworm egg capsules				1					1		

	Context	5142	5196	5209	5211	5217	5225	5229	5253	5254	5260
	Sample	12	11	13	14	15	16	17	19	18	20
	Feature	Ditch 5141	Ditch 5195	Ditch 5208	Ditch 5210	Ditch 5216	Pit 5224	PH 5228	Pit 5252	Pit 5252	Pit 5259
	Total CV	2.5ml	0	5ml	10ml	5ml	10ml	0	<2.5ml	<2.5ml	10ml
	Modern	15ml	10ml	5ml	5ml	<2.5ml	10ml	5ml	5ml	5ml	10ml
Carbonised Cereal Grain		Common Name									
<i>Avena</i> sp.	oat										
<i>Triticum aestivum</i>	bread wheat				1						
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley						1				
<i>Hordeum vulgare</i> sl.	barley			1			4				
Indeterminate cereal grain (+embryo)					2				1	1	
Charcoal											
<i>Quercus</i>	oak				5 (1.36g)						3 (1.86g)
<i>Corylus</i>	hazel										1 (0.07g)
<i>Betula</i>	birch			2 (0.35g)							
<i>Prunus spinosa</i>	blackthorn				1 (0.37g)	2 (0.40g)	2 (0.34g)				
Maloideae	apples / hawthorn / whitebeams			1 (0.22g)			1 (0.44g)				
Indeterminate							2 (0.29g)				
Carbonised Wild Resources											
<i>Corylus avellana</i> nutshell	hazel nutshell										
<i>Prunus</i> spp. fruit stone	cherry stone	1									
Rhizomes						1 (0.05g)					
Carbonised Weeds											
<i>Myosotis arvensis</i>	field forget-me-not										
<i>Galeopsis tetrahit</i>	common hemp nettle										
<i>Plantago lanceolata</i>	ribwort plantain										
<i>Carex</i> sp.	sedges										
Other Remains											
Non-marine mollusc (snail) shell				5+	10+		2	3	20+	5+	5+
Clinker											
Modern seeds					2				1	5+	
Earthworm egg capsules											

	Context	5265	5265	5286	5290	5312	5314	5316	5320	5326	5328	5341	5349
	Sample	21	56	22	23	43	42	41	52	40	39	48	49
	Feature	Pit 5263	Pit 5263	Pit 5285	Pit 5289	Pit 5311	Pit 5313	Pit 5315	Pit 5319	Pit 5325	Pit 5327	PH 5340	PH 5348
	Total CV	10ml	<2.5ml	<2.5ml	10ml	<2.5ml	0	0	0	0	0	10ml	0
	Modern	10ml	<2.5ml	5ml	5ml	2.5ml	5ml	5ml	2.5ml	5ml	2.5ml	<2.5ml	<2.5ml
Carbonised Cereal Grain													
	Common Name												
<i>Avena</i> sp.	oat												
<i>Triticum aestivum</i>	bread wheat												
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley												
<i>Hordeum vulgare</i> sl.	barley												
Indeterminate cereal grain (+embryo)													
Charcoal													
<i>Quercus</i>	oak						3 (0.32g)						1 (4.34g)
<i>Corylus</i>	hazel												
<i>Betula</i>	birch												
<i>Prunus spinosa</i>	blackthorn	2 (0.20g)											
Maloideae	apples / hawthorn / whitebeams												
Indeterminate		1 (0.25g)											
Carbonised Wild Resources													
<i>Corylus avellana</i> nutshell	hazel nutshell												
<i>Prunus</i> spp. fruit stone	cherry stone												
Rhizomes							1 (0.02g)						
Carbonised Weeds													
<i>Myosotis arvense</i>	field forget-me-not												
<i>Galeopsis tetrahit</i>	common hemp nettle												
<i>Plantago lanceolata</i>	ribwort plantain												
<i>Carex</i> sp.	sedges												
Other Remains													
Non-marine mollusc (snail) shell		5+	1	5+	5+	2	5+	5+	5+	1			1
Clinker							2						
Modern seeds		5+	1	5+				3			1	1	
Earthworm egg capsules								1					

	Context	5363	5369	5404	5404	5418	5434	5436	5444	5448	5450	5452	5454
	Sample	51	47	24	spot	25	50	26	37	27	44	45	46
	Feature	PH 5362	PH 5368	Pit 5403	Pit 5403	Ditch 5408	PH 5433	PH 5435	PH 5443	PH 5447	PH 5449	PH 5451	PH 5453
	Total CV	<2.5ml	0	0	40ml	5ml	0	0	0	<2.5ml	<2.5ml	<2.5ml	0
	Modern	<2.5ml	2.5ml	5ml	0	5ml	<2.5ml	5ml	5ml	5ml	<2.5ml	2.5ml	2.5ml
Carbonised Cereal Grain	Common Name												
<i>Avena</i> sp.	oat												
<i>Triticum aestivum</i>	bread wheat												
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley										1		
<i>Hordeum vulgare</i> sl.	barley	1											
Indeterminate cereal grain (+embryo)													
Charcoal													
<i>Quercus</i>	oak				3 (3.53g)								
<i>Corylus</i>	hazel												
<i>Betula</i>	birch				1 (1.27g)								
<i>Prunus spinosa</i>	blackthorn					1 (0.09g)							
Maloideae	apples / hawthorn / whitebeams												
Indeterminate						3 (0.33g)							
Carbonised Wild Resources													
<i>Corylus avellana</i> nutshell	hazel nutshell												
<i>Prunus</i> spp. fruit stone	cherry stone												
Rhizomes													
Carbonised Weeds													
<i>Myosotis arvensis</i>	field forget-me-not												
<i>Galeopsis tetrahit</i>	common hemp nettle												
<i>Plantago lanceolata</i>	ribwort plantain												
<i>Carex</i> sp.	sedges												
Other Remains													
Non-marine mollusc (snail) shell			1				1	5+	1	5+	5+	5+	
Clinker											1		
Modern seeds			2					1			5+		
Earthworm egg capsules													

	Context	5468	5540	5542	5558	5611	5657	5672	5673	5674	5705	5723	5729	5751
	Sample	28	29	30	31	32	33	34	35	36	38	53	54	55
	Feature	Pit 5467	Pit 5539	Pit 5541	Pit 5557	Pit 5609	Pit 5656	Ditch 5691	Ditch 5692	Ditch 5692	Ditch 5704	Ditch 5722	Pit 5728	Pit 5750
	Total CV	<2.5ml	0	0	<2.5ml	0	<2.5ml	<2.5ml	0	0	0	0	0	<2.5ml
	Modern	2.5ml	5ml	2.5ml	5ml	10ml	15ml	<2.5ml	5ml	2.5ml	2.5ml	5ml	10ml	10ml
Carbonised Cereal Grain	Common Name													
<i>Avena</i> sp.	oat	1												
<i>Triticum aestivum</i>	bread wheat													
<i>Hordeum vulgare</i> var. <i>vulgare</i>	six row hulled barley													
<i>Hordeum vulgare</i> sl.	barley	3			1		2							
Indeterminate cereal grain (+embryo)														
Charcoal														
<i>Quercus</i>	oak													
<i>Corylus</i>	hazel													
<i>Betula</i>	birch													
<i>Prunus spinosa</i>	blackthorn													
Maloideae	apples / hawthorn / whitebeams													
Indeterminate														
Carbonised Wild Resources														
<i>Corylus avellana</i> nutshell	hazel nutshell													
<i>Prunus</i> spp. fruit stone	cherry stone													
Rhizomes														
Carbonised Weeds														
<i>Myosotis arvensis</i>	field forget-me-not													
<i>Galeopsis tetrahit</i>	common hemp nettle													
<i>Plantago lanceolata</i>	ribwort plantain	2												
<i>Carex</i> sp.	sedges													
Other Remains														
Non-marine mollusc (snail) shell						10+	5+	5+	5+	5+			5+	50+
Clinker													1	
Modern seeds				5+		5+		5+		2	2			5+
Earthworm egg capsules														

Radiocarbon dating

Samples were submitted to the Scottish Universities Environmental Research Centre (SUERC) for radiocarbon dating (Table 14). The calibrated age ranges were determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OXCa14). Full details of each radiocarbon measurement, including contextual information, material dated, the conventional age BP, the calibration program and the sample isotopic fractionation are presented in Appendix X. Feature-specific dates have been cited as calibrated age ranges at the two sigma level of confidence (i.e. 95.4%). Material was taken from Pits 5095, 5403 and 5557, this included a nutshell, which provided a date of 1767 BC and the remains of a horse which provided a date of 1661-1917 AD. Unfortunately it was not possible to obtain a date from the dog remains.

Table 14. Radiocarbon dating results

Lab Code	Context	Feature	Material	Radiocarbon Age BP	Calibrated Age Range $\delta 1$	Calibrated Age Range $\delta 2$	Delta ^{13}C rel. to VPBD (‰)	Delta ^{15}N rel. to air (‰)	C/N ratio (molar)
SUERC-80842 (GU48312)	5096	Pit 5095	Nutshell: <i>Corylus avellana</i>	3525 \pm 25	1901-1776 BC	1931-1767 BC	-26.0‰		
GU48313	5404	Pit 5403	Dog bone: RHJ ulna	Failed due to insufficient carbon					
SUERC-80843 (GU48314)	5558	Pit 5557	Horse bone: PHI	174 \pm 25	1669-1948 AD	1661-1917 AD	-22.3‰	5.2‰	3.2

8 Discussion

Introduction

The archaeological excavations at Brough South provide a significant sample of the types of archaeological remains from the Iron Age, located towards the south of Wolds and near the foreshore of the Humber. The site adds to the growing picture of activity and settlement in the Iron Age across East Yorkshire, and when combined with those sites excavated in the past decade and a half, a picture of rural life during this period can be more clearly presented. Although this report cannot provide a full synthesis of all the excavated material in the last few years, the excavated site can be added to the data already recorded to identify potential patterns that are worthy of comment.

Historical identification of the Iron Age tribes of Britain has led to the suggestion that the *Parisi* were the tribal grouping that lived in East Yorkshire, incorporating both Holderness and the Wolds as a notional territory (Cuncliffe 2005; Halkon 2013). Much of the historic archaeological work in East Yorkshire has focused upon the sites located upon the Wolds, presumably due to their high visibility (Stoertz 1997). Although this site is located off the Wolds itself, it does fit in well with the corpus of sites that have been identified on the clay lowlands of East Yorkshire and further west of Holderness. Although the identification of sites within clay-land zones can be problematic, and at times resistant to the standard types of archaeological work such as cropmarks and geophysical survey, an increasing amount of survey and investigation in these regions has shown these areas were extensively exploited in the past (Brigham *et al.* 2008; Clay 2009).

The phasing of the site has been established through stratigraphic means and artefact dating. This dating has been supplemented by a limited programme of radiocarbon dating.

Prehistoric activity

There is limited evidence for prehistoric activity in the north-west part of the site. A small group of possible handmade pottery was recovered from the central post-hole of the roundhouse (5447), the northern part of the roundhouse ditches (5408 and 5410) and the surrounding outer ditch (5445), a further sherd of pottery was found in a small pit (5751) to the south-west of the roundhouse. A single Mesolithic flint, albeit residual, was recovered from the Phase 1 roundhouse ditch and a late prehistoric flint was found in the Phase 2 ditch. Radiocarbon dating of a nutshell recovered from Post-hole 5095, also to the south-west of the roundhouse, provided a date range of 1931-1767 cal BC.

This evidence suggests a prehistoric origin for the roundhouse, with the likelihood that earlier phases have been subsequently destroyed or replaced by later iterations in the same location. There is also the possibility of further structures to the south-west of the roundhouse, as indicated by the scatter of shallow post-holes and pits, although no discernible structures were identified, partly due to the prevalence of animal burrowing in this area. Given the shallow overburden here, the probable destruction of shallower features by later agricultural activity, such as ploughing is also likely.

Iron Age to early Roman settlement

Dating

The majority of the dating evidence recovered from the site was associated with the roundhouse ditches and post-holes. There was no clear distinction in date between the pottery recovered from the three phases of ditches, with a date range of Middle Iron Age through to early Roman from each. The pottery from the internal post-holes produced a similar result, with no clear pattern discernible.

The western ditches leading towards the roundhouse (Ditch Groups B and E), both provided pottery of a broad Iron Age to Roman date, as did a ditch in the north-eastern part of the site (Ditch 5239 and 5712).

In contrast, the east trackway (Ditch Groups D and F) produced pottery of an exclusively Roman date.

Environmental evidence

The environmental reconstruction relies exclusively upon the recovery of charred plant material. Although palynology can be used to inform reconstruction and pollen remains have been found to be generally well preserved across parts of East Yorkshire (Van de Noort 1995), recovery is dependent upon a variety of preservation factors. The excavated site has been subjected to drainage and arable cultivation, suggesting that preservation of any pollen would be poor. No clearly waterlogged samples were recovered to indicate pollen survival.

The presence of blackthorn in the Phase 3 roundhouse ditch may represent a defensive feature. Blackthorn has also been recovered from ring ditches at excavations for the cable route for the Westernmost Rough Offshore Wind-farm (Williams 2016), to the east of Hull. This may represent a local trend.

Settlement form – unenclosed settlement

The earliest phase of settlement located on site consisted of three phases of ring ditches in the same location, in the north-west of the site (Fig. 8) which are assumed to represent roundhouses. Much debate surrounds these ring gullies and what they represent, and what sort of structure can be derived from the archaeological evidence (Glover *et al.* 2016; Giles 2012; 85-89; Halkon 2013; 89-92). Whether drip gullies or wall foundations, it is generally accepted that ring gullies represent occupation. Other uses of roundhouses should be considered and it is possible that a range of ancillary, social or ritual functions (see Chadwick 2010, 269-99, Appendix E; Giles 2012) went hand in hand with the occupation activity.

The typical layout of a roundhouse assumes the entrance way is located to the east or south-east (see Parker Pearson 1996; Oswald 1997 and Chadwick 2010, 269-99, appendix E). In the case of the roundhouse at Brough, there is a clear entrance facing east flanked by two ditches one to the north and south. Internal features are present and likely to be associated within one of the three phases of roundhouse. The internal post-holes probably belong to part of the roundhouse construction or are associated with zoned activity within the roundhouse. The post-holes in plan cluster towards the southeast and may represent an internal wall. Similar

arrangements have been identified at Wetwang Slack (Dent 1984), Garton Slack (Brewster 1980), Old Ellerby and Brandywell (Glover *et al.* 2016) and would seem to be a common theme of construction across East Yorkshire (Dent 2010, Giles 2012).

The gullies identified represent a sequence of roundhouses that occupied the site over a period of time. The stratigraphy suggests three phases, although the recovery of earlier prehistoric pottery, could indicate earlier unidentified phases. The rebuilding or replacement of roundhouses on or about the same area, causing the gullies to overlap or intercut, can be clearly seen in examples across East Yorkshire and Holderness including at Burton Constable (Glover *et al.* 2016), the enclosed site at Out Newton Lane (OAN 2012), the Gas Receiving Facilities at Easington (Richardson 2011), and from the Westernmost Rough Onshore Corridor (Williams 2015). The reasons for such renewal of roundhouses is much discussed and may relate to some unseen and unknown physical, communal or societal constraint. Glover *et al.* suggest that the original structures may have been ‘sullied’ presumably by a death or some breaking of the societal rules that govern the community which forced them to reconstruct the roundhouses on a slightly altered footprint, perhaps excluding the area that had been fouled. Giles (2012) has suggested that the renewal or replacement of the roundhouse may relate to the better success and fertility of the household. The renewal on the same area may suggest that the locale was significant and that it provided an unbroken link with the previous household and its memories and its ancestors (Giles 2012, 88).

Trackway

The trackway defined by Ditch Groups D and F and flanked by the partial remains of smaller ditches probably represents a thoroughfare running from a crossing over the Humber to the south towards further settlement to the north.

The ditches produced an unsurprisingly small quantity of pottery compared to the neighbouring roundhouse, all of which was Roman in date. This may indicate that the trackway was later in date than the roundhouse and western ditches, or that it remained in use longer than the settlement.

Economy

The economy of the Iron Age would have been fairly complex and bound up in the agricultural life of the settlement. The economic activity that was detectable from the excavations suggests it was fairly continuous. Generally the economy was once thought to have solely relied upon animal husbandry (Halkon 2013 102-105), but it has been shown to be more varied and that grain production also played an important role in the agricultural regime and should not be discounted (Martin *et al.* 2013, 289; Ottaway 2013, 76-80). The pastoral economy did, however, play its part with sheep/goats and pigs dominating the assemblage, reflecting the multi-purpose production of domesticated animals for meat, milk, wool, skins, manure and traction. Unusually, there is a lack of cattle bone recovered from the excavation, this may be indicative of a lack of wealth at the settlement, although given that the bulk of animal bone was recovered from the roundhouse and its immediate vicinity this

may just be reflective of deposition location. The larger bones of the larger species may have been deposited in deeper ditches outside of the settlement core, and beyond the excavated area.

Arable production also played a key role in any Iron Age economy with grain largely for domestic consumption (Cunliffe 2003, 124). The evidence for surpluses, so clear in the south of England, at sites such as Danebury (Cunliffe 1984), is less clear cut in East Yorkshire, although the use of four-post structures for grain storage has been attested to at Sutton Common (Van de Noort *et al.* 2007). The overall recovery rate of cereal grains was relatively low for the region. Barley was the main type of cereal recovered, which is common in Roman rural settlements in the North East region (Lodwick 2017), although traces of oats and bread wheat were also recovered. Arable production was apparently not at levels that would produce great surpluses and indeed no processing equipment, such as quernstones, were recovered.

The pottery appears to fit the range of material known from other sites from the north bank of the River Humber suggest local acquisition with perhaps limited amount of pottery from outside East Yorkshire or from across the Humber in Lincolnshire. The lack of wheelmade sherds and other 'fine wares' is probably more indicative of a lack of occupation of the site in the 2nd century and beyond or could be the result of site status or access to high status items.

The portable kiln furniture recovered from the post-holes within the roundhouse and the surrounding ditches implies that pottery was being made on site, although no kiln features were identified during the excavation.

The economic picture of the Iron Age suggest that the Iron Age people were largely self-sufficient and producing foodstuffs, mostly sheep/goat and pigs probably supplemented with some cereal farming, for their local needs. Small surpluses that could be used to insulate against poor agricultural years or be used to assist neighbouring households may also have been produced.

Post-Roman activity

A small quantity of Anglo-Saxon pottery and several artefacts were recovered from Pits 5609 and 5656 in the eastern part of the site. This area of intercutting pits also produced material of a Romano-British date, which could be indicative of continued occupation of the site through both periods. No other Anglo-Saxon remains were recovered from the site.

Late Saxon to medieval

Three features produced material dating to the Late Saxon or medieval period. Pit 5224, in the roundhouse entrance contained a single sherd of 12th to 13th-century pottery, another sherd of the same period was found in Ditch 5208, immediately to the south. Given the form and substantial quantity of Iron Age/Romano-British dating evidence from the roundhouse, it seems likely that these sherds are intrusive in earlier deposits.

A very abraded sherd of medieval pottery was also recovered from a shallow ditch (5183) in the north of the site and a shallow ditch running east to west across the southern part of the site (Group C) produced a small quantity of pottery of a medieval date. This ditch runs on a similar alignment to the Group A ditches which did not produce any dating evidence, but were stratigraphically later than the Iron Age/Romano-British trackways. These ditches likely represent medieval enclosure of the site.

Post-medieval

The shallow, wide ditch running roughly parallel with the eastern limit of the site produced finds dating from the Roman, medieval and post-medieval periods. The horse skeleton recovered from Pit 5557, situated between Ditch Groups D and F, which was also shown to be of a post-medieval date (see Section 7). Its position between the two trackway ditches is likely to be a coincidence.

10 Conclusions

The excavations have identified an Iron Age settlement site, comprising a single roundhouse of at least three phases of occupation adjacent to a trackway. The settlement economy appears to be focused towards sheep/goat and pig farming, with relatively little evidence of cattle and arable farming identified. The settlement continued into the Romano-British period, based on the limited pottery remains across the site, with a trackway present to the east.

There is limited evidence of later occupation on the site. Anglo-Saxon artefacts were recovered from the north-west edge of the site, perhaps indicative of settlement activity, although no structural remains were identified. These may have been destroyed by subsequent agricultural activity, given the shallow depth of overlying topsoil in that area of the site. Scant medieval remains were also identified in isolated features across the site.

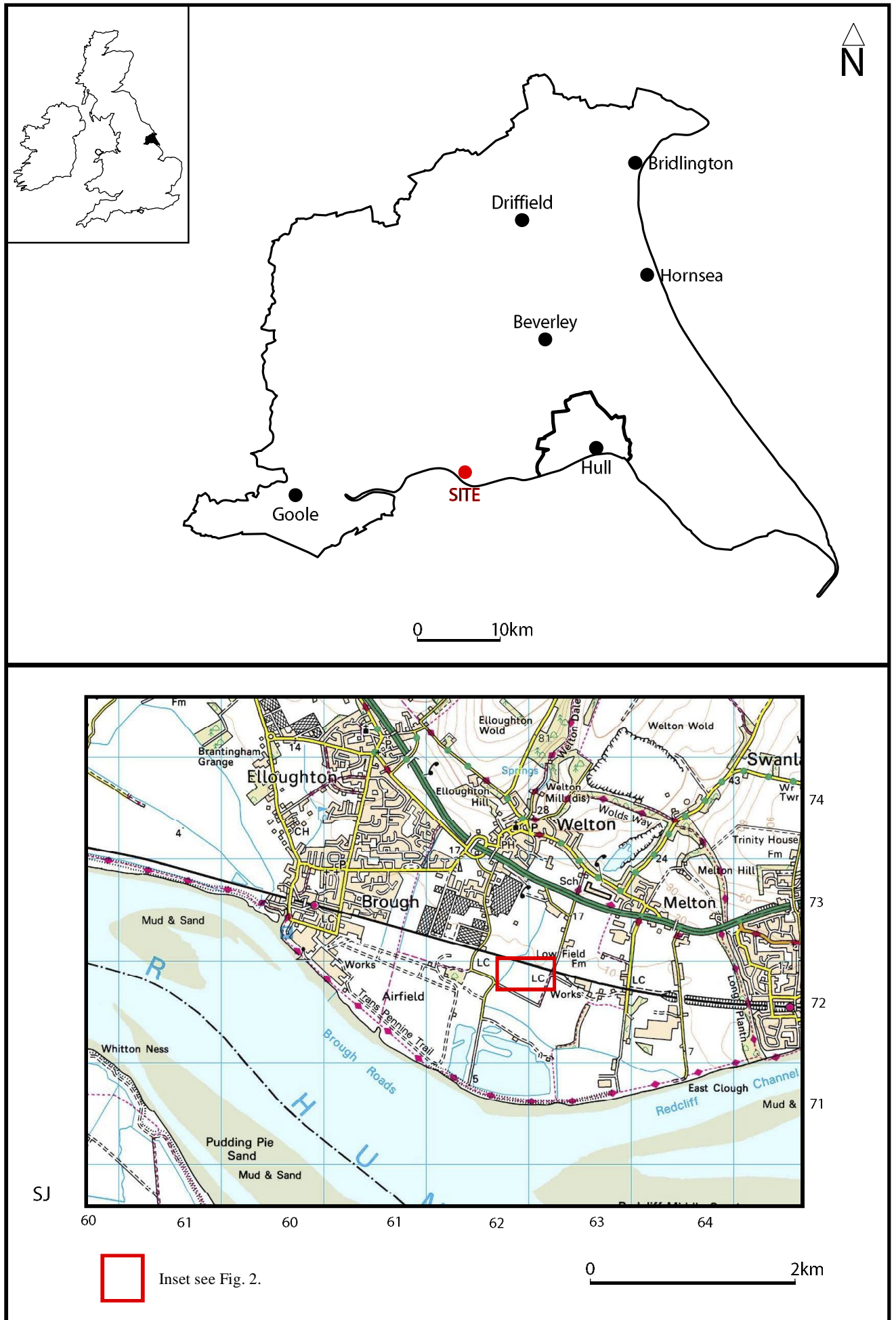




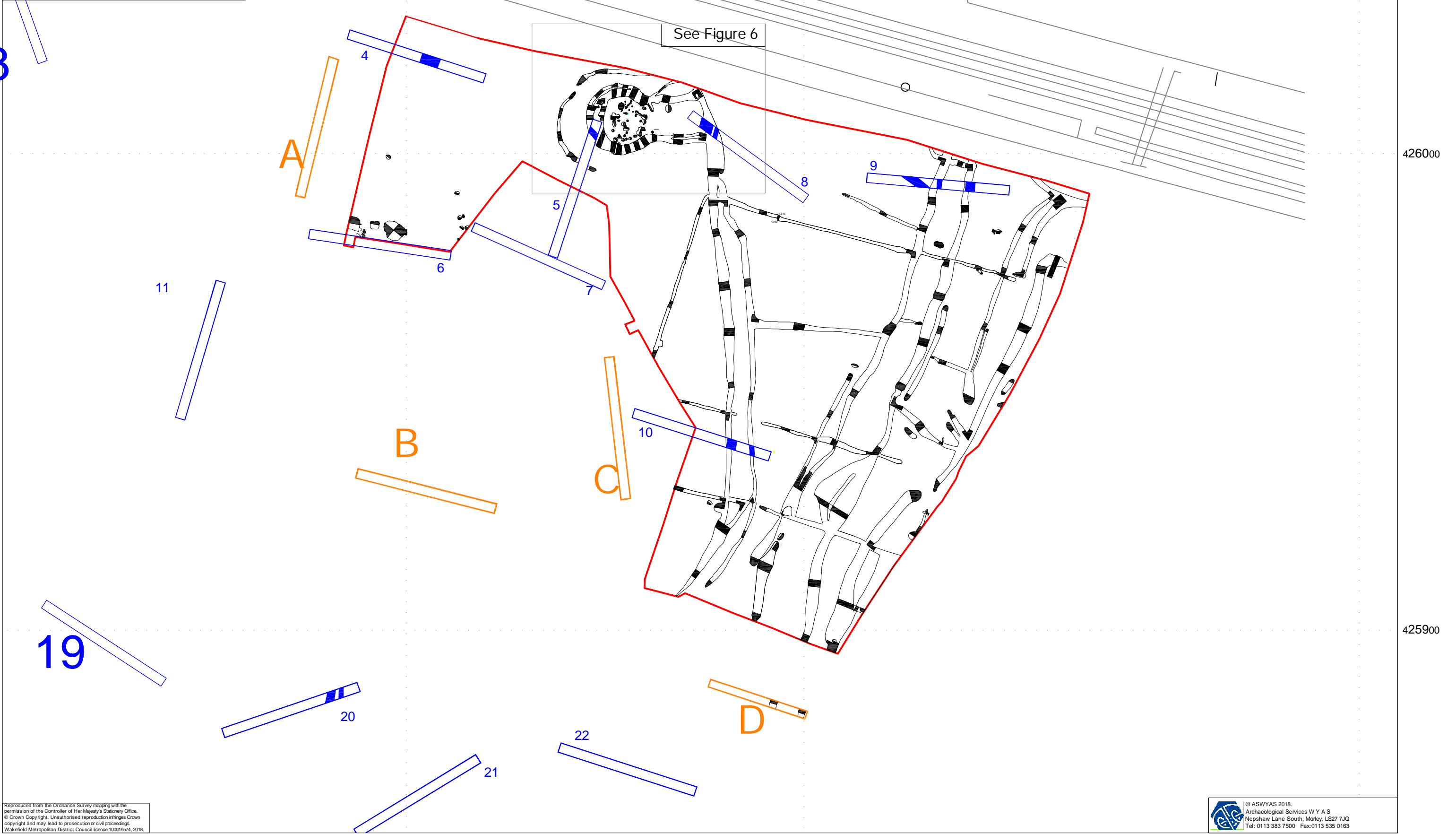


Fig. 1. Site location

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	SITE BOUNDARY
	PREVIOUS PHASE TRIAL TRENCH
	CURRENT PHASE TRIAL TRENCH
	ARCHAEOLOGICAL FEATURE

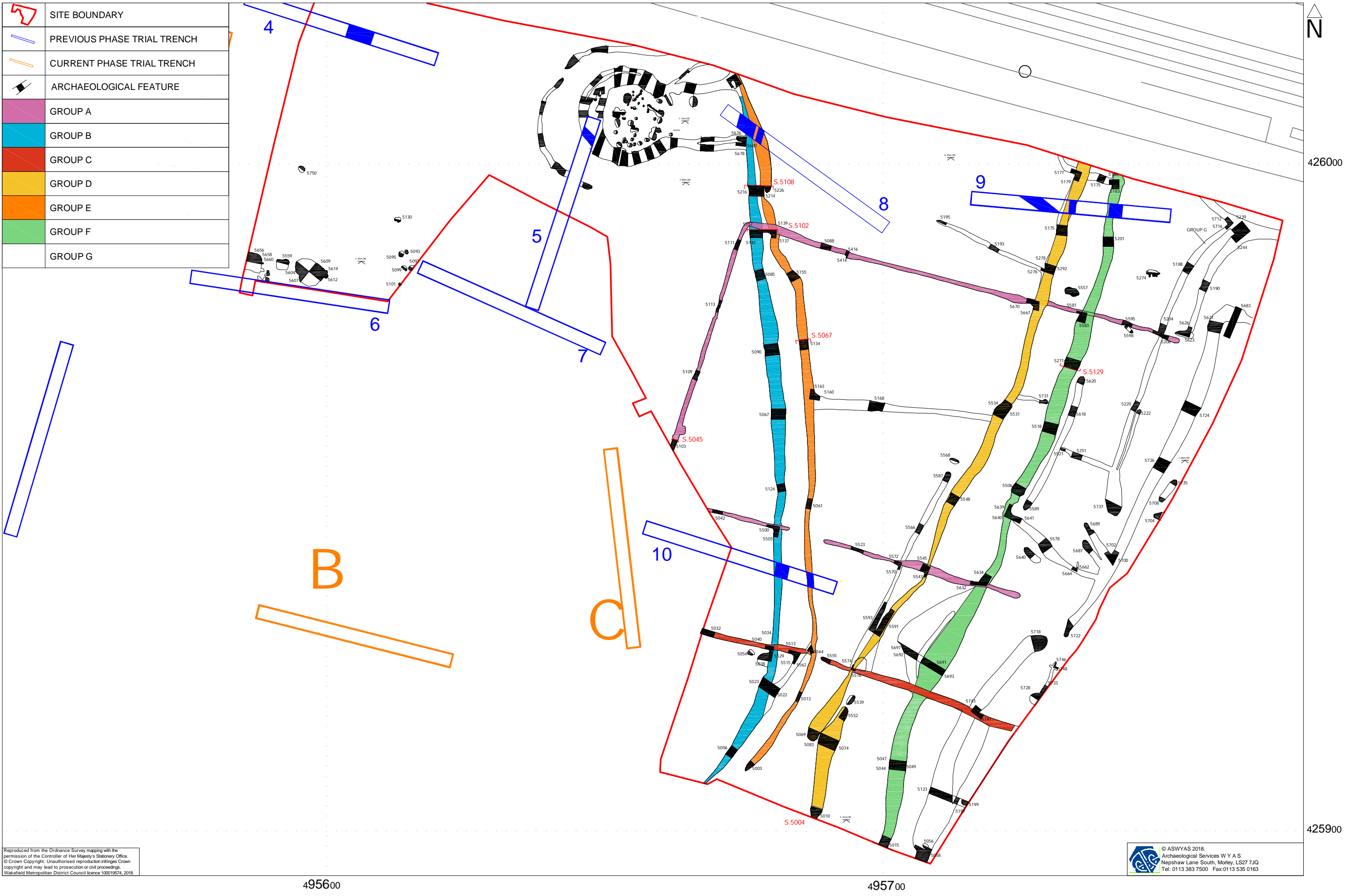


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Fig. 2. Detailed site plan (1:750 @ A3)





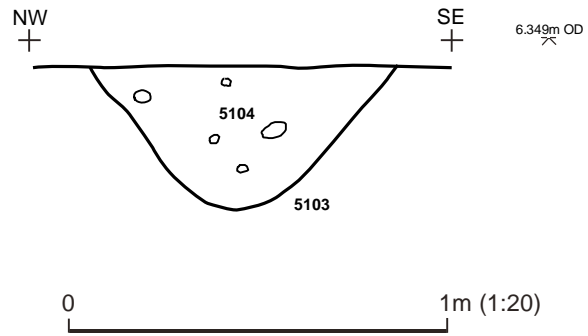
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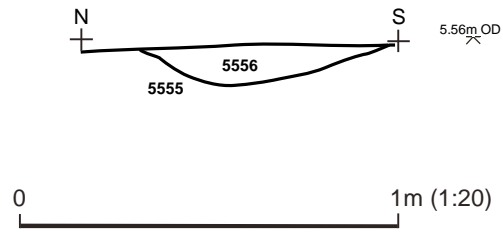
Fig. 3. Site plan showing ditch groups (1:500 @ A3)



Group A
S. 5045



Group C
S. 5250



Group B
S. 5102

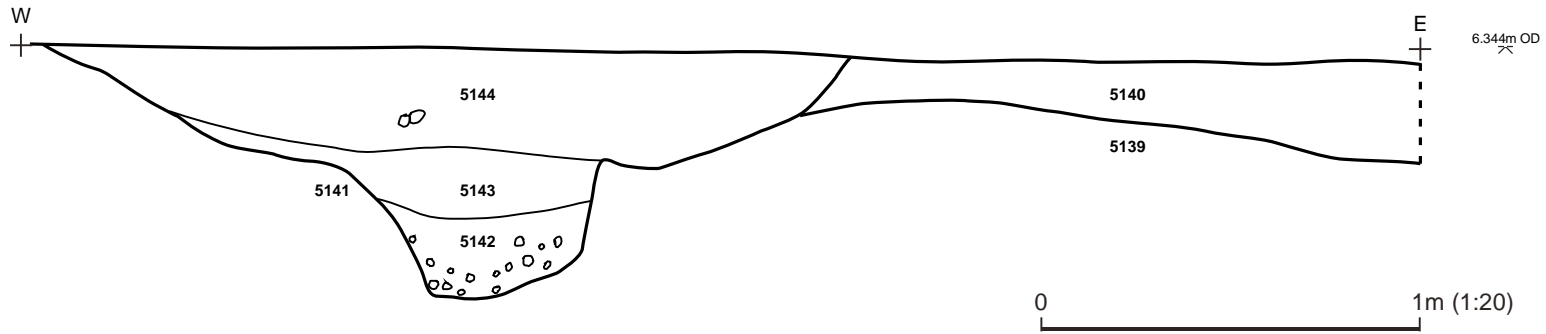


Fig. 4. Group A, Group B and Group C sections

Group D
S. 5004

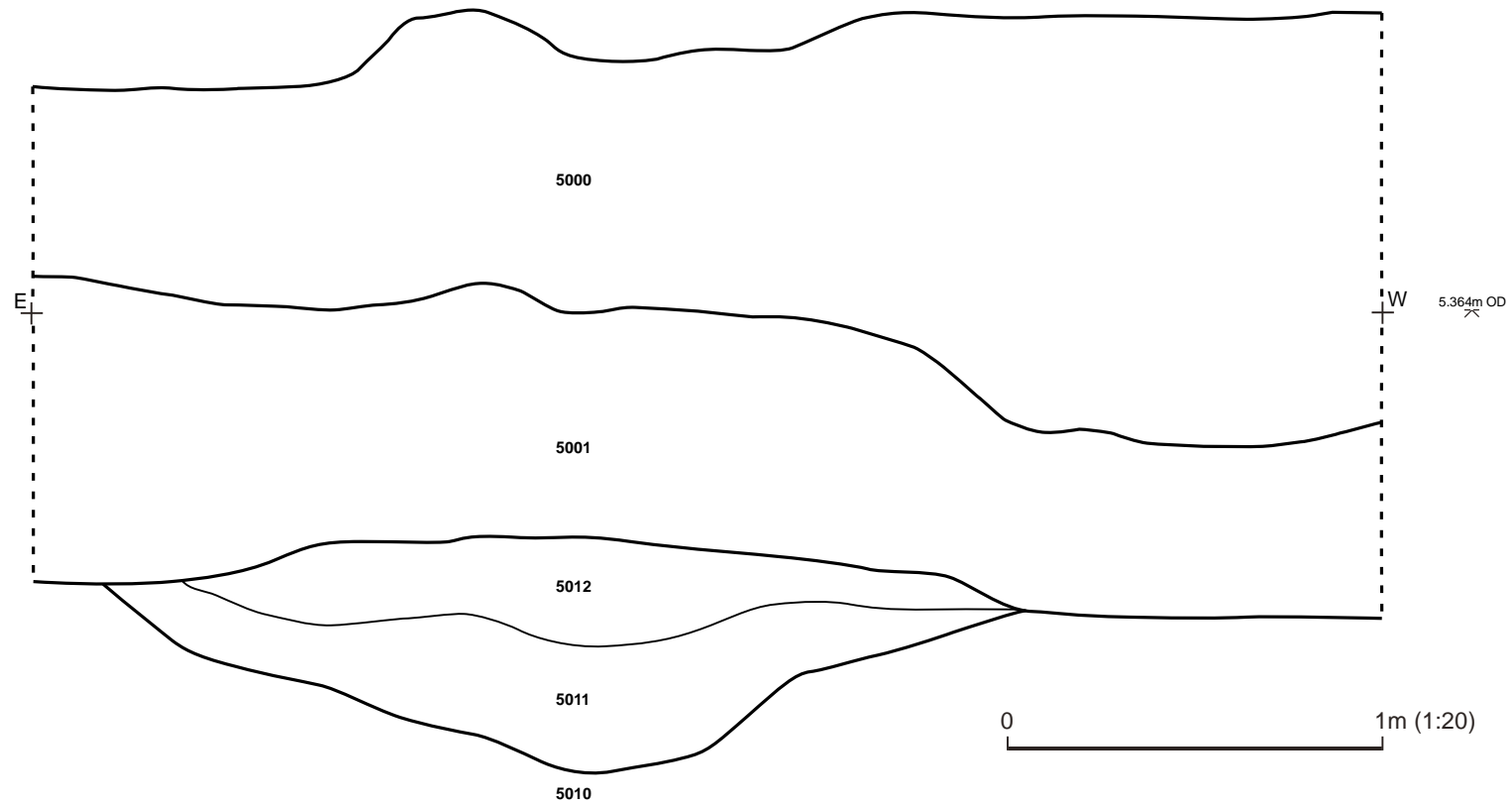


Fig. 5. Group D section

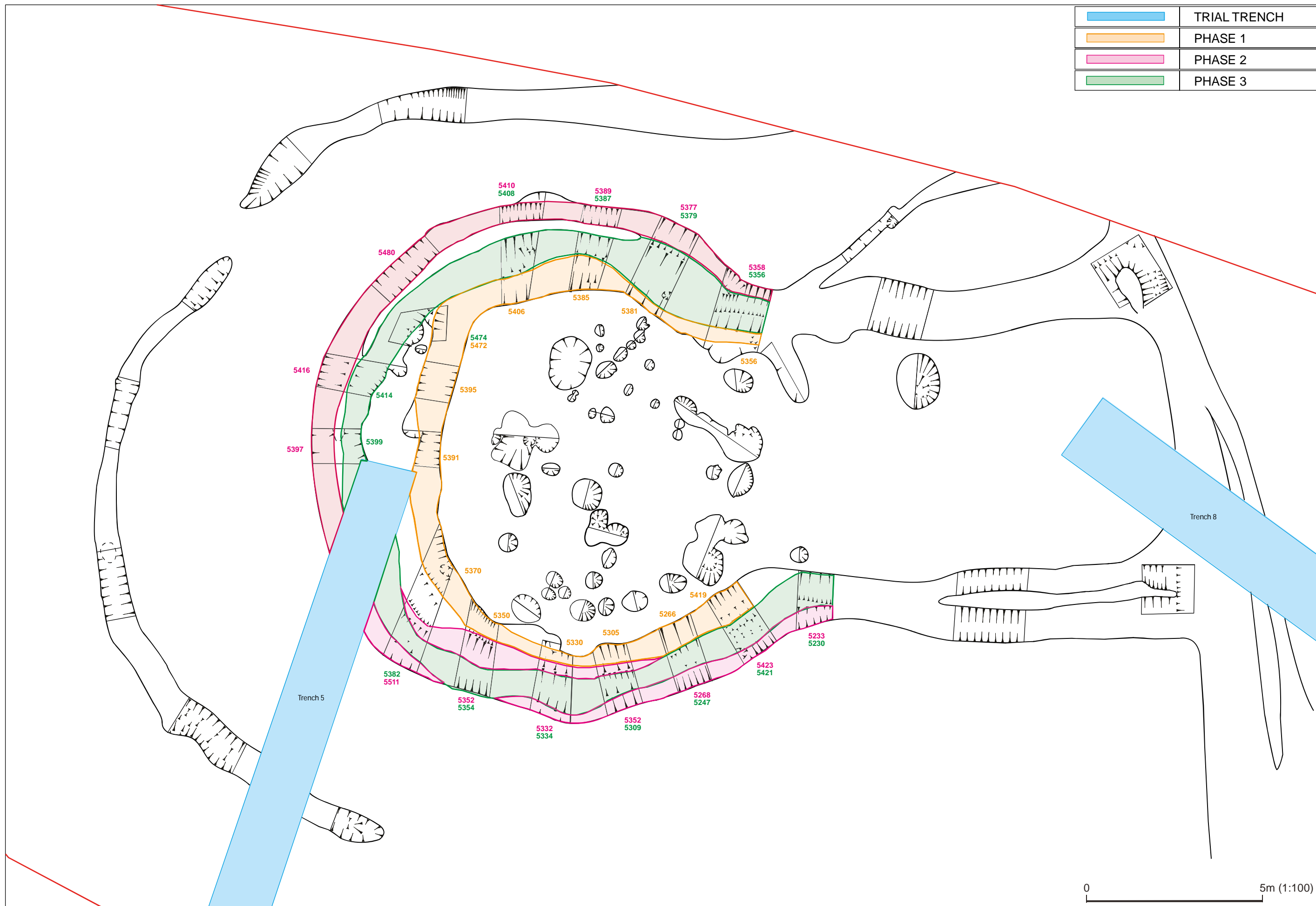
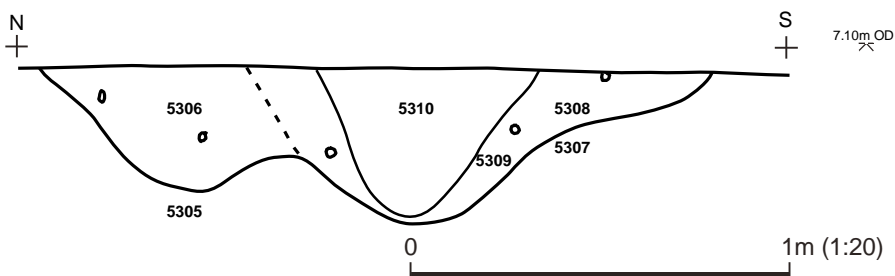
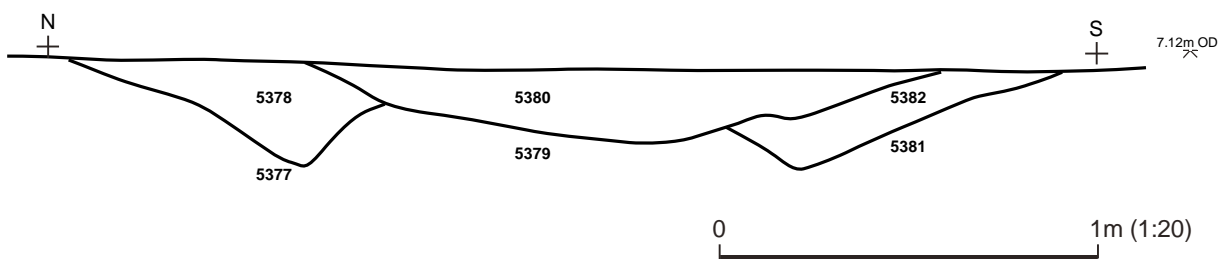


Fig. 7. Roundhouse phase plan

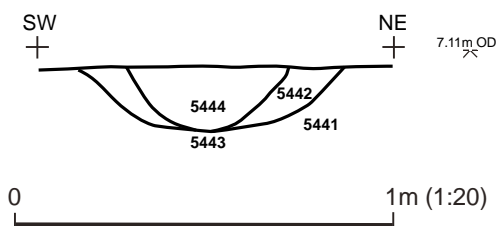
S. 5139



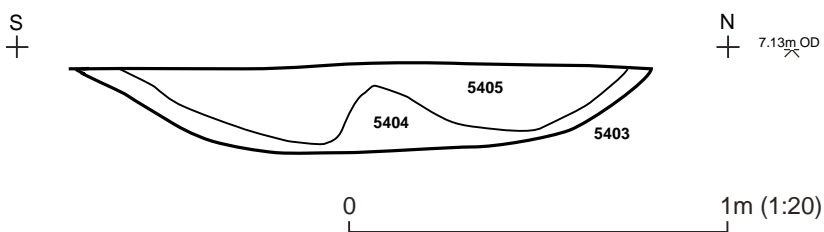
S. 5163



S. 5196



S. 5175



S. 5201

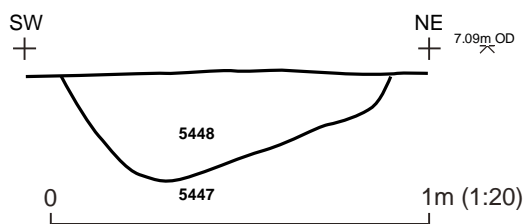


Fig. 8. Roundhouse sections

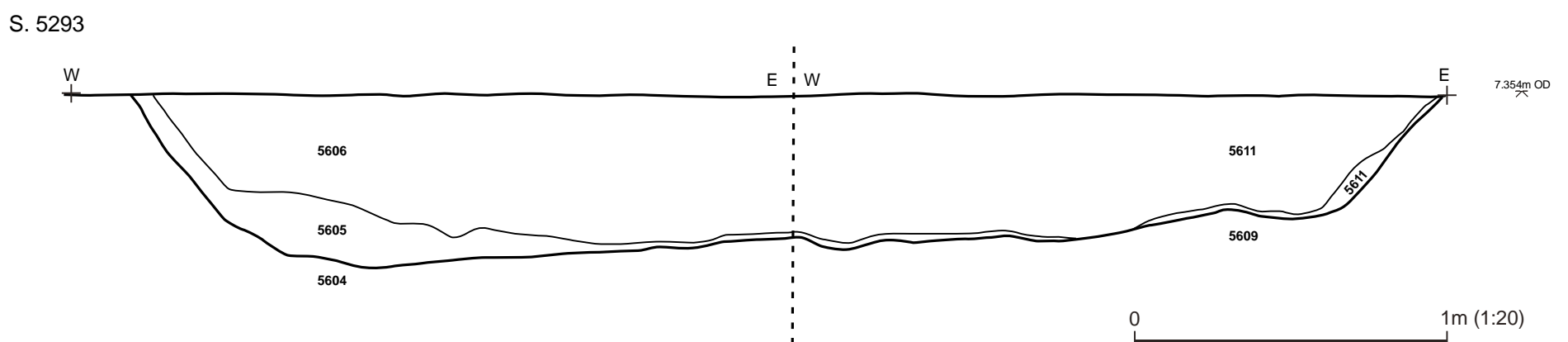
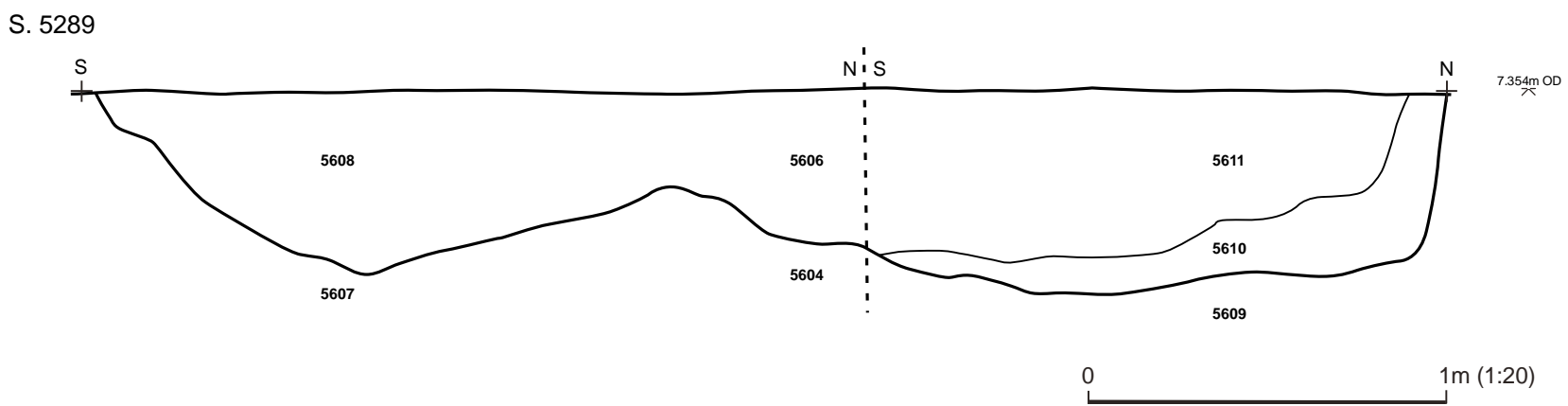
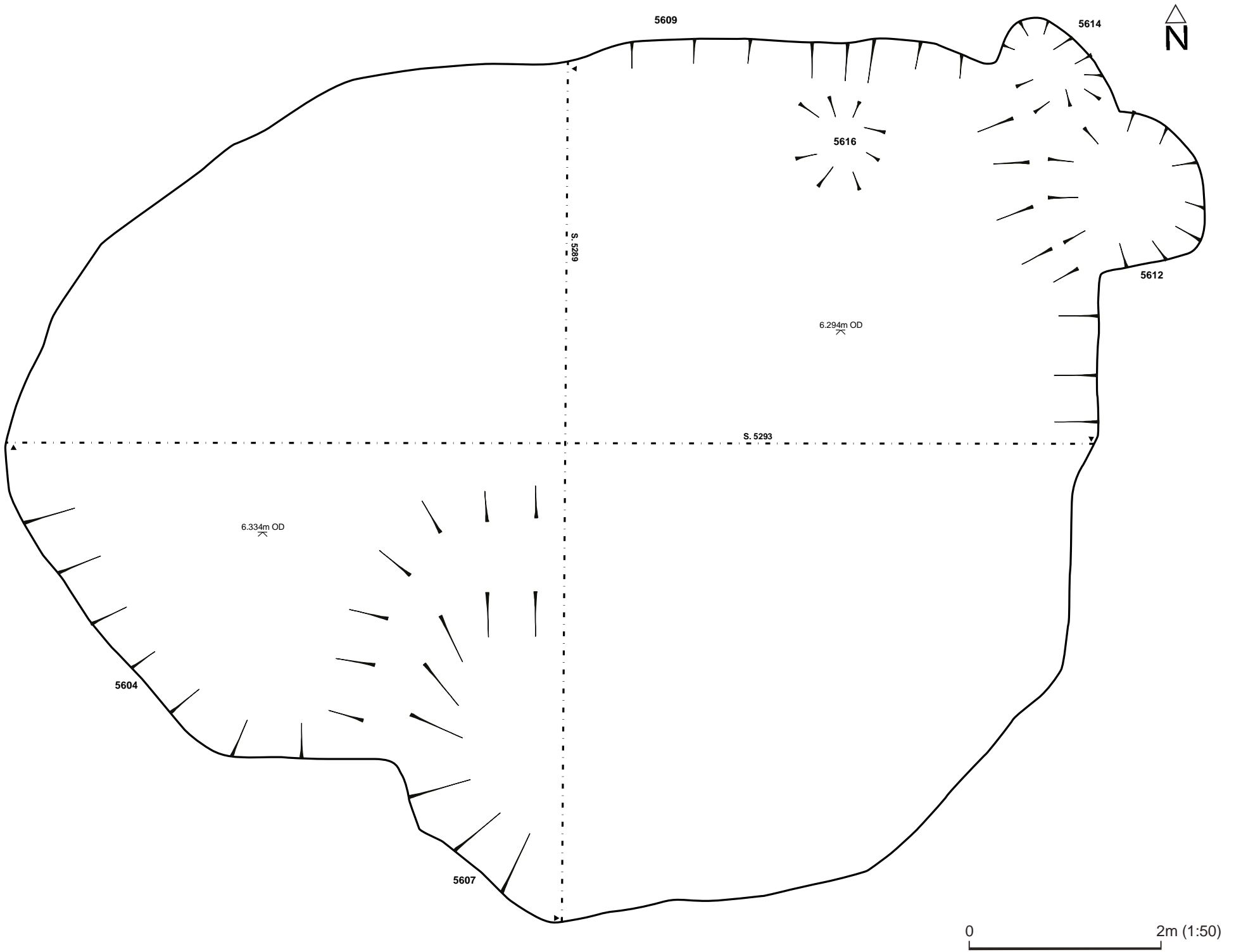


Fig. 9. Pit cluster

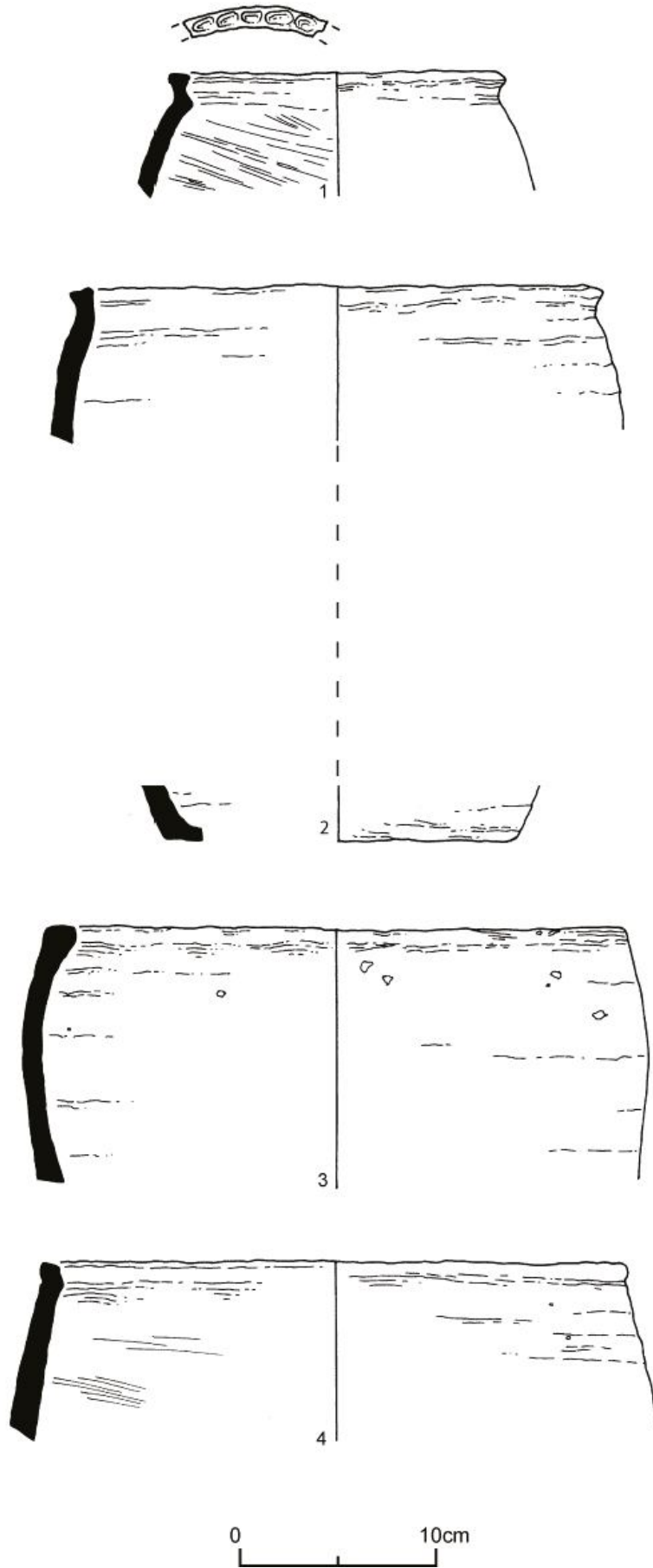


Fig. 10. Handmade pottery

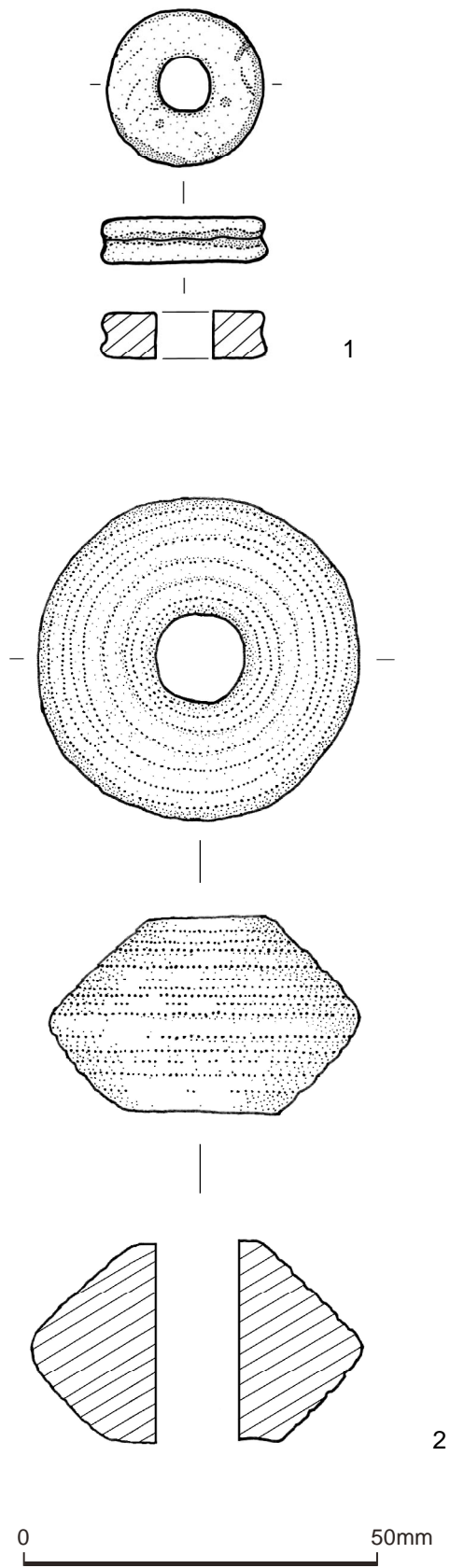


Fig. 11. Lead and stone objects

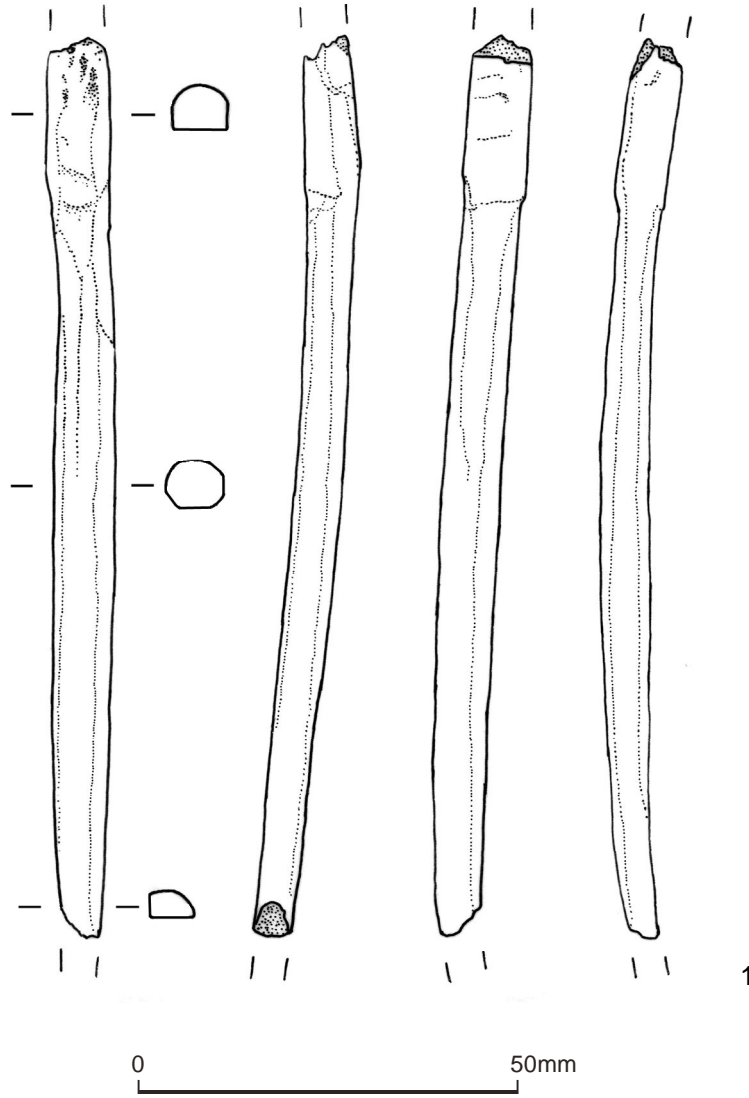


Fig. 12. Animal bone objects



Plate 1. General view of site, showing feature visibility



Plate 2. Ditch 5010 (Ditch Group D), looking north



Plate 3. Ditch 5271 (Ditch Group F), looking south



Plate 4. Articulated horse skeleton in Pit 5557, looking north



Plate 5. Ditch 5067 (Ditch Group B), looking south

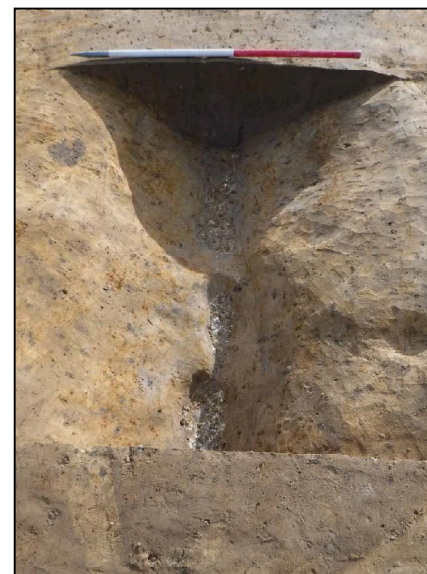


Plate 6. Ditch 5134 (Ditch Group E), looking north



Plate 7. Ditches 5022 and 5023, looking south



Plate 8. Ditches 5214, 4216 and 5226, looking north



Plate 9. Gully 5088 (Ditch Group A), looking east



Plate 10. Ditch 5555 (Ditch Group C), looking east



Plate 11. Elevated view of the roundhouse, looking west



Plate 12. View of Phase 1, 2 and 3 ditches in roundhouse, looking north-east



Plate 13. Post-hole 5256, looking west



Plate 14. Post-hole 5435, looking west



Plate 15. Excavation of articulated dog skeleton



Plate 16. Pit 5403, containing articulated dog skeleton



Plate 17. Ditch 5441 and Post-hole 5443



Plate 18. Pits 5604, 5607 and 5609



Plate 19. View of burrowing in north-west of site



Plate 20. Ditches 5678, 5680 and 5676, looking north-west



Plate 21. D01 fresh break 6mm cross section



Plate 22. Fragments of kiln bar from Context 5254

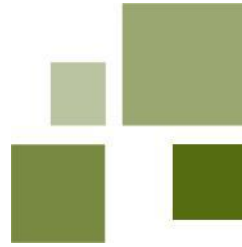


Plate 23. Luted bar from Context 5290



Plate 24. Kiln plate with chaff impressions on upper surface

Appendix 1: Specification



BWB

CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Horncastle Group PLC

Brough South

Specification for Strip Map and Sample

DOCUMENT ISSUE RECORD

Revision	Date of Issue	Status	Author:	Checked:	Approved:
2	February 2016	Final	Louise Robinson	Jim MacQueen	Jim MacQueen

Limitations

The assessments and interpretation have been made in line with legislation and guidelines in force at the time of writing, representing best practice at that time.

All of the comments and opinions contained in this report, including any conclusions, are based on the information obtained by BWB during our investigations.

There may be other conditions prevailing on the site which have not been disclosed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for conditions not revealed by the investigation.

Any diagram or opinion of the possible configuration of the findings is conjectural and given for guidance only and confirmation of intermediate ground conditions should be considered if deemed necessary.

Except as otherwise requested by the Client, BWB is not obliged and disclaims any obligation to update the report for events taking place after:

- a) the date on which this assessment was undertaken; and
- b) the date on which the final report is delivered.

BWB makes no representation whatsoever concerning the legal significance of its findings or to other legal matters referred to in the following report.

This report has been prepared for the sole use of Horncastle Group PLC. No other third parties may rely upon or reproduce the contents of this report without the written permission of BWB. If any unauthorised third party comes into possession of this report they rely on it at their own risk and the authors do not owe them any Duty of Care or Skill.

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FIGURES

Figure 1 Plan showing Mitigation Area

APPENDICES

Appendix 1 Standards and Guidance

1. INTRODUCTION

- 1.1.1 This Specification has been prepared by BWB the 'Consultant'. It describes the objectives and methodology for a programme of archaeological strip map and sample.
- 1.1.2 The purpose of the strip map and sample is to further investigate potential archaeological features that were identified during trial trenching undertaken by West Yorkshire Archaeology Service (WYAS) in December 2016.
- 1.1.3 This Specification and accompanying drawing details the requirements for the strip map and sample, which will be undertaken by a registered Archaeological Contractor (the Contractor).
- 1.1.4 The archaeological fieldwork, post-survey assessment, archiving, analysis and preparation of the fieldwork report text will be undertaken by the Contractor, unless otherwise specified in this Specification.

1.2 Site Location & Geology

- 1.2.1 The proposed development is situated to the southeast of Brough at National Grid Reference (NGR) 494999, 426134 and covers an area of approximately 1.08ha (Figure 1). The site currently comprises a large open field with a light aircraft taxi way in the centre of the site, extending north from the former airfield.
- 1.2.2 Ground investigations identified that topsoil was generally found to depths of 0.3 and 0.7m below ground level (bgl) and was described as brown clayey sand or soft sandy clay with rootlets.
- 1.2.3 Superficial deposits consisted of material thought to comprise the Bielby Sand Member. It was encountered below the topsoil and ranged in thickness from 1.5m to 2.0m. It comprised loose and medium dense orangy brown clayey slightly gravelly to gravelly sand. Below this lay glacial deposits comprising variable layers of Glacial Lake Deposits, Glaciofluvial Deposits and Glacial Till.

1.3 Archaeological & Historical Background

- 1.3.1 A number of archaeological assessments and investigations have been undertaken within the study area. The results of these were presented in a number of reports, including the following:
- Dacres Commercial, 2011, Proposed Development of Land at Ings Lane, Elloughton Cum Brough; Environmental Impact Assessment
 - WYG Environment, 2010, E323 Brough Relief Road Phase II; Archaeological and Cultural Heritage Addendum Statement
 - Humber Field Archaeology, 2000, Trial Excavations on Land to the South of Welton Road, Brough
 - AOC Archaeology Group, 2014, Excavations across the site of the Brough Relief Road on behalf of East Riding of Yorkshire Council, internet update.

- East Riding of Yorkshire Council, 2014, Brough Relief Rod Phase 2; Written Scheme of Investigation for Strip, Map and Sample
- Prospect Archaeology, 2011, Land at Elloughton Cum Brough, East Riding of Yorkshire; Cultural Heritage Assessment
- Prospect Archaeology, 2013, Ings Lane, Brough; Written Scheme of Investigation – Geophysical Survey and Evaluation Excavation
- Humber Field Archaeology, 2004, Archaeological Observation Investigation and Recording at Common Lane Pond, Common Lane, Welton. [evaluation and assessment reports].

1.3.2 The following is a synopsis overview of the history of the site and surrounding area.

1.3.3 There are two non-designated assets within the site boundary. These take the form of a roman coin and belt fitting, and the recovery of various medieval artifacts including a coin, strap end and ampulla. Two undesignated assets also lie within the field immediately to the west of Common Lane. These take the form of cropmarks suggesting a potential field system, trackways and an enclosure and a pillbox dating to the second World War.

1.3.4 The site lies within a landscape that has been exploited since the prehistoric period. Prior to the medieval period the Humber Estuary was a broad and shifting wetland landscape. A survey of the foreshore was undertaken as part of the Humber wetlands project. This revealed evidence of prehistoric activity in the form of stake alignments, trackways and platforms. It is considered that during the prehistoric period foreshore activity was centred around saltmarshes used for grazing cattle.

1.3.5 The town of Petuaria was established to the northwest of the site during Roman times. This is now a scheduled monument and sits within the centre of Brough. The Humber Archaeology Partnership Heritage Environment Records shows a large cluster of non-designated assets within the town and the immediate vicinity of Petuaria. The density of assets dissipates significantly towards the south east and the Site. The location of the site suggests that it could be within the agricultural hinterland of the former Roman town.

1.3.6 Excavations undertaken by AOC Archaeology in 2014 revealed extensive evidence of Prehistoric and Roman activity within the footprint of the Brough Relief Road, to the west of the proposed residential development.

1.3.7 Settlement continued beyond the Roman period and into the medieval period. Elloughton is mentioned in the Domesday book as a fairly substantial settlement. Medieval artefacts have been recovered from within Brough, but there is no evidence to suggest that the settlement activity extended to within the site boundary. This suggests that the site fell within the agricultural hinterland.

1.3.8 Throughout the medieval and post medieval periods the site and immediate environs were used as agricultural land and remained undeveloped until the 20th century. The site continued has continued to be used for agricultural purposes until the present day.

1.4 Previous Archaeological Investigations

- 1.4.1 A number of archaeological investigations have been undertaken within the site and its immediate vicinity, the majority of these were undertaken to fulfil planning condition 37 associated with Pahe II of the Brough Relief Road Scheme. These encompass the following:
- Trial trenching on land to the south of Welton Road (May 2000)
 - Geophysical Survey for Brough Relief Road, Phase II (2010)
 - Strip Map and Sample for the Brough Relief Road, Phase II (Winter 2014)
 - Open area excavation for the Brough Relief Road Phase II (Spring 2014)
- 1.4.2 The trial trenching was undertaken by Humber Field Archaeology in May 2000 and consisted of 9 trenches excavated ahead of the construction of a large number of residential properties. Opportunity was also taken to examine groundworks being carried out as part of the Brough Relief Road Scheme. The investigations proved negative for archaeology relating to any period. There was no evidence of medieval farming practices implying that the land had remained as pasture or marshland grazing.
- 1.4.3 A geophysical survey was undertaken by GSB Prospection Limited in 2010 to the west of Common Lane. The survey concluded that there were no anomalies of clear archaeological interest. Numerous weak trends were detected, generally barely visible above background levels. The survey was followed by a strip map and sample exercise which revealed extensive evidence of occupation and land use during the prehistoric and Roman periods. This suggests that the site conditions are not favourable for geophysical survey, possibly due to the moisture content and nature of geology.
- 1.4.4 The strip map and sample revealed evidence of archaeological features. The features fell within the footprint of the Brough Relief Road. As such open area excavation was undertaken over 3ha. The report detailing the results is not yet in the public domain, however an online synopsis of the results show that the excavation revealed extensive evidence of Iron Age and Romano-British activity. The features were largely concentrated to the east of the excavation area. The features included a rectilinear enclosure, a ring gully and several pits and ditches.
- 1.4.5 Archaeological test pits undertaken to the southwest of the site (HER intervention number 1439) and the results of two watching briefs both to the south and south east (HER intervention 1632 & 1095) of the site, proved negative. The lack of activity may be due to the change in topography, with the northern end of the site being further from the banks of the Humber and on higher ground, therefore more favoured for settlement.
- 1.4.6 A geophysical survey was undertaken by Phase Site Investigation in October 2016. The results suggested the presence of potential archaeological features. As a result of this trial trenching was undertaken by West Yorkshire Archaeology Service (WYAS) in December 2016. The trial trenching identified a small number of archaeological features within the northeastern corner of the Borrow Pit area. As a result of this the area will be further investigated via a scheme of strip map and sample.

2. SCOPE OF ARCHAEOLOGICAL WORKS

2.1.1 The programme of archaeological mitigation works will comprise the following:

- i. Strip Map and Sample within in the northeastern corner of the Borrow Pit area;

2.1.2 The following provides further detail on the scope.

Strip Map and Sample within the Borrow Pit area

2.1.3 The removal of topsoil followed by the excavation of the underlying material will affect features and deposits within the northeastern corner. To mitigate this impact the area affected will be the subject of a strip map and record exercise (Figure 1) prior to ground works and construction works. This will preserve by record any features/ deposits revealed.

Objectives

2.1.4 The following outlines the objectives:

2.1.5 The Strip Map and Sample objectives are:

- to determine the nature, depth, extent, significance and date of any archaeological features revealed within the area to be impacted;
- to determine the likely range, quality and quantity of artefactual and environmental evidence present;
- to investigate, sample and record archaeological features, structures and deposits according to the methodology detailed in this WSI;
- to preserve by record the archaeological remains that will be impacted by the works;
- to confirm and enhance the results of the previous phases of investigation; and
- to recover all artefacts and, where appropriate.

3. GENERAL PROTOCOLS

3.1.1 Prior to the start of the archaeological works the Contractor will familiarise themselves with the results of previous phases of work the reports for which will be provided by the Consultant.

3.1.2 All archaeological works will be carried out in accordance with this WSI and the Standard and Guidance for excavation (2014) prepared by the Chartered Institute for Archaeologists (CIfA). The archaeological works will also adhere to the CIfA Code of Conduct (2014), and will follow all current and relevant best practice and standards and guidelines (Appendix 1).

4. STRIP MAP AND SAMPLE METHODOLOGY

4.1 Monitoring of Soil Strip

- 4.1.1 The defined Strip Map and Record area will be stripped under constant archaeological supervision.
- 4.1.2 The stripping will be monitored under the direct supervision of an experienced archaeologist(s). The Contractor will liaise directly with the machine driver(s) at the start of stripping to brief the operator on the parameters under which it is to be undertaken including the use of a toothless bucket.
- 4.1.3 The personnel supervising the work will ensure that machines do no rut, compact or otherwise damage buried or exposed archaeological features and deposits prior to mapping. If the stripping is unsatisfactory the machine drivers must be informed and re-briefed.
- 4.1.4 Soil stripping of both the topsoil and subsoil will be carried out using a 360 degree mechanical tracked excavator. The size of the machine will be appropriate to the area to be stripped.
- 4.1.5 The machine excavation will proceed under direct archaeological supervision, in level spits, until either the top of the first archaeological horizon or undisturbed natural deposits are encountered. Under no circumstances will the machine be used to cut arbitrary trenches down to natural deposits. The mechanical excavator will not traverse any stripped areas.
- 4.1.6 Topsoil and any subsoil will be stockpiled at an agreed location and is to be removed from the stripped areas with a dumper if needed. No plant is permitted to track over the stripped area until it has been excavated and signed off by the Consultant and the Humberside Partnership. It is the responsibility of the Contractor to enforce this.
- 4.1.7 Any areas of discrete soil discolouration or variation revealed during stripping operations will be rapidly cleaned, defined and marked as appropriate to ensure that they are recorded at future stages of the works.
- 4.1.8 The extent of the excavation areas will be clearly demarcated with netlon fencing (or similar) to ensure that persons or vehicles cannot inadvertently traverse the area of investigation whilst archaeological works are in progress. The fencing will be regularly inspected and maintained until investigations in the area have been completed.
- 4.1.9 Under no circumstances will any archaeological deposits/ features be investigated or removed prior to recording and sampling.

Initial Pre-excavation Site Plan

- 4.1.10 The resulting surface, meaning the archaeological horizon or the surface of the natural (whichever is encountered first), will be cleaned sufficiently to define any archaeological features and deposits present. This will facilitate the production of the initial pre-excavation plan which will be produced at an appropriate scale. This will facilitate any discussions regarding the sampling strategy. More detailed plans of the archaeology encountered will follow during the excavation phase of the project.

- 4.1.11 The methodology for excavation, recording, artefact recovery, environmental sampling, and dealing with human remains / treasure trove will follow the methodology detailed in section 8.
- 4.1.12 Recording will be facilitated by Leica GPS 530 and 1230 systems or equivalent. Data gathered will be downloaded daily and backed up.

5. RECORDING AND SAMPLING METHODOLOGY

5.1 Hand Excavation

- 5.1.1 Archaeological remains encountered during the archaeological works will be hand excavated in an archaeologically controlled and stratigraphic manner, in order to meet the aims and objectives of the investigation.
- 5.1.2 A sufficient sample of deposits/ features will be investigated in order to: a) understand and record the complete stratigraphic sequence, down to naturally occurring deposits and b) to understand and record all inter-relationships between features.

The following excavation sampling strategy will be employed:

- 5.1.3 *Linear features not directly associated with settlement:* The excavation of linear features not directly associated with settlement must be sufficiently sampled to allow an informed interpretation of their date and function. Excavation slots must be at least 1m in width. All intersections will be investigated to establish the relationship(s) between the component features.
- 5.1.4 *Linear features associated with settlement:* The excavation of linear features associated with settlement must be a minimum of 15%; this may increase depending on the nature of the physical evidence. The excavated slots will be at least 1m in width. All intersections will be investigated to establish the relationship(s) between the component features.
- 5.1.5 A flexible approach to the positioning of sections will be adopted such that those sections with a higher artefact or ecofact content are targeted. However, the supervisor needs to plan this carefully to ensure that there is no bias introduced into the results.
- 5.1.6 *Discrete features:* Where safe to do so, all discrete features should, in normal circumstances, be fully excavated. All intersections will be investigated to establish the relationship(s) between the component features. Under no circumstances is the percentage of sampling of archaeological features to be determined solely by resource limitations. Tree throw holes will not normally be excavated if clearly identified as such.
- 5.1.7 *Structures:* Structural remains such as eaves drip gullies, beam slots and post-holes demonstrated to be part of a building's construction require total excavation i.e.
- 5.1.8 100%. All industrial features including "domestic" ovens and hearths should be 100%

5.1.9 excavated and sampled for analysis. Total excavation will only be undertaken one the feature is understood.

Burials: All burial encountered will be 100% excavated.

5.1.10 Features that can be excavated in one stage (a maximum depth of 1.2m) will be excavated as such. Features that have a greater depth than 1.2m, or of lesser depth that contain unstable fill, will be stepped to enable the excavation and recording of their full depth. Generally the maximum safe depth is c.1.2m, but this will be dependent upon local ground conditions. All steps will be a minimum of 1m wide.

5.1.11 It is likely that single context recording will be required to record complex sequences and features.

5.1.12 It is recognised that there may be features and/ or deposits that do not warrant the sampling levels stipulated above, particularly if they do not contribute to the understanding of the archaeology. Any variation to that agreed will be discussed with the Contractor and the Humberside Partnership during on-site discussions. The Contractor is required to keep detailed minutes during such meetings to record that agreed. These will be sent to the parties involved in the discussions who will be asked to confirm the accuracy of the minutes.

5.2 Recording

5.2.1 All features and/ or deposits investigated will be recorded through written, drawn and photographic means in accordance with the parameters detailed below. Recording will follow the relevant methodologies and guidance detailed in Appendix 1.

5.2.2 A plan detailing the extent of mitigation and all stratigraphic units will be produced on an appropriate scale tied into the Ordnance Survey national grid. Recording will be facilitated by Leica GPS 530 and 1230 systems or equivalent, as appropriate.

5.2.3 Complex areas including intercutting features, surviving stratigraphy and complex structures will be planned at a scale of 1:20. This will be done by hand on site with later digitisation.

5.2.4 Areas where features and deposits are rare or absent will be planned at a scale of 1:500.

5.2.5 All excavation plans will be tied into the Ordnance Survey grid and will be plotted in CAD. All site plans will show Ordnance Survey grid points and spot levels and will be fully indexed and related to adjacent plans.

5.2.6 The on site written record of the features/ deposits and structures excavated will be recorded in detail on pro-forma context record sheets which will detail the following:

- character;
- contextual relationships;
- a detailed description;

- description of finds recovered;
- interpretation;
- cross referencing to other sections;
- cross referencing to the drawn, photographic and finds record; and
- where appropriate, matrices for complex sequences, deposits and structures will be compiled during the excavation such that the results of the written stratigraphical records may be fully analysed and phased.

5.2.7 The features investigated will be allocated unique context numbers.

5.2.8 Hand drawn sections of excavated features will be produced at an appropriate scale (normally 1:10). All plans and sections will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.

5.2.9 Black and white photography using orthodox monochrome chemical development should be used. Film should be no faster than ISO400. Slower films should be used where possible as their smaller grain size yields higher definition images. Technical Pan (ISO 25), Pan-F (ISO50), FP4 (ISO125) and HP5 (ISO400) are recommended. The use of dye-based films such as Ilford XP2 and Kodak T40CN is unacceptable due to poor archiving qualities. Black and white photography should be supplemented by colour photography; this should be in transparency format.

5.2.10 Digital photography: as an alternative for colour slide photography, good quality digital photography may be supplied, using cameras with a minimum resolution of 8 megapixels. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied in three file formats (as a RAW data file, a DNG file and as a JPEG file). The Contractor must include metadata embedded in the DNG file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. Any digital images are to be supplied on gold CDs which will accompany the hard copy of the report. These will then be sent to East Riding of Yorkshire Council's (ERoYC) Archaeological Advisor.

5.3 Artefact Recovery

5.3.1 All artefacts will be collected, stored and processed in accordance with standard methodologies and national guidelines (see Appendix 1). All artefacts will be collected and retained. Small finds will be given a unique number and their location recorded three dimensionally. Bulk finds will be collected and recorded by a unique context number.

5.3.2 Finds from each archaeological context will be allocated individual finds trays and waterproof labels will be used for each tray to identify unique individual contexts. Each label will be marked with the appropriate context number in waterproof ink and will be securely attached to each tray.

- 5.3.3 Where necessary the artefacts will be stabilised, conserved and stored in accordance with national guidelines by a qualified conservator. Artefacts will be stored in appropriate materials and conditions, and monitored to minimise further deterioration. Artefacts will be properly conserved after excavation and will be stabilised for storage. If necessary, a conservator will visit the site to undertake 'first aid' conservation treatment, if necessary.
- 5.3.4 All non-modern finds, artefacts and ecofacts recovered during the excavations should be collected and processed in accordance with relevant ClfA and English Heritage guidelines (EH 1995c) (Appendix 1). Unstratified 19th and 20th century material may be discarded.
- 5.3.5 The archive of finds and records generated during the fieldwork will be kept secure and in appropriate conditions and materials at all stages of the project.

5.4 Conservation Strategy

- 5.4.1 A conservation strategy must be developed in collaboration with a recognised laboratory. All finds must be assessed in order to recover information that will contribute to an understanding of their deterioration and hence preservation potential, as well as identifying potential for further investigation. Furthermore, all finds must be stabilised and packaged in accordance with the requirements of the receiving museum. As a guiding principle, only artefacts of a 'displayable' quality would warrant full conservation, but metalwork and coinage from stratified contexts would be expected to be x-rayed.

5.5 Human Remains

- 5.5.1 If human remains are encountered during the works a licence to excavate and remove them will be obtained from the Ministry of Justice.
- 5.5.2 Care must be taken with the hand excavation, recovery and storage of human remains. Current best practice standards and guidance will be adhered to (see Appendix 1) as well as the Environmental Health Regulations. Where human remains are encountered, it is important that the post-excavation assessment contains an analysis and statement for the future retention of the assemblage, including options for reburial.
- 5.5.3 Cremations: If possible, urned cremations will be lifted intact and excavated in 20mm spits by an experienced archaeologist. Unurned cremations excavated on site will be excavated in 20mm spits for processing and assessment and each spit will be photographed and planned at an appropriate scale (1:2 or 1:5). All bags must be clearly labelled with the unique spit number.

6. MONITORING PROGRESS REPORTS AND MEETINGS

- 6.1.1 The archaeological works will be subject to regular monitoring visits by the Contractor and the Humberside Partnership who will have unrestricted access to the site, site records or any other information.
- 6.1.2 The works will be inspected to ensure that they are being carried out to the required standard and that they will achieve the desired aims and objectives. The Consultant and ERoYC's Archaeological Advisor will be provided with a site tour and an overview of the site by the supervisor and will be afforded the opportunity to view all archaeological remains on site. Any observed deficiencies identified during the site visit are to be made good to the satisfaction of the Consultant and ERoYC's Archaeological Advisor by the next agreed site meeting.
- 6.1.3 Verbal progress reports will be provided to the Consultant who will inform ERoYC's Archaeological Advisor. Written updates (email) will be provided to the Consultant on a weekly basis. The Consultant will liaise with ERoYC's Archaeological Advisor to inform him/ her of the commencement of the archaeological works.
- 6.1.4 Regular progress reports and monitoring meetings will also be held during the post-excavation phase of the project. These will be determined when a post-excavation programme is finalised.

7. COMPLETION OF ARCHAEOLOGICAL WORK

- 7.1.1 The Consultant will inform the Humberside Partnership upon completion of the fieldwork.

8. POST-EXCAVATION ASSESSMENT AND UPDATED PROJECT DESIGN

- 8.1.1 A post-excavation assessment is to be completed within 6 months of completion of the works. At the start of the post-excavation process the original project objectives will be reviewed in consultation with the Consultant. For the post-excavation assessment report, each category of data and material recovered by the fieldwork (site records/ stratigraphic data, each category of artefact or other find, each category of palaeo-environmental/ economic evidence and any other data) shall be examined and assessed by a suitably qualified and experienced archaeologist or specialist in line with the principles set out by Historic England in MoRPHE. If necessary to achieve the aims and objectives of the post-excavation work, dating evidence shall be obtained by scientific dating techniques.
- 8.1.2 The finds and samples will be processed (cleaned and marked) as appropriate.
- 8.1.3 A suitably qualified archaeologist or specialist will assess each category of find or environmental/ industrial material and their results incorporated into the report.
- 8.1.4 A draft copy of all reports will be submitted to the Humberside Partnership by the Consultant for comment and subsequent inclusion on the East Riding of Yorkshire Historic Environments Record.

Specialists

- 8.1.5 Each category of find or environmental/ industrial material will be examined by a suitably qualified archaeologist or specialist, to be sub-contracted by the finds manager as appropriate.
- 8.1.6 All ferrous objects and a selection of non-ferrous objects (including all coins) will be x-rayed.
- 8.1.7 Specialists will be provided with details of all relevant results from the evaluation phases of the project as well as stratigraphic and contextual information from the excavations.

Reporting

- 8.1.8 The Post-excavation Assessment Report and Updated Project Design (UPD) will be produced as a combined document and will be prepared in accordance with Historic England Guidelines (MoRPHE 2015). If a number of phases of works are undertaken the reporting process will not commence until the final phase of works is completed. Subsequently Interim reports will be produced between each phase which will be provided to the Consultant and the Humberside Partnership.
- 8.1.9 The precise format of the post-excavation assessment is dependent upon the findings of the investigations, but it will contain the following:
- a non-technical summary;
 - site location at a scale of 1:1,000 or larger;
 - a brief description of the background and circumstances of the work;
 - archaeological and historical background;
 - methodology;
 - aims and objectives (as detailed in this WSI);
 - results (to include brief description, assessment of condition, quality and significance of the remains);
 - statements of potential (stratigraphic, artefactual, environmental) with recommendations;
 - a statement of the significance of the results in their local, regional and national context according to the relevant Regional Research Framework;
 - statements regarding immediate and long-term archive storage and curation;
 - review of original aims and objectives;
 - post-excavation analysis research design;

- post-excavation analysis method statement;
 - recommendations for reporting and publication (including a synopsis of the proposed contents);
 - proposed resources and programming;
 - general and detailed plans showing the location of the investigation areas accurately positioned on an OS base with grid co-ordinates and a plan of the identified archaeological remains (to a known scale);
 - detailed plans and sections (to a known scale);
 - detailed stratigraphic matrix for each area excavated and how the areas interlink;
 - photographs as appropriate;
 - a cross-referenced index to the project archive; and
 - index and summary of contexts.
- 8.1.10 The report shall be accompanied by an UPD in accordance with MoRPHE and other relevant national guidelines (see Appendix 1).
- 8.1.11 The UPD shall set out the further analytical and reporting works, if any, that are required to achieve the research objectives identified in the post-excavation assessment report. An outline of the publication and place of publication should be included in the UPD, to be agreed with Consultant and the Humberside Partnership.
- 8.1.12 The Post-excavation Assessment Report and UPD shall be accompanied by a covering letter setting out the itemised costing for the recommended further works and should include a timetable for the deposition of the archive.
- 8.1.13 A copy of the completed Post-excavation Assessment Report and UPD will be submitted to the Consultant as a draft for comment. This will be forwarded to the Humberside Partnership for comment and approval. In finalising the Post- excavation Assessment Report and UPD, the comments of the Consultant and ERoYC's Archaeological Advisor will be taken into account.
- 8.1.14 Four bound copies, one unbound master-copy and a digital version of the final Post-excavation Assessment and UPD and illustrations will be produced and sent to the Consultant for distribution within three weeks of the receipt of comments on the draft report. Digital text will be in Microsoft Word format and illustrations in AutoCAD and PDF format.
- 8.1.15 It is the responsibility of the Contractor to supply the Humberside Partnership with a PDF and hard copy of the report within 1 month of the completion of the approved final report.

9. POST-EXCAVATION ANALYSIS AND PUBLICATION

- 9.1.1 In accordance with the UPD, the final analysis report will include full stratigraphic and phased accounts of the excavation results, and the results of analysis by specialists outlined in the post-excavation assessment report.
- 9.1.2 The costs will be reviewed when the UPD has been agreed. Appropriate resources will be made available to enable the agreed programme of post-excavation analysis as defined in the UPD to be undertaken.
- 9.1.3 The post-excavation analysis and preparation of final reports will be undertaken in accordance with Historic England's MORPHE guidelines, the post-excavation assessment report and UPD and the relevant archaeological standards and guidelines (Appendix 1).
- 9.1.4 The scope of the required analysis and the content of the final reports are both dependent upon the findings of the excavations. This will be reviewed and finalised in the post-excavation assessment report and UPD.
- 9.1.5 The analysis stage will be undertaken in accordance with the approved UPD. It will lead to the compilation of a research archive and the production of integrated report texts and illustrations for publication.
- 9.1.6 Paragraph 141 of the National Planning Policy Framework (NPPF) states that there is a requirement to:
- '...record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible'.
- 9.1.7 This will be achieved through publication, the scope of which will be proposed by the Contractor within the UPD (see section 7). As detailed in the NPPF this will be commensurate with the significance of the results of the post-excavation assessment. These proposals will be subject to approval from the Consultant who will liaise with EROYC's Archaeological Advisor in this regard.
- 9.1.8 Once the scope of the publication has been agreed the appropriate editor should be consulted and an estimate of print publication costs be obtained and included in the updated costs for the production of the post-excavation analysis report and publication. The HER shall be able to use the reports for reference purposes, on the understanding that such licence does not cover commercial use of the material by the HER or any third party. In all cases the Contractor and the commissioning body will retain the right to be identified as the originator of the work.
- 9.1.9 The report for publication (and illustrations) will be submitted to the Consultant and the Humberside Partnership for review, comment and approval.

10. ARCHIVE PREPARATION AND DEPOSITION

- 10.1.1 The archive of finds and records generated during the fieldwork will be kept secure at all stages of the project. All records and materials produced will be quantified, ordered, indexed and internally consistent. The archive will be produced to the standards outlined by Historic England MoRPHE Guidelines (Historic England 2015).
- 10.1.2 The Contractor will, prior to the start of fieldwork, inform the Landowner of the procedures for the deposition of the material evidence found during the course of the works.
- 10.1.3 The Contractor will liaise with an appropriate museum to obtain agreement in principle to accept the documentary, digital and photographic archive for long- term storage. The Contractor will be responsible for identifying any specific requirements or policies of the recipient repository in respect of the archive, and for adhering to those requirements.
- 10.1.4 Archaeological material recovered from fieldwork is irreplaceable and data recorded in the course of fieldwork can and should be copied and additionally held securely in a separate location in line with current best practice until it can be deposited in the recipient repository (English Heritage 2011).
- 10.1.5 The artefacts discovered are the property of the Landowner. The Landowner will be contacted on completion of the fieldwork to agree for the artefacts to be deposited with a museum as part of the site archive.
- 10.1.6 The deposition of the archive forms the final stage for each phase of development at the proposed development site. The Contractor shall provide the Consultant with copies of communication with the accredited repository and written confirmation of the deposition of the archive. The Consultant will deal with the transfer of ownership and copyright issues.

11. CONFIDENTIALITY AND PUBLICITY

- 11.1.1 Detailed information regarding the proposed development is in the public domain and the archaeological works may attract interest.
- 11.1.2 All communication regarding this project is to be directed through BWB. The Contractor will refer all inquiries to BWB without making any unauthorised statements or comments.
- 11.1.3 The Contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of BWB.

12. COPYRIGHT

- 12.1.1 The Contractor shall assign copyright in all reports and documentation/ images produced as part of this project to BWB. The Contractor shall retain the right to be identified as the author/ originator of the material. This applies to all aspects of the project. It is the responsibility of the Contractor to obtain such rights from sub-contracted specialists.
- 12.1.2 The subsistence of copyright in any person or body shall not prevent the final report or the archives being publicly consulted, or made available and/ or disseminated by the Humberside Partnership or Museums for *bona fide* archaeological or heritage related purposes.
- 12.1.3 The Contractor may apply in writing to use/disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.
- 12.1.4 The results of the archaeological works shall be submitted to the client by BWB and will ultimately be made available for public access.

13. RESOURCES AND TIMETABLE

Resources

- 13.1.1 All archaeological personnel involved in the project should be suitably qualified and experienced professionals. The Contractor shall provide the Consultant with CVs of key staff including the Project Manager, Site Supervisor and any proposed specialists. Site assistants' CVs will not be required, but all assistants should have an appropriate understanding of excavation procedures.
- 13.1.2 All staff will be fully briefed and aware of the work required under this WSI and will understand the objectives of the required works and the methodologies to be employed.
- 13.1.3 It is anticipated that the programme of archaeological works will start in March 2017. The precise commencement date will be confirmed to the Humberside Partnership. The works will be completed within a three period.

Timetable

- 13.1.4 The commencement date for the watching brief is not known at this stage. Once this is determined BWB the Consultant will inform the Humberside Partnership.
- 13.1.5 The timetable for completion of the post-excavation assessment is 3 months after completion of the fieldwork.
- 13.1.6 The Contractor shall give immediate warning to the Consultant should any agreed programme date not be achievable.
- 13.1.7 Prior to the commencement (or recommencement) of the works, BWB will provide seven days prior written notification to the Humberside Partnership of the intention to do so.

13.1.8 The post-excavation analysis and draft publication report shall be completed within 6 months of the completion of the post-excavation assessment.

13.1.9 The final version of the post-excavation report shall be deposited with the Humberside Partnership within 18 months of the cessation of fieldwork, or such reasonably extended period greater than 18 months where the complexity of scale of the archaeology discovered makes an 18 month period impractical.

14. ADHERENCE TO WSI

14.1.1 Prior to the commencement of the work, the Contractor must confirm adherence to this specification in writing via email to BWB. Should the Contractor wish to alter the WSI, a justification should be put forward in writing. Written confirmation is required from BWB confirming acceptance of any variations. The variation will also need agreement from the Humberside Partnership. Unauthorised variations implemented during the course of the project constitute a breach of contract.

14.1.2 Any technical queries arising from the WSI should be addressed to the Consultant without delay.

15. ACCESS ARRANGEMENTS AND WELFARE

15.1.1 Access to the land will be arranged and organised by BWB.

15.1.2 The programme of works will be agreed in advance. There will be no separate negotiation concerning the availability of land for survey with landowners, their agents or representatives without the prior agreement of BWB.

15.1.3 Should the Contractor require an adjustment to the location of the investigation area due to unforeseen local conditions, these shall be agreed with BWB prior to implementation.

15.1.4 The Contractor will notify BWB immediately of any areas that cannot be surveyed and will provide a clear explanation for the situation.

16. INSURANCES & HEALTH AND SAFETY

16.1.1 The Contractor will have their own Health and Safety policies compiled using national guidelines, which conform to all relevant Health and Safety legislation. A copy of the Contractors Health and Safety policy will be submitted to the Consultant with their tender. This should be in accordance with standards defined in:

- the Health and Safety at Work Act (1974) and related legislation;
CDM regulations (2007);
- the Management of Health and Safety Regulations (1992);
- the SCAUM (Standing Conference of Archaeological Unit Managers) health and safety manual Health and Safety in Field Archaeology (2002); and

- the Council for British Archaeology Handbook no. 6 Safety in Archaeological Fieldwork (1989).
- 16.1.2 The Contractor shall prepare a Risk Assessment and submit this to the Consultant for approval prior to the commencement of the works. If amendments are required to the Risk Assessment during the works the Consultant and any other interested party must be provided with the revised document at the earliest opportunity.
- 16.1.3 All site personnel will familiarise themselves with the following:
- site emergency and evacuation procedures;
 - the Contractors first aider;
 - the location of the nearest hospital and doctors surgery; and
 - the identification of buried and/ or overhead services.
- 16.1.4 No personnel are permitted to work in deep or unsupported excavations. The sides of all sections deeper than 1.2m will be stepped. Safety helmets must be worn whilst in the trench or working in vicinity of this. All deep sections will be fenced off using orange barrier fencing as a minimum. Similarly they will be clearly indicated by 'deep excavation signs'.
- 16.1.5 The Contractor will not enter an area during machine stripping without alerting the machine driver to his/ her attention.
- 16.1.6 The Contractor will remain alert and take care not to impede the progress of moving machinery. He/ she shall stand well away from the turning circle of excavator buckets and cabs.
- 16.1.7 Spoil will be stored at a safe distance away from the edges of the stripped areas unless otherwise agreed.
- 16.1.8 The site supervisor will ensure that a signed list of all personnel working within at the site is kept daily and will ensure that staff have signed out at the end of each working day or if they leave the site prior to this.
- 16.1.9 The 'Contactor' will ensure that all those visiting the site wear appropriate PPE. The 'Contactor' is permitted to prevent those without the correct PPE from visiting the site. All visitors must sign a record of attendance which will be administered by the 'Contactor'.
- 16.1.10 A competent person must inspect excavations:
- at the start of each working day prior to work commencing;
 - after any event likely to have affected the strength or stability of the excavation; and
 - after any fall of earth or other material.
- 16.1.11 A record of the above must be documented daily by the site supervisor.
- 16.1.12 All archaeological personnel will have valid CSCS cards to be allowed to work within the site.
- 16.1.13 The Contractor will leave the site tidy and in a workmanlike condition and remove all materials brought onto the site.

- 16.1.14 High Visibility Orange Barrier Fencing (or equivalent) will be erected around the strip map and record area if appropriate.
- 16.1.15 All staff will be fully briefed as to the site hazards before any work is commenced.
- 16.1.16 First aid boxes and fire extinguishers will be made available throughout the duration of the works. The site will also have at least one resident trained First Aider whose identity will be made known to all site personnel prior to the works commencing.
- 16.1.17 When Plant or Machinery is operating all staff must be at safe distance away from the activity, and only start work once the machinery has ceased or is at a safe distance from the area requiring investigation.
- 16.1.18 The client and Consultant cannot be held responsible for any accidents while attempting to conform to this WSI. Any Health and Safety issues which may hinder compliance to this WSI should be discussed with the Consultant immediately.

17. GENERAL PROVISIONS

- 17.1.1 The Contractor will undertake the works according to this WSI and any subsequent written variations.
- 17.1.2 All communications on archaeological matters will be directed through the Consultant.
- 17.1.3 The archive of data and records generated during the fieldwork will be kept secure in appropriate conditions using suitable materials at all stages of the project. The archive will be removed from site each evening and will be kept in secure premises by the Contractor.
- 17.1.4 Processing of datasets will be concurrent with the fieldwork and immediately after completion of fieldwork the processing of the remaining data will be completed.

18. REFERENCES

CIfA 2014., Code of Conduct

CIfA, 2014., Standards and Guidance for archaeological excavation

CIfA, 2014., Standards and Guidance for an archaeological watching brief

Historic England, 2014 Our Portable Past

Figures

Appendix 1

Standards and Guidelines

Archaeological Standards and Guidelines

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Bewely, R., Donoghue, D., Gaffney, V., Van Leusen, M., Wise, M., 1998, Archiving Aerial Photography and Remote Sensing Data: A guide to good practice.

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Appendix 2: Inventory of primary archive

Phase	File/Box No	Description	Quantity
Excavation	File no.1	Context register sheets	44
		Context sheets	743
		Drawing register sheets	20
		Permatrace sheets	89
		Sample register sheets	3
		Photographic register sheets	8
		Negative sheets	8
		Digital photographic register sheets	10
		Group register sheets	7
		Daily record sheets	49

Appendix 3: Concordance of contexts

Context	Description	Artefacts and environmental samples
U/S	Unstratified	Burnt Clay (20), Flint (1)
5000	Topsoil	Pot (AD70-110) (1), (Medieval-Post-Medieval) (2)
5001	Subsoil	Pot (Roman/Post-Roman) (2)
5002	Natural	-
5003	Cut of ditch	-
5004	Upper fill of 5003	-
5005	Lower fill of 5003	Pot (LIA-Roman) (4)
5006	Ditch cut	-
5007	Lower fill of ditch cut 5006	-
5008	Middle fill of ditch cut 5006	-
5009	Upper fill of ditch cut 5006	-
5010	Ditch cut	-
5011	Lower fill of ditch cut 5010	-
5012	Upper fill of ditch cut 5010	-
5013	Cut of ditch	-
5014	Fill of ditch 5013	Animal Bone (1)
5015	Cut of ditch	-
5016	Lower fill of ditch 5015	-
5017	Fill of 5015	-
5018	Fill of 5015	-
5019	Fill of 5015	Animal Bone (1)
5020	Re-cut within 5015	-
5021	Fill of re-cut 5020	-
5022	Ditch cut	-
5023	Ditch cut	-
5024	Re-cut of 5022	-
5025	Fill of 5022	-
5026	Fill of 5022 + 5023	-
5027	Fill of 5024	-
5028	Fill of 5022 + 5023	-
5029	Fill of 5030	-
5030	Recut of 5023	-
5031	Fill of 5023	-
5032	Cut of ditch	-
5033	Fill of ditch 5032	Pot (Post-Medieval to Modern) (1)
5034	Ditch cut	-
5035	Fill of 5034	-
5036	Intermediate fill of 5034	-
5037	Upper fill of 5034	Animal Bone (1)
5038	Pit cut	-
5039	Pit fill 5038	-
5040	Furrow	-
5041	Fill of furrow 5040	-

Context	Description	Artefacts and environmental samples
5042	Cut of ditch	-
5043	Fill of ditch 5042	-
5044	Cut of ditch	-
5045	Lower fill of 5044	-
5046	Upper fill of 5044	-
5047	Cut of ditch	-
5048	Fill of ditch 5047	-
5049	Cut of ditch	-
5050	Fill of 5049	-
5051	Fill of 5049	Animal Bone (8)
5052	Fill of 5049	-
5053	Fill of 5049	-
5054	Cut of pit	-
5055	Fill of pit 5054	-
5056	Ditch cut	-
5057	Fill of 5056	-
5058	Pit cut	-
5059	Fill of 5058	GBA 1, Animal Bone (13)
5060	Fill 5058	-
5061	Ditch cut	-
5062	Ditch fill 5061 (bottom)	Flint (1)
5063	Ditch fill 5061 (top)	-
5064	Redeposited sand 5056	-
5065	Base fill 5056	Animal Bone (20), Burnt Clay (1)
5066	Base fill 5058	-
5067	Cut of ditch	-
5068	Fill of 5067	-
5069	Ditch cut (terminus)	-
5070	Fill of ditch cut 5069	-
5071	Fill of ditch cut 5069	-
5072	Fill of ditch cut 5069	-
5073	Fill of ditch cut 5069	-
5074	Ditch cut	-
5075	Fill of ditch cut 5074	-
5076	Fill of ditch cut 5074	S.F 100 = Worked antler (1)
5077	Fill of ditch cut 5074	-
5078	Fill of ditch cut 5074	-
5079	Fill of ditch cut 5074	-
5080	Fill of ditch cut 5074	-
5081	Fill of 5067	-
5082	Fill of 5067	-
5083	Possible post hole	GBA 2
5084	Fill of post hole 5083	GBA 2
5085	Ditch cut	-
5086	Fill of ditch 5085	-
5087	Fill of ditch 5085	Animal Bone (20)

Context	Description	Artefacts and environmental samples
5088	Ditch cut	-
5089	Fill of 5088	-
5090	Ditch cut	-
5091	Fill of 5090	Animal Bone (23), Iron (1)
5092	Fill of 5090	-
5093	Pit cut	-
5094	Fill of 5093	GBA 5
5095	Pit cut	-
5096	Fill of 5095	GBA 6, Burnt Clay (2)
5097	Pit cut	-
5098	Fill of 5097	GBA 7
5099	Pit cut	-
5100	Fill of 5099	GBA 8
5101	Pit cut	-
5102	Fill of 5101	GBA 9
5103	Ditch cut	-
5104	Fill of ditch 5104	-
5105	Post-hole	-
5106	Fill of post hole 5105	GBA 3
5107	Post hole	-
5108	Fill of post hole 5107	GBA 4
5109	Ditch cut	-
5110	Fill of ditch 5109	-
5111	Ditch cut	-
5112	Fill of ditch 5111	-
5113	Ditch cut	-
5114	Fill of ditch 5113	-
5115	Ditch cut	-
5116	Fill of 5115	-
5117	Ditch cut	-
5118	Fill of 5117	-
5119	Redeposited sand/burrow	-
5120	Upper fill	-
5121	Ditch cut	-
5122	Fill of 5121	Animal Bone (9)
5123	Upper fill of 5121	-
5124	Cut of ditch	-
5125	Fill of ditch 5124	Animal Bone (8)
5126	Cut of ditch	-
5127	Fill of ditch 5126	Animal Bone (10)
5128	Ditch/furrow	-
5129	Fill of 5128	Animal Bone (4)
5130	Rabbit burrows	-
5131	Fill of 5130	GBA 10, Flint (1)
5132	Post-hole cut	-
5133	Fill of 5132	-

Context	Description	Artefacts and environmental samples
5134	Ditch cut	-
5135	Fill of ditch slot 5134	-
5136	Primary fill of ditch slot 5134	-
5137	Ditch n – s	-
5138	Fill of 5137	-
5139	Ditch e – w	CBM (9)
5140	Fill of 5139	
5141	Ditch n – s	-
5142	Fill of 5141	GBA 12, Animal Bone (97), Pot (IA) (1), (Modern) (1)
5143	Fill of 5141	-
5144	Fill of 5141	Pot (IA to Roman) (2)
5155	Cut of ditch	-
5156	Fill of ditch 5155	-
5160	Ditch cut	-
5161	Upper fill 5160	-
5162	Primary fill 5160	-
5163	Ditch cut	-
5164	Upper fill 5163	-
5165	Primary fill 5163	-
5166	Ditch cut	-
5167	Ditch fill 5166	-
5168	Ditch cut	-
5169	Fill of ditch cut 5168	-
5170	Fill of ditch cut 5168	-
5171	Ditch cut	-
5172	Fill of ditch cut 5171	-
5173	Fill of ditch cut 5171	-
5174	Fill of ditch 5168	-
5175	Ditch cut	-
5176	Fill of ditch 5175	-
5177	Cut of furrow	-
5178	Fill of furrow 5177	-
5179	Cut of ditch	-
5180	Fill of 5179	-
5181	Fill of 5179	-
5182	Fill of 5179	-
5183	Ditch cut	-
5184	Stone deposit 5183	Pot (Medieval) (1)
5185	Primary fill 5183	-
5186	Ditch cut	-
5187	Fill of 5186	-
5188	Ditch cut	-
5189	Fill of 5188	-
5190	Ditch cut	-

Context	Description	Artefacts and environmental samples
5191	Fill of ditch cut 5190	Animal Bone (90)
5192	Clay fill 5183	-
5193	Ditch cut	-
5194	Fill of ditch 5193	-
5195	Ditch terminus	-
5196	Fill of ditch 5195	GBA 11, Industrial Residue
5197	Ditch cut	-
5198	Fill of ditch 5197	-
5199	Ditch terminus	-
5200	Fill of 5199	SF 101
5201	Cut of ditch	-
5202	Fill of ditch 5201	
5203	Fill of ditch 5201	Animal Bone (35)
5204	Cut of ditch	-
5205	Fill of ditch 5204	-
5206	Ditch cut	-
5207	Fill of 5206	-
5208	Ditch cut	-
5209	Primary fill 5208	GBA 13, Pot (IA to Roman) (3), (Post-Roman) (1), Animal Bone (3), Industrial Residue
5210	Ditch cut	-
5211	Primary fill 5210	GBA 14, Animal Bone (15)
5212	Secondary cut within 5208	-
5213	Fill within 5212	-
5214	Ditch cut	-
5215	Fill of ditch 5214	Pot (IA to Roman) (1)
5216	Ditch cut	-
5217	Secondary fill of ditch 5216	GBA 15, Flint (1), Animal Bone (56),
5218	Fill of ditch 5216	Pot (MLIA to Early Roman) (12), Animal Bone (100), Industrial Residue
5220	Ditch cut	-
5221	Fill of 5220	-
5222	Cut of terminus	-
5223	Fill of 5222	-
5224	Pit cut	-
5225	Fill of 5224	GBA 16, Animal Bone (53), Pot (Medieval) (1), Industrial Residue,
5226	Ditch terminus	-
5227	Fill of 5226	Animal Bone (4), Pot (MLIA to Early Roman) (1)
5228	Post-hole	-
5229	Fill of post-hole 5228	GBA 17, Pot (MLIA to Early Roman) (1), Industrial Residue
5230	Ditch cut	-

Context	Description	Artefacts and environmental samples
5231	Fill of ditch 5230	Animal Bone (18), Pot (LIA to Early Roman) (4)
5232	Fill of ditch 5230	Animal Bone (149), Pot (LIA) (49)
5233	Ditch cut	-
5234	Fill of ditch 5233	Animal Bone (20), Pot (IA to Roman) (34)
5235	Cut of gully	-
5236	Fill of 5235	-
5237	Ditch cut	-
5238	Fill of 5237	-
5239	Ditch cut	-
5240	Fill of ditch cut 5239	-
5241	Pit cut	-
5242	Fill of pit 5241	Animal Bone (9)
5243	Fill of pit 5241	-
5244	Ditch cut	-
5245	Fill of ditch 5244	-
5246	Fill of ditch 5244	-
5247	Re-cut of ditch	-
5248	Fill of 5247	S.F 102 = lead weight, Pot (LIA to Early Roman) (143), Animal Bone (48), Flint (1),
5249	Cut of ditch	-
5250	Fill of 5249	-
5251	Cut of ditch	-
5252	Fill of 5251	-
5253	Pit cut	-
5254	Primary fill of 5253	GBA 18, CBM (90)
5255	Overlying deposit 5253	-
5256	Pit cut	-
5257	Primary fill 5256	Animal Bone (291)
5258	Post deposit 5256	GBA 19
5259	Pit cut	-
5260	Primary fill of 5259	GBA 20, Animal Bone (24), Industrial Residue,
5261	Re-deposited sand 5259	-
5262	Charcoal deposit 5259	Pot (IA to Roman) (1)
5263	Pit cut	-
5264	Primary fill of 5263	Animal Bone (213), Burnt Clay (13)
5265	Secondary fill of 5263	GBA 21+56, Animal Bone (2618), Burnt Clay (194), Pot (IA to Roman) (4)
5266	Cut of ditch	-
5267	Fill of 5266	Burnt Clay (8)
5268	Cut of ditch	-
5269	Fill of ditch 5268	Animal Bone (42), Pot 9LIA to Early Roman) (36)

Context	Description	Artefacts and environmental samples
5270	Post fill 5259	-
5271	Ditch cut	-
5272	Fill of ditch 5271	Animal Bone (6),
5273	Fill of ditch 5271	-
5274	Tree-throw	-
5275	Fill of tree-throw 5274	-
5276	Ditch cut	-
5277	Fill of ditch cut 5276 secondary	Flint (1)
5278	Ditch cut	-
5279	Secondary fill of 5278	Flint (1)
5280	Secondary fill of 5278	Animal Bone (6)
5281	Silty clay secondary fill 5278	-
5282	Sandy clay secondary fill 5278	-
5283	Sandy lens secondary fill 5278	-
5284	Peaty clay primary fill 5278	-
5285	Pit cut	-
5286	Fill of pit cut 5285	GBA 22, Animal Bone (303), Pot (MLIA to Early Roman) (4)
5287	Post-hole	-
5288	Fill of post-hole 5287	-
5289	Pit cut	-
5290	Fill of pit cut 5289	GBA 23, Animal Bone (17), Pot (IA to Roman) (10), Burnt Clay (70), Industrial Residue
5291	First recut ditch 5278	-
5292	Second recut ditch 5278	-
5293	Primary fill of ditch 5276	-
5294	Primary fill of recut 5292	-
5295	Grey clay sandfill re-cut 5291	-
5296	Brown silty sand re-cut 5291	-
5297	Grey silty sand re-cut 5291	-
5298	Brown with a grey tinted clay silt 5278	-
5299	Grey clay fill of 5278	-
5300	Yellow tinted grey silty sand, recut 5292	-
5301	Ditch cut facing east	-
5302	Fill of 5301	-
5303	Ditch cut facing south	-
5304	Fill of 5303	-
5305	Ditch cut	-
5306	Fill of ditch 5305	Pot (MLIA to Early Roman) (1)
5307	Ditch cut	-
5308	Fill of ditch 5307	-
5309	Ditch cut	-
5310	Fill of ditch 5309	Animal Bone (31), Pot (IA to Roman) (3)
5311	Cut of small pit	-

Context	Description	Artefacts and environmental samples
5312	Fill of 5311	GBA 43, Animal Bone (5), Pot (LIA? to Roman) (46)
5313	Small pit	-
5314	Fill of 5313	GBA 42, Animal Bone (67)
5315	Small pit	-
5316	Fill of 5315	GBA 41
5317	Cut of irregular feature/pit	-
5318	Fill of 5317	Pot (IA to Roman) (1), Animal Bone (2)
5319	Cut of small pit	
5320	Fill of 5319	GBA 52, Animal Bone (2)
5321	Cut of pit	-
5322	Fill of 5321	-
5323	Cut of pit	-
5324	Fill of 5323	-
5325	Cut of pit	-
5326	Fill of 5325	GBA 40, Pot (IA to Roman) (11), Animal Bone (1)
5327	Cut of pit	-
5328	Fill of 5327	GBA 39, Animal Bone (7), Pot (IA to Roman) (7)
5329	Roundhouse area-surface finds	Animal Bone (13), Pot (IA to Roman) (4)
5330	Ditch cut	-
5331	Fill of ditch 5330	Pot (IA to Roman) (5)
5332	Ditch cut	-
5333	Fill of ditch 5332	-
5334	Ditch cut	-
5335	Fill of ditch 5334	Animal Bone (35), Pot (IA to Roman) (5)
5336	Post-hole cut	-
5337	Fill of post-hole 5336	-
5338	Post-hole cut	-
5339	Fill of post-hole 5338	-
5340	Post-hole cut	-
5341	Fill of post-hole 5340	GBA 48, Animal Bone (21),
5342	Post-hole cut	-
5343	Fill of post hole 5342	-
5344	Cut of post-hole	-
5345	Fill of post hole 5344	Animal Bone (52)
5346	Cut of post-hole	-
5347	Fill of post-hole 5346	Pot (IA to Roman?) (4)
5348	Cut of post-hole	-
5349	Fill of post hole 5348	GBA 49, Animal Bone (71)
5350	Ditch cut	-
5351	Fill of ditch 5350	Pot (IA to Roman?) (2)
5352	Ditch cut	-

Context	Description	Artefacts and environmental samples
5353	Fill of ditch 5352	Animal Bone (10)
5354	Ditch cut	-
5355	Fill of ditch 5354	Pot (IA to Roman) (1)
5356	Cut of e – w ditch ditch	-
5357	Fill of e – w ditch ditch 5356	-
5358	Cut of nw – se ditch ditch	-
5359	Fill of nw – se ditch ditch 5358	Animal Bone (9)
5360	Re-cut of e – w ditch ditch 5356	-
5361	Fill of re-cut of e – w ditch ditch 5360	Animal Bone (68), Pot (IA to Roman) (1), Burnt Clay (5),
5362	Cut of post-hole	-
5363	Fill of post-hole 5362	GBA 51, Animal Bone (104), Industrial Residue,
5364	Cut of post-hole	-
5365	Fill of post-hole 5364	-
5366	Post-hole cut	-
5367	Fill of post-hole 5366	Animal Bone (1)
5368	Post-hole cut	-
5369	Fill of post-hole 5368	GBA 47, Pot (IA to Roman) (6)
5370	Ditch cut	-
5371	Fill of ditch 5370	Human Bone (1), Animal Bone (11)
5372	Ditch cut	-
5373	Fill of ditch 5372	Animal Bone (1)
5374	Ditch cut	-
5375	Fill of ditch 5374	Animal Bone (4), Pot (IA to Roman) (2)
5376	Fill of ditch 5382	-
5377	Cut of ditch	-
5378	Fill of 5377	Pot (Period unknown) (1), Flint (1)
5379	Cut of ditch	-
5380	Fill of cut 5379	Animal Bone (34), flint (), Pot MLIA to Early Roman) (4)
5381	Cut of ditch	-
5382	Fill of 5381	Pot (MLIA to Early Roman) (7)
5382	Ditch cut	-
5383	Post-hole cut	-
5384	Fill of post-hole 5383	-
5385	Cut of ditch	-
5386	Fill of 5385	Animal Bone (52)
5387	Cut of ditch	-
5388	Fill of 5387	Animal Bone (37), Pot (MLIA to Early Roman) (4), Flint (1)
5389	Cut of ditch	-
5390	Fill of 5389	Pot (MLIA to Early Roman) (6)
5391	Ditch cut	-
5392	Fill of ditch 5391	Pot (MLIA to Early Roman) (10)
5393	Post-hole cut	-

Context	Description	Artefacts and environmental samples
5394	Fill of post-hole 5393	-
5395	Ditch cut	-
5396	Fill of ditch 5395	Animal Bone (206)
5397	Ditch cut	-
5398	Fill of ditch 5397	Animal Bone (1)
5399	Ditch cut	-
5400	Fill of ditch 5399	Animal Bone (2)
5401	Post-hole cut	-
5402	Fill of post-hole 5401	-
5403	Cut of pit	-
5404	Lower fill of pit 5403	Animal Bone (436)
5405	Upper fill of pit 5403	GBA 24, Animal Bone (115),
5406	Cut of ditch	-
5407	Fill of ditch 5406	-
5408	Cut of ditch	-
5409	Fill of ditch 5408	Animal Bone (15), Pot (MLIA to Early Roman) (9),
5410	Cut of ditch	-
5411	Fill of ditch 5410	Pot (Prehistoric?) (1)
5412	Post-hole	-
5413	Fill of post-hole 5412	-
5414	Cut of ditch	-
5415	Fill of ditch 5414	Animal Bone (5)
5416	Cut of ditch	-
5417	Fill of ditch 5416	-
5418	Fill of 5408	GBA 25, Pot (Prehistoric?) (1)
5419	Cut of ditch	-
5420	Fill of ditch 5419	Animal Bone (15), Pot (MLIA to Early Roman) (2), Flint (1)
5421	Cut of ditch	-
5422	Fill of ditch 5421	Animal Bone (25)
5423	Cut of ditch	-
5424	Fill of ditch 5423	Animal Bone (15), Pot (MLIA to Early Roman) (17),
5425	Post-hole	-
5426	Fill of post-hole 5425	-
5427	Post-hole	-
5428	Fill of post-hole 5427	-
5429	Post-hole	-
5430	Fill of post-hole 5429	-
5431	Post-hole	-
5432	Fill of post-hole 5431	-
5433	Post-hole	-
5434	Fill of post-hole 5433	GBA 50
5435	Post-hole	-
5436	Fill of post-hole 5435	GBA 26, Industrial Residue,

Context	Description	Artefacts and environmental samples
5437	Cut of outer ditch	-
5438	Fill of 5437	-
5439	Cut of ditch terminus	-
5440	Fill of ditch terminus 5439	-
5441	Cut of ditch	-
5442	Fill of ditch 5441	-
5443	Post-hole	-
5444	Fill of post-hole	GBA 37, Pot (MLIA) (74)
5445	Cut of ditch	-
5446	Fill of 5445	Pot (Prehistoric) (1)
5447	Post-hole	Pot (MLIA) (22)
5448	Fill of post hole 5447	GBA 27, Animal Bone (1), Pot (Prehistoric?) (2)
5449	Post-hole	Pot (MLIA to Roman) (5)
5450	Fill of post 5449	GBA 44, Pot (MLIA to Early Roman) (44)
5451	Post-hole	-
5452	Fill of post-hole 5451	GBA 45
5453	Post-hole	-
5454	Fill of post-hole 5453	GBA 46, Pot (MLIA to Early Roman) (2)
5455	Cut of outer ditch	-
5456	Fill of outer ditch 5455	-
5457	Cut of post-hole	-
5458	Fill of post-hole 5457	-
5459	Cut of post-hole	-
5460	Fill of post-hole 5459	Animal Bone (1)
5461	Cut of post-hole	-
5462	Fill of post-hole 5461	Animal Bone (1)
5463	Cut of post-hole	-
5464	Fill of post-hole 5463	Pot (IA to Roman) (2)
5465	Cut of pit	-
5466	Fill of pit 5465	S.F 103, Metal (1)
5467	Cut of pit	-
5468	Fill of pit 5467	GBA 28, Animal Bone (1)
5469	Fill of pit 5467	Pot (IA to Roman) (2)
5470	Cut of pit	-
5471	Fill of pit 5470	-
5472	Ditch cut	-
5473	Fill of ditch 5472	Animal Bone (5)
5474	Ditch cut	-
5475	Fill of ditch 5474	Animal Bone (1)
5476	Post-hole	-
5477	Fill of post-hole 5476	-
5478	Cut of outer ring ditch terminus	-
5479	Fill of outer ring ditch terminus 5478	-

Context	Description	Artefacts and environmental samples
5480	Ring ditch cut	-
5481	Fill of ring ditch 5480	-
5482	Cut of outer ring ditch	-
5483	Fill of outer ring ditch 5482	-
5484	Cut of stake hole	-
5485	Fill of stake hole 5484	-
5486	Cut of pit	-
5487	Fill of pit 5486	-
5488	Cut of post-hole	-
5489	Fill of post-hole 5488	-
5490	Cut of post-hole	-
5491	Fill of post-hole 5490	-
5492	Cut of post-hole	-
5493	Fill of post-hole 5492	-
5494	Cut of ditch	-
5495	Fill of ditch 5494	-
5496	Cut of pit	-
5497	Fill of pit 5496	-
5498	Cut of pit	-
5499	Fill of pit 5498	-
5500	Ditch cut	-
5501	Base fill 5500	-
5502	Upper fill 5500	-
5503	Ditch cut	-
5504	Base fill 5503	-
5505	Upper fill 5503	-
5506	Cut of ditch	-
5507	Fill of ditch 5506	-
5508	Cut of ditch	-
5509	Lower fill of ditch 5506	-
5510	Upper fill of ditch 5506	-
5511	Ditch cut	-
5512	Middle fill of ditch 5508	-
5513	Cut of e – w ditch	-
5514	Fill of e – w ditch 5513	-
5515	Cut of n – s ditch	-
5516	Upper fill of n – s ditch 5515	-
5517	Lower fill of n – s ditch 5515	-
5518	Ditch cut	-
5519	Fill of ditch 5518	-
5520	Fill of ditch 5518	-
5521	Ditch terminus	-
5522	Fill of ditch 5521	-
5523	Ditch cut	-
5524	Redeposited sand 5523	-
5525	Fill of ditch 5523	-

Context	Description	Artefacts and environmental samples
5526	Fill of ditch 5518	Animal Bone (1)
5527	Fill of ditch 5518	-
5528	Ditch cut	-
5529	Cut of ditch	-
5530	Fill of ditch 5529	-
5531	Ditch cut	-
5532	Fill of ditch cut 5531	Animal Bone (6)
5533	Fill of ditch 5531	-
5534	Ditch cut	-
5535	Fill of ditch cut 5534	-
5536	Fill of ditch cut 5534	-
5537	Fill of ditch cut 5534	-
5538	Fill of ditch cut 5534	-
5539	Cut of pit	-
5540	Fill of pit 5539	GBA 29
5541	Cut of pit	-
5542	Fill of pit 5541	GBA 30
5543	Ditch cut	-
5544	Primary fill of ditch 5543	-
5545	Ditch cut	-
5546	Upper fill of ditch 5545	-
5547	Primary fill of ditch 5545	-
5548	Ditch cut	-
5549	Fill of ditch 5548	-
5550	Fill of ditch 5548	Animal Bone (1)
5551	Fill of ditch 5548	-
5552	Cut of terminus	-
5553	Fill of 5552	-
5554	Fill of 5552	-
5555	Cut of gully terminus	-
5556	Fill of gully terminus 5555	-
5557	Pit cut	-
5558	Fill of pit 5557 (with horse)	GBA 31, S.F 104 (worked stone), Animal Bone (1165), Industrial Residue, Flint (1)
5559	Cut of pit	-
5560	Lower fill of pit 5559	Pot (IA to Roman) (1)
5561	Upper fill of pit 5559	Pot (IA to Roman) (1)
5562	Cut of ditch	-
5563	Fill of ditch 5562	-
5564	Cut of ditch terminus	-
5565	Fill of ditch terminus 5564	-
5566	Cut of ditch	-
5567	Fill of ditch 5566	-
5568	Pit cut	-
5569	Fill of pit 5568	-

Context	Description	Artefacts and environmental samples
5570	Cut of ditch	-
5571	Fill of ditch 5570	-
5572	Cut of ditch	-
5573	Fill of ditch 5572	-
5574	Cut of gully	-
5575	Fill of gully	-
5576	Cut of gully	-
5577	Fill of gully 5576	-
5578	Ditch cut	-
5579	Fill of ditch 5578	-
5580	Fill of ditch 5578	-
5581	Ditch cut	-
5582	Fill of ditch 5581	-
5583	Ditch cut	-
5584	Primary fill of ditch 5583	-
5585	Intermediate clay fill of ditch 5583	-
5586	Upper fill of ditch 5583	-
5587	Cut of terminus	-
5588	Fill of terminus 5587	-
5589	Cut of terminus	-
5590	Fill of terminus 5589	-
5591	Cut of ditch	-
5592	Fill of ditch 5591	-
5593	Cut of ditch/ pit	-
5594	Fill of ditch/ pit 5593	Pot (AD70–110) (1)
5595	Ditch cut	-
5596	Redeposited sand of ditch 5595	-
5597	Fill of ditch 5595	-
5598	Pit cut	-
5599	Fill of pit 5598	-
5600	Cut of ditch	-
5601	Fill of ditch 5600	-
5602	Cut of ditch	-
5603	Fill of ditch 5602	-
5604	Pit cut	-
5605	Lower fill of pit 5604	-
5606	Upper fill of pit 5604	Pot (MLIA to Early Roman) (5)
5607	Pit cut	-
5608	Fill of pit 5607	-
5609	Pit cut	-
5610	Lower fill of pit 5609	-
5611	Upper fill of pit 5609	GBA 32, Pot (Roman) (3)
5612	Post-hole	-
5613	Fill of post-hole 5612	-
5614	Post-hole	-
5615	Fill of post-hole 5614	-

Context	Description	Artefacts and environmental samples
5616	Post-hole	-
5617	Fill of post-hole 5616	-
5618	Ditch cut	-
5619	Lower fill of ditch 5618	-
5620	Upper fill of ditch 5618	-
5621	Ditch cut	-
5622	Fill of ditch cut 5621	Iron (1)
5623	Pit cut	-
5624	Base fill of pit 5623	-
5625	Upper fill of pit 5623	-
5626	Ditch cut	-
5627	Base fill of ditch 5626	-
5628	Upper fill of ditch 5626	-
5629	Gully terminus	-
5630	Lower fill of gully terminus 5629	-
5631	Upper fill of gully terminus 5629	-
5632	Cut of ditch	-
5633	Fill of ditch 5632	Animal Bone (29),
5634	Cut of ditch	-
5635	Fill of ditch 5634	Animal Bone (23)
5636	Fill of ditch 5634	-
5637	Fill of ditch 5634	Animal Bone (22)
5638	Fill of ditch 5634	-
5639	Cut of n – s running ditch	-
5640	Cut of pit	-
5641	Cut of e – w running ditch	-
5642	Fill of ditch/ pit 5593	-
5643	Fill of ditch 5591	-
5644	Fill of ditch 5591	-
5645	Layer over ditch 5591	-
5646	Layer over ditch 5591	-
5647	Cut of ditch	-
5648	Fill of ditch 5647	-
5649	Base fill of n – s running ditch 5639	-
5650	Upper fill of n – s running ditch 5639	-
5651	Fill of pit 5640	-
5652	Fill of re-cut 5655	-
5653	Base fill of e – w running ditch 5641	-
5654	Upper fill of e – w running ditch 5641	-
5655	Re-cut of pit 5640	-
5656	Pit cut	-
5657	Fill of pit 5656	GBA 33, S.F 105/106, Animal Bone (273), Oyster Shell (1), Pot (Early Saxon or LIA) (6), Worked Stone (1), Iron (1)
5658	Pit cut	-

Context	Description	Artefacts and environmental samples
5659	Fill of pit 5658	
5660	Pit cut	-
5661	Fill of pit 5660	-
5662	Cut of gully	-
5663	Fill of gully 5662	-
5664	Cut of ditch	-
5665	Lower fill of ditch 5664	-
5666	Upper fill of ditch 5664	-
5667	Cut of ditch	-
5668	Lower fill of ditch 5667	-
5669	Upper fill of ditch 5667	-
5670	Cut of ditch	-
5671	Fill of ditch 5670	-
5672	Fill of ditch 5691	GBA 34
5673	Fill of ditch 5692	GBA 35
5674	Fill of ditch 5692	GBA 36, Pot (Roman?) (2)
5675	Fill of ditch 5639	-
5676	Ditch cut	-
5677	Fill of ditch 5676	-
5678	Ditch cut	-
5679	Fill of ditch 5678	-
5680	Ditch cut	-
5681	Fill of ditch 5680	-
5682	Fill of ditch 5680	Animal Bone (83), Pot (IA to Roman) (3)
5683	Ditch cut	-
5684	Base fill of ditch 5683	Animal Bone (10), CBM (1)
5685	Orange upper fill of ditch 5683	-
5686	Black upper fill of ditch 5683	-
5687	Cut of ditch	-
5688	Fill of ditch 5687	-
5689	Cut of ditch	-
5690	Fill of ditch 5689	-
5691	Cut of ditch	-
5692	Cut of ditch	-
5693	Cut of ditch terminus	-
5694	Fill of ditch terminus 5693	-
5695	Fill of ditch 5693	-
5696	Fill of ditch 5693	-
5697	Cut of ditch	-
5698	Fill of ditch 5697	-
5699	Layer over fill (5698)	-
5700	Cut of ditch	-
5701	Fill of ditch 5700	Pot (AD70-110) (4)
5702	Cut of ditch	-
5703	Fill of ditch 5702	-

Context	Description	Artefacts and environmental samples
5704	Cut of ditch terminus	-
5705	Lower fill of ditch 5704	GBA 38, Animal Bone (1)
5706	Intermediate fill of ditch 5704	-
5707	Overlying fill of ditch 5704	-
5708	Cut of ditch terminus	-
5709	Lower fill of ditch 5708	-
5710	Intermediate fill of ditch 5708	-
5711	Overlying fill of ditch 5708	-
5712	Ditch cut	-
5713	Fill of ditch 5712	-
5714	Fill of ditch 5712	-
5715	Fill of ditch 5712	Animal Bone (19), Pot (IA to Roman) (2)
5716	Ditch cut	-
5717	Fill of ditch 5716	-
5718	Cut of terminus	-
5719	Fill of terminus 5718	-
5720	Cut of post-hole	-
5721	Fill of post-hole 5720	Animal Bone (1), Pot (IA to Roman) (2)
5722	Cut of ditch terminus	-
5723	Fill of ditch 5722	GBA 53
5724	Cut of ditch	-
5725	Fill of ditch 5724	Pot (Modern) (1)
5726	Cut of ditch	-
5727	Fill of ditch 5726	-
5728	Cut of pit	-
5729	Fill of pit 5728	GBA 54, Animal Bone (171), Oyster Shell (1), Pot (Early Modern?) (90), CBM (64), Burnt Clay (3),
5730	Fill of ditch 5726	-
5731	Cut of ditch terminus	-
5732	Fill of ditch 5731	-
5733	Cut of shallow ditch	-
5734	Fill of ditch 5733	-
5735	Cut of ditch terminus	-
5736	Fill of ditch 5735	Animal Bone (6)
5737	Cut of ditch terminus	-
5738	Fill of ditch 5737	Animal Bone (6)
5739	Cut of narrow ditch	-
5740	Fill of ditch 5739	-
5741	Cut of gully	-
5742	Fill of gully 5741	Animal Bone (11)
5743	Cut of ditch	-
5744	Lower fill of ditch 5743	Animal Bone (35)
5745	Upper fill of ditch 5743	-

Context	Description	Artefacts and environmental samples
5746	Cut of terminus	-
5747	Fill of terminus 5746	-
5748	Cut of ditch	-
5749	Fill of ditch 5748	-
5750	Cut of pit	-
5751	Fill of pit 5750	GBA 55, Animal Bone (14), Pot (Prehistoric?) (1)
5752	Cut of post-hole	-
5753	Fill of post-hole 5752	Animal Bone (1)
5754	Cut of post-hole	-
5755	Fill of post-hole 5754	-
5756	Cut of post-hole	-
5757	Fill of post-hole 5756	-
5758	Cut of post-hole	-
5759	Fill of post hole 5758	-
5760	Cut of pit	-
5761	Fill of pit 5760	-

Appendix 4: Pottery archive

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Veseks	Weight	Decoration	Part	Ref No	Description	Date
5033	MEDLOC	Medieval local fabrics	OX/R;fine sandy	jug ?	1	1	12		base		abraded	13th to 14th
5142	LERTH	Late earthenwares	coarse purple-red	flask/costrel	1	1	5		BS		near vitrified;BL/BE RTH;mid-17th to 18th	mid-17th to 18th
5184	BEVO2T	Beverley Orange-type ware Fabric 2	OX/R/OX;fine-med sandy	jug	1	1	7		BS		very abraded;? A bit coarse for BEVO2	13th to early/mid-14th
5209	EMLOC	Local Early Medieval fabrics	OX;fine-med sandy	small jar	1	1	4		BS		ext soot	12th to mid-13th
5225	BEVO1	Beverley Orange ware Fabric 1	Fabric A	small jug	1	1	6		rim		very abraded	mid-12th to early/mid-13th
5611	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CQCH	jar/bowl	1	1	3		BS		ext soot;oxid ext surface	5th to mid-9th
5657	CHARNT	Charnwood ware		jar/bowl	1	1	4		BS		int carbonised deposit	5th to mid-9th
5657	SST	Early to mid-Saxon sandstone-tempered		jar	1	1	18		BS		ext wiped surface;fabric incl abundant fine quartz incl moderate to comm aggregate	5th to mid-9th
5657	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CAQCV	jar	1	1	4	E1div stamp	BS		internal attrition	5th to 6th
5657	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CAQCV	jar ?	1	1	10	incised diagonal lines;? Chevron	BS		ext burnished;int leached ca inclusions;	5th to 8th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
5657	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CAQCV	jar/bowl	1	1	4	incised diagonal line	BS		fabric incl mainly fine quartz & occ larger;int carbonised deposit	5th to 8th
5657	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CAQCV	jar/bowl	2	1	11		BS		int & ext burnished;fabric incl aggregated sandstone	5th to mid-9th
5657	CHFLGVL	Anglo-Saxon Chalk and Flint Gravel-tempered	CAQCV	jar	1	1	18		rim		burnished ext surface;simple rounded rim;fabric incl occ flint	5th to mid-9th
5657	SSTMG	Early to mid- Saxon sandstone- tempered (carboniferous sandstone)		jar/bowl	1	1	10		BS		fabric incl moderate to comm carbonised vegetal	5th to mid-9th
5657	SSTMG	Early to mid- Saxon sandstone- tempered (carboniferous sandstone)		jar	3	1	30		shoulder		semi-burnished ext;ext soot;fabric incl occ ca & some fine aggregate sandstone + moderate to comm carbonised vegetal	5th to mid-9th
5725	STSL	Staffordshire/Bri stol slipware	cream	cup ?	1	1	1	brown trailed on yellow ext	BS			late 17th to 18th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Veseks	Weight	Decoration	Part	Ref No	Description	Date
5729	CHPO	Chinese Export Porcelain		?	1	1	1	int blue painted	BS			18th
5729	CIST	Cistercian-type ware		cup	1	1	1		BS		late	mid-16th to mid-17th
5729	FREC	Frechen stoneware		drinking jug	2	1	16		BS		thin walled	17th to 18th
5729	FREC	Frechen stoneware		large jug	6	1	339		base & BS		Bartmann ?;string cut base	17th to 18th
5729	GRE	Glazed Red Earthenware		large cylindrical jar	1	1	49		rim		int reduced glaze;stacking scar on rim top	17th to 18th
5729	GRE	Glazed Red Earthenware		?	1	1	1		BS	Sample 54	int brown glaze;mortar incl break	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large bowl	3	1	138		rim		abraded;int reduced glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar	3	1	31		base		abraded;bichrome;int brown glaze ext green glaze	late 16th to mid-17th
5729	GRE	Glazed Red Earthenware		?	1	1	1		BS	Sample 54	int brown glaze;mortar incl break	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large jar/bowl	1	1	26		BS		int flake	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar	2	1	37		base		int & ext brown glaze;worn basal edge	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large jar	1	1	47		base		int brown glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar	1	1	20		base		int brown glazed;abraded	late 16th to 18th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
5729	GRE	Glazed Red Earthenware		?	1	1	1		BS	Sample 54	int brown glaze;mortar incl break	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar	5	1	56		base & BS		worn basal edge;abraded	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large jar	1	1	9		neck		int brown glaze;abraded	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large cylindrical jar	1	1	9		BS		int & ext brown glaze;incised shoulder groove	17th to 18th
5729	GRE	Glazed Red Earthenware		large jar	2	1	56		BS		int & ext brown glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jug/jar	3	1	23		BS		int & ext brown glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		large cylindrical jar	1	1	12		BS		incised shoulder groove;int & ext brown glaze	17th to 18th
5729	GRE	Glazed Red Earthenware		jar/bowl	1	1	7		base		int brown glaze;abraded	late 16th to 18th
5729	GRE	Glazed Red Earthenware		drinking vessel/small jar	1	1	9		base		worn ext basal edge;int brown glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar/bowl	1	1	5		BS		int brown glaze;abraded	late 16th to 18th
5729	GRE	Glazed Red Earthenware		jar ?	1	1	5		BS		int & ext brown glaze	late 16th to 18th
5729	GRE	Glazed Red Earthenware		small jar ?	1	1	5		base	Sample 54	int brown glaze;mortar incl break	late 16th to 18th
5729	GRE	Glazed Red Earthenware		?	1	1	5		BS	Sample 54	int brown glaze;mortar incl break	late 16th to 18th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
5729	GRE	Glazed Red Earthenware		?	1	1	1		BS	Sample 54	int brown glaze;mortar incl break	late 16th to 18th
5729	GRE	Glazed Red Earthenware		small jar	2	1	10		neck		int & ext green glaze;wear mark on int neck	late 16th to 18th
5729	GRE	Glazed Red Earthenware		?	1	1	4		BS		int brown glaze;flake	late 16th to 18th
5729	LHUM	Late Humber-type ware		large cylindrical jar	1	1	44		BS		int & ext glaze	17th to 18th
5729	LHUM	Late Humber-type ware		very large cylindrical jar	1	1	90		BS		int & ext glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		large cylindrical jar	3	1	49		BS		int & ext glaze	17th to 18th
5729	LHUM	Late Humber-type ware		jar	1	1	5		BS		int & ext glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		jar ?	1	1	3		BS		int & ext glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		jar ?	1	1	4		BS		int glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		jar	1	1	10		BS		int & ext glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		very large cylindrical jar	1	1	32		BS		int & ext glaze;burnt	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		large cylindrical jar	4	1	64		BS		int & ext glaze;abraded	17th to 18th
5729	LHUM	Late Humber-type ware		large bowl	1	1	35		BS		abraded;int glaze	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		large jar	1	1	18		BS		int & ext glaze;incised shoulder grooves	Mid-16th to 18th
5729	LHUM	Late Humber-type ware		large bowl	3	1	77		rim & BS		abraded;thick int glaze	late 16th to 18th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
5729	LHUM	Late Humber-type ware		jar/bowl	1	1	15		BS		int glaze	mid-16th to 18th
5729	LHUM	Late Humber-type ware		jar/bowl	1	1	15		BS		int & ext glaze;abraded	mid-16th to 18th
5729	LHUM	Late Humber-type ware		large cylindrcal jar	2	1	54		BS		int & ext glaze;shoulder grooves	17th to 18th
5729	LHUM	Late Humber-type ware		large cylindrcal jar	1	1	31		BS		int & ext glaze	17th to 18th
5729	LHUM	Late Humber-type ware		large bowl	1	1	29		BS		int glaze	mid-16th to 18th
5729	LHUM	Late Humber-type ware		jar	1	1	10		BS		int & ext glaze	mid-16th to 18th
5729	SLIP	Unidentified slipware	coarse light orange	large press moulded dish	1	1	30	brown & tan trailed & feathered on yellow	BS		Yorks	late 17th to 18th
5729	SLIP	Unidentified slipware	fine red sandy	press moulded dish	5	1	41	brown & tan trailed on yellow	BS		Yorks	late 17th to 18th
5729	STMO	Staffordshire/Bristol mottled-glazed		cup	3	1	32		base		int & ext glaze;soot on underside	late 17th to 18th
5729	STMO	Staffordshire/Bristol mottled-glazed		small bowl	1	1	10		rim		int & ext	late 17th to 18th
5729	STMO	Staffordshire/Bristol mottled-glazed		cup	1	1	8		BS		int & ext	late 17th to 18th
5729	SWSG	Staffordshire White Saltglazed stoneware		small plate ?	1	1	2		base		footring base	early/mid-to mid-18th ?

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
5729	SWSG	Staffordshire White Saltglazed stoneware		small dish	1	1	6		base		footring base	early/mid-to mid-18th ?
5729	TGW	Tin-glazed ware		small plate	1	1	5	int blue painted	rim			17th to 18th
5729	TGW	Tin-glazed ware		small hollow	1	1	1		BS			17th to 18th
subsoil	EYQC	East Yorkshire Quartz and Chalk tempered		?	1	1	3		BS		abraded	mid-12th to 13th
subsoil	RLSAX	Roman or Late Saxon	dark R/OX/R/OX/dark R;fine sandy	small bowl	1	1	9		rim		inturned rim	Roman or Late Saxon
u/s	HUM	Humberware		small jug	1	1	20		handle		oval rod handle	late 13th to mid-16th
u/s	HUM	Humberware		jug	1	1	17		BS		shoulder grooves	late 13th to 14th
u/s	LIM	Oolitic limestone-tempered fabrics		jar/bowl	1	1	36		BS		ext semi burnished;part leached int surface;fabric incl sandstone & comm carbonised vegetal	5th to mid-9th
u/s	RQOOL	Rounded Quartz and Oolite		jar/bowl	1	1	16		BS		smoothed ext surface	5th to mid-9th
u/s	RQOOL	Rounded Quartz and Oolite		jar/bowl	1	1	29		BS		semi burnished ext & int	5th to mid-9th
u/s	SST	Early to mid-Saxon sandstone-tempered		jar/bowl	1	1	14		BS		ext wiped surface;fabric incl fine quartz moderate to comm aggregated	5th to mid-9th

Context	CName	Full Name	Sub-fabric	Form type	Sherds	Vesseks	Weight	Decoration	Part	Ref No	Description	Date
											grains incl fe cemented & occ ca	
u/s	SSTMG	Early to mid- Saxon sandstone- tempered (carboniferous sandstone)		jar/bowl	1	1	9		base		fabric incl comm carbonised vegetal	5th to mid-9th

Appendix 5: Radiocarbon results

RADIOCARBON DATING CERTIFICATE

20 July 2018

Laboratory Code SUERC-80842 (GU48312)

Submitter Zoe Horn
Archaeological Services WYAS
PO Box 30, Nephshaw Lane South
Morley
Leeds, LS27 0UG

Site Reference Brough South BRO17
Context Reference (5096)
Sample Reference 6

Material Nutshell : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -26.0 ‰

Radiocarbon Age BP 3525 \pm 25

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

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

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

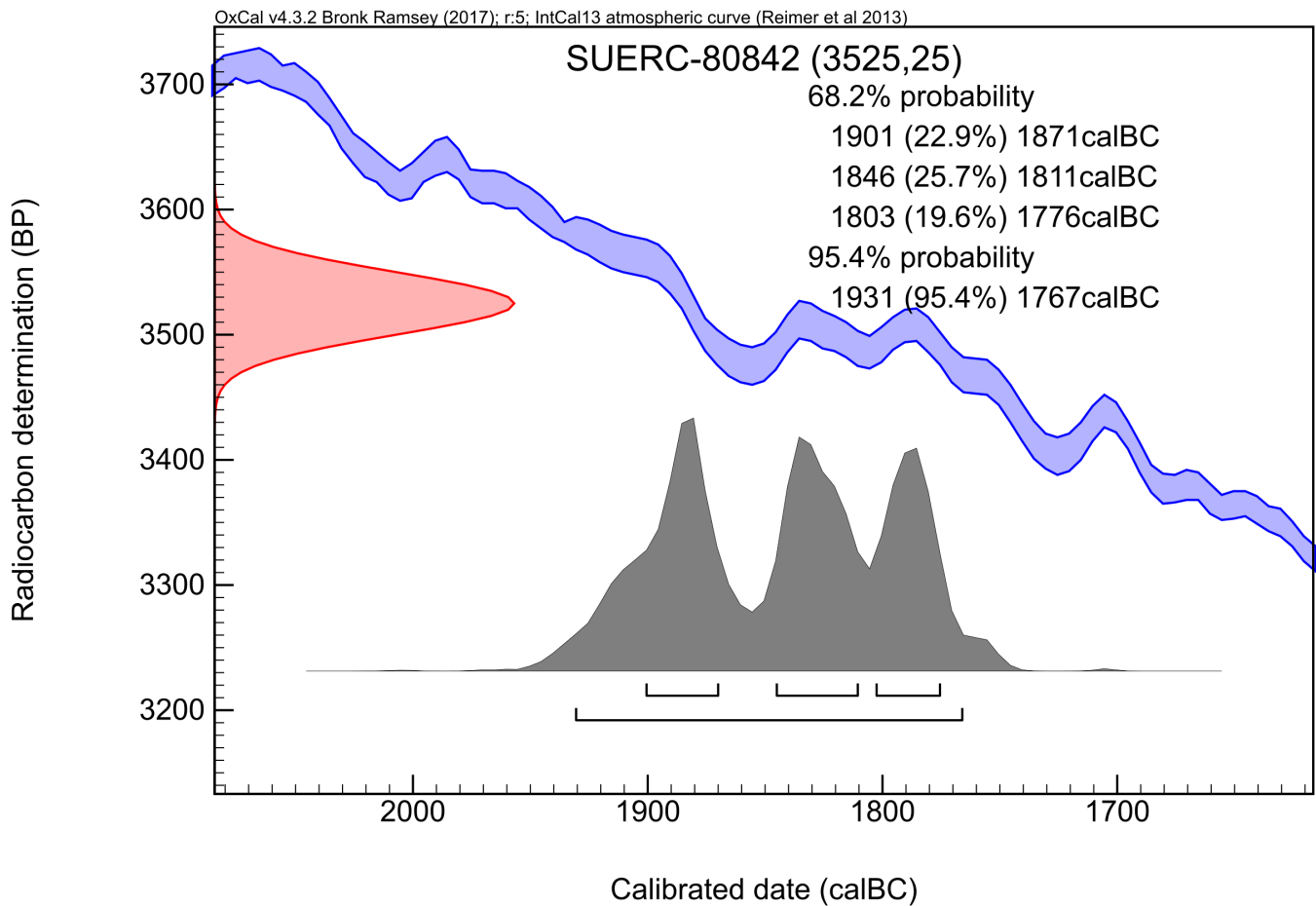
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Naynab



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

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

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

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

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



Scottish Universities Environmental Research Centre

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc



RADIOCARBON DATING CERTIFICATE

20 July 2018

Laboratory Code GU48313

Submitter Zoe Horn
Archaeological Services WYAS
PO Box 30, Nephshaw Lane South
Morley
Leeds, LS27 0UG

Site Reference Brough South BRO17
Context Reference (5404)

Material Dog bone : RHJ ulna

Result Failed due to insufficient carbon.

N.B. Any questions directed to the laboratory should quote the GU coding given above.

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

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

Checked and signed off by :

P. Nayant



The University of Glasgow, charity number SC004401



The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336

RADIOCARBON DATING CERTIFICATE

20 July 2018

Laboratory Code SUERC-80843 (GU48314)

Submitter Zoe Horn
Archaeological Services WYAS
PO Box 30, Nepshaw Lane South
Morley
Leeds, LS27 0UG

Site Reference Brough South BRO17

Context Reference (5558)

Material Horse bone : PHI

$\delta^{13}\text{C}$ relative to VPDB -22.3 ‰

$\delta^{15}\text{N}$ relative to air 5.2 ‰

C/N ratio (Molar) 3.2

Radiocarbon Age BP 174 \pm 25

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

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

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

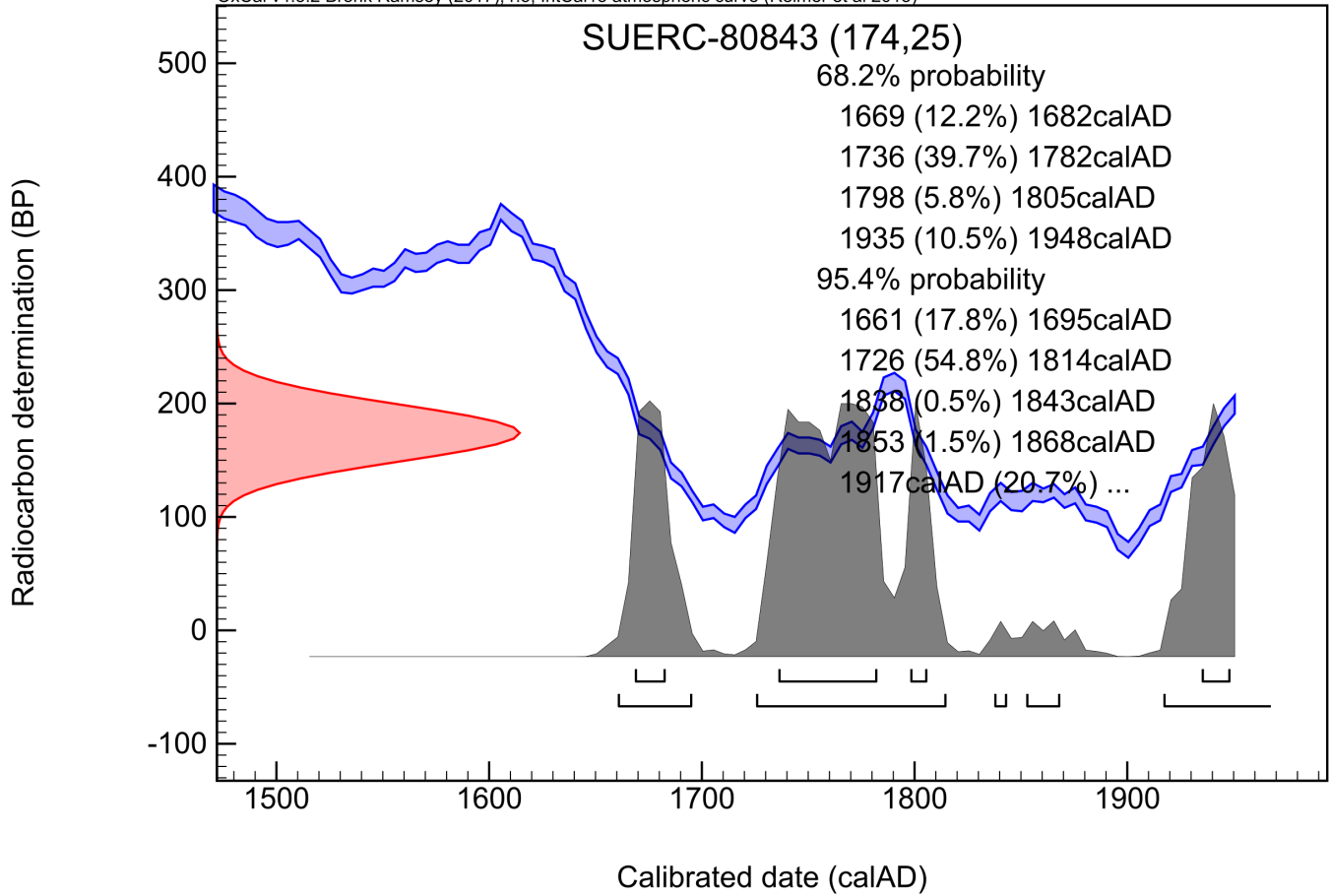
For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

E. Dunbar

Checked and signed off by :

P. Nayantub



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

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

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

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

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

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