



Stonebridge House and Sunnyside, Tickhill, South Yorkshire

Archaeological Investigations Assessment Report





**STONEBRIDGE HOUSE AND SUNNYSIDE,
TICKHILL, SOUTH YORKSHIRE**

Archaeological Investigations

Assessment Report

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**STONEBRIDGE HOUSE AND SUNNYSIDE,
TICKHILL, SOUTH YORKSHIRE**

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**STONEBRIDGE HOUSE AND SUNNYSIDE,
TICKHILL, SOUTH YORKSHIRE****Archaeological Investigations
Assessment Report****Summary**

Wessex Archaeology Ltd was commissioned by Mr Andrew Watson to prepare an assessment report on archaeological investigations carried out by ARCUS at Stonebridge House and Sunnyside, Tickhill, NGR SK 5908 9276.

The excavations took place in 2008 and comprised five evaluation trenches and two mitigation areas. Archaeological preservation on site was poor with all of the surviving features heavily truncated.

The earliest activity at the Site dated to the 13th/14th centuries and comprised a sequence of layers, two ditches and a pit. Most of these features were too truncated to allow coherent interpretation, but a moderate quantity of pottery and animal bone was recovered. The animal bone assemblage included cattle horn cores indicative of tanning activity at the Site.

A second sub-phase of medieval activity comprised nine heavily truncated pits dated to the 14th/15th centuries. The pits are interpreted as eight clay-lined tanning pits and a probable limekiln. Seven of the eight tanning pits lay in a closely spaced line, with a ninth, smaller pit offset at one end. Each pit was lined with clay to form a watertight barrier and would have originally contained a wooden structure, tub or barrel.

The majority of the pottery recovered from the Site is of medieval date and the spot dates for pottery-producing contexts correlate well with the stratigraphic evidence to indicate two phases of medieval activity. The medieval animal bone assemblage includes the remains of cattle, sheep/goat, pig, horse, dog, cat and roe deer. Two thirds of the bones are cattle horn cores and provide clear evidence of tanning during both of the medieval sub-phases of activity.

Although tanning appears to have been carried out on the Site since the 13th/14th centuries, stratigraphic and animal bone evidence indicates that this industry was scaled up significantly in the 14th/15th centuries.

The results are of local significance and further analysis of the pottery assemblage and additional documentary research are proposed in order to refine the dates of the medieval phases of activity and to better understand the historical and archaeological context of the Site. It is proposed that the results be prepared for publication in the *Yorkshire Archaeological Journal*.

The site archive and finds are currently stored at Wessex Archaeology's Sheffield office. It is proposed that, upon completion of the recommended further analysis and publication, the complete archive is deposited with Doncaster Museum Service under accession code DONMG:2009:56.

**STONEBRIDGE HOUSE AND SUNNYSIDE,
TICKHILL, SOUTH YORKSHIRE**

**Archaeological Investigations
Assessment Report**

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The project was managed for Wessex Archaeology by Andrea Burgess. The report was researched and compiled by Justin Wiles and Andrea Burgess with contributions from Lorraine Mephram, Chris Cumberpatch, Oliver Jessop and Lorrain Higbee. The illustrations were prepared by Chris Swales.

Wessex Archaeology is also grateful to Ian Roberts of Archaeological Services WYAS for permission to reproduce a plan of the excavations at Jubilee Place, Pontefract as Figure 5 of this report.

**STONEBRIDGE HOUSE AND SUNNYSIDE,
TICKHILL, SOUTH YORKSHIRE****Archaeological Investigations
Assessment Report****1 INTRODUCTION****1.1 Project Background**

- 1.1.1 Wessex Archaeology Ltd was commissioned by Mr Andrew Watson to prepare a report on the results of archaeological investigations at a residential development site in Tickhill, South Yorkshire (hereafter 'the Site').
- 1.1.2 A planning application for the development of the Site was approved by Doncaster Metropolitan District Council subject to a number of conditions, including a requirement for archaeological investigation and recording (planning ref. 07/04026/FUL).
- 1.1.3 Five evaluation trenches were excavated in August 2008 (ARCUS 2008b) and further detailed excavation and a watching brief were carried out by ARCUS in September and November 2008. The fieldwork was carried out but the required post-excavation assessment report had not been completed when ARCUS ceased trading in 2009.

1.2 Site Description, Topography and Geology

- 1.2.1 The Site is centred on NGR SK 5908 9276 and is located within the town of Tickhill, 300m west of Tickhill Castle (**Figure 1**). The site is bounded by Paper Mill Dyke to the north, a road known as Lindrick to the south, Bower's Walk to the east and private housing to the west. It lies within the Tickhill Conservation Area and is adjacent to Wildflower Meadow, which is included in the Open Spaces Policy Area identified in the Doncaster Unitary Development Plan.
- 1.2.2 The underlying geology is comprised of Lower Magnesian Limestone with alluvial deposits to the south of the Site and Upper Permian Marl to the north.

1.3 Scope and Limitations

- 1.3.1 The archaeological archive available for assessment is incomplete; some site plans, sections, context sheets, samples and photos are missing and could not be located at the former ARCUS premises or the University of Sheffield stores. The digital archive includes an incomplete set of scanned site drawings and digital photographs. This assessment report has therefore been compiled using the available records, the interim report and the finds, enhanced by the addition of finds assessments, stratigraphic analysis and documentary research by Wessex Archaeology.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 This section summarises the known archaeological and historical background of the Site and surrounding area prior to the commencement of excavations. A detailed account of the history and development of the Site is presented in an earlier desk based assessment (ARCUS 2005), which is summarised below.

2.2 Prehistoric to Early Medieval

2.2.1 There is little evidence for occupation at Tickhill prior to the medieval period. A scatter of Romano-British pottery and two areas of cropmarks, possibly Romano-British enclosures, have been identified 0.6km south-west of the Site. There is no evidence of occupation at Tickhill during the early medieval period and the settlement is not mentioned in the AD 1086 Domesday Survey.

2.3 Medieval

2.3.1 Tickhill is first mentioned in an AD 1109-1119 cartulary at Nostell Priory. An important medieval settlement developed after the construction of a castle in the late 11th century. The Norman castle underwent several stages of development including the construction of a stone keep between 1178 and 1182, and was subject to a number of sieges throughout the medieval period. The settlement initially developed just to the west of the castle on Castlegate and spread northwards along the road.

2.3.2 Tickhill became an important medieval town: an Augustinian friary and St Leonard's Hospital for lepers were founded in 1225 and St Mary's Church also dates to the 13th century. The town was considered wealthy and its merchants were present at a parliament held by Edward I in 1295. By 1334 Tickhill was the second wealthiest town in South Yorkshire (Hey 1979, 51).

2.3.3 A number of medieval coins have been found in the vicinity of the Site, including a halfpenny of Robert II of Scotland (1371-1390) found at Lindrick Close to the south of the Site, and a hoard of 375 Henry III silver pennies found in at Sunderland Street, to the northeast. John of Gaunt, duke of Lancaster, held the town from 1373–1399.

2.4 Post-medieval

2.4.1 Tickhill appears to have declined in the late and early post-medieval periods, being described in 1540 as a 'bare town' (John Leyland, quoted in Beastall 1995).

2.4.2 The Site lay within an enclosure called Dam Close in 1724 (Sandbeck Estate plan), indicating a mill and dam nearby. The Site itself appears to have been pasture. The First Edition Ordnance Survey map of 1854 shows the Site as an open grassed plot, and the earliest building to appear is Sunnyside Cottage, which is shown on the 1894 Ordnance Survey map; this was originally an agricultural building, most likely a cattle shed, which was later converted into a dwelling/workshop (ARCUS 2008d). Stonebridge House was built in the 1970s.

3 THE AIMS OF THE INVESTIGATIONS

3.1 Evaluation Aims

- To determine the extent, condition, character, importance and date of any archaeological remains present;
- To provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made;
- To provide information to inform the South Yorkshire Archaeology Service as to the requirement for further archaeological mitigation for the site;
- To determine if earlier archaeological features survive under the former buildings.

3.2 Mitigation Aims

- To achieve 'preservation by record' of any archaeological deposits and their sequence, surviving in targeted mitigation areas 1 and 2.
- To further investigate possible features identified in the evaluation trial trenching.
- To elucidate on the character and date of features identified during initial evaluation works, particularly relating to the medieval settlement of Tickhill.
- To provide information that will enable the remains to be placed within their local, regional, and national.
- To inform decision on the need for and methodologies to be used for any further archaeological works, if required.
- To collate all phases of investigation into an overall picture of the site incorporating recommendations for further work.

4 METHODOLOGY

4.1 Trenching Strategies

4.1.1 Five evaluation trenches were excavated (**Figures 1 and 2**).

- | | |
|----------|---|
| Trench 1 | A 100m x 2m trench within a proposed haul road. |
| Trench 2 | A 10m x 2m trench across a proposed haul road. |
| Trench 3 | A 10m x 2m trench within the former footprint of Sunnyside Cottage. |
| Trench 4 | A 10m x 2m trench in an area stripped during the demolition of Sunnyside Cottage. |
| Trench 5 | A 10m x 2m trench within the proposed development footprint. |

4.1.2 Following the evaluation, two areas were identified for detailed excavation to mitigate the loss of archaeological remains during construction.

Area 1 Expanded upon the investigations undertaken in Trench 3.
The area comprised c.375m².

Area 2 Expanded upon the investigations undertaken in Trench 5.
The area comprised c.320m².

4.1.3 In addition, a watching brief was carried out during the demolition of Stonebridge House.

4.2 Excavation Methods

4.2.1 The evaluation and excavation were each carried out in accordance with a Project Design detailing the methodology for the work (ARCUS 2008a, 2008c).

4.2.2 Machine excavation was carried out under the supervision of an archaeologist and was halted at the top of the first archaeological horizon, prior to hand cleaning, recording and targeted excavation. Sufficient excavation was undertaken to meet the objectives of the project.

4.2.3 All archaeological contexts were recorded and a written, drawn and photographic record of all archaeological deposits and structures was made in accordance with then current guidelines and best archaeological practice.

5 RESULTS

5.1 Introduction

5.1.1 This section presents the results of the investigations in Trenches 1-5 and Areas 1 and 2; no significant archaeological features were recorded during the watching brief. The identified archaeological features and deposits represent three broad phases of activity at the Site.

- Phase 1: medieval
- Phase 2: post-medieval
- Phase 3: modern

5.1.2 The quality and type of surviving archaeological deposits and features varied dramatically across the Site and all of the Phase 1 features were recorded in Trenches 3 and 5 and Area 1. The results are summarised below by phase, and tabulated in **Appendix 1**.

5.2 Phase 1a: Medieval Tannery

5.2.1 The earliest archaeological remains at the Site are a series of deposits and levelling layers recorded in Trench 3 and Area 1, e.g. **304, 305, 308, 313, 318, 1022, 1028** and **1029** (not illustrated) and **1043** (**Figure 4**). Many of

these deposits contained animal bone and pottery assemblages dating to the 13th/14th centuries.

- 5.2.2 Pit **301** and Ditch **340** were identified in Trench 3 (**Figure 2**), cut into the levelling deposits described above. The single pit fill (**302**; not illustrated) contained 13th century pottery and a fragment of animal bone. Ditch **505** was identified in Trench 5 (**Figure 2**) and its uppermost fill (**507**; not illustrated) also contained 13th century pottery and animal bone. The pottery dates suggest that these features relate to Phase 1a rather than Phase 1b.

5.3 Phase 1b: Medieval Tannery

- 5.3.1 A group of nine heavily truncated pits were cut into the levelling deposits in Area 1 (**Figures 2, 3 and 4; Plate 1**). Seven of the pits lay in a line aligned east-west (**Pits 2-7, 9**). All were lined with clay and, despite being severely truncated, contained large quantities of cattle horn core and crushed lime, deposits commonly associated with the tanning industry. To the north of the line was a probable limekiln (**Pit 1**) and to the south was a smaller tanning pit (**Pit 8**).

Pit 1 – Limekiln (Figure 4)

- 5.3.2 **Pit 1** was the largest in the group at 6m long, 2.5m wide and 0.6m deep. A uniform upper fill (**1027**) overlay a grey clay fill (**1001**) at the eastern end of the pit and a series of silt and clay deposits (**1061-1064**; not illustrated) at the western end. These deposits contained cattle horn cores and pottery, and a large fragment of a limestone trough was recovered from primary fill **1064** (see section 6.5 below).

Pits 2, 3, 4, 5, 6, 7 and 9 – Tanning Pits (Figures 3 and 4)

- 5.3.3 Seven tanning pits lay in a closely spaced linear group. All were approximately circular in plan but varied in size from 1m to 2m in diameter. The upper levels of the pits had been severely truncated, leaving only the lowest 0.25m to 0.05m of the pits and fills *in situ*. All had flat bases and vertical sides and were lined with white-grey clay that was darker in colour towards the external surfaces. A thin, black deposit overlay the clay lining in each of the pits. The subsequent fills varied slightly within the group and probably relate to episodes of backfilling rather than the use of the pits.
- 5.3.4 Notwithstanding the similarities described above, the structure of **Pits 4, 6 and 7** clearly suggested a different function to the other pits in the group. In these the basal clay lining was indented with a ring around the edge and a central groove that divided each pit into two equal halves; for example **1057** in **Pit 4** (**Figures 3 and 4**).
- 5.3.5 Artefact recovery was limited by the shallowness of the surviving features: a sherd of 15th to early 16th century pottery was recovered from the clay lining of **Pit 6** (**1046; Figure 3**) and a sherd of medieval shell-tempered pottery from **Pit 9** (**1036**; not illustrated). The upper fills of **Pits 6 and 7** contained limestone fragments.

Pit 8 – Tanning Pit (Figure 4)

- 5.3.6 This pit was not part of the linear group and, with a diameter of 0.42m, was notably smaller than the other pits. It also contained a white-grey clay lining and a backfill deposit.

5.4 Phase 2: Post-medieval Dwelling

- 5.4.1 All of the Phase 2 activity probably relates to the construction and occupation of Sunnyside Cottage in the late 19th century. This includes buried soils in Trench 5 and service pipes in Trench 3 (not illustrated).

5.5 Phase 3: Modern Dwelling

- 5.5.1 The final phase of activity includes buried soils and services (e.g. **103**, **108**, and **114**; **Figure 2**) and other features associated with Stonebridge House which was built in the late 20th century. This phase also includes deposits created during the recent demolition of Sunnyside Cottage and Stonebridge House.

6 FINDS

6.1 Pottery from Trenches 1 to 5 (Dr Chris Cumberpatch)

- 6.1.1 The pottery assemblage consisted of a substantial medieval element with smaller groups of 18th and 19th century pottery and is summarised in **Table 1 (Appendix 2)**.
- 6.1.2 The latest contexts appeared to be **212** and **1012** which produced pottery of mid to late 19th century date (with one small sherd of earlier Edged ware from context **1012**). The sherds of pottery from context **400** may be of a similar date but were not in themselves sufficiently chronologically diagnostic for this to be certain. The pottery from context **503** was somewhat earlier, most probably of early to mid 18th century date.
- 6.1.3 The greater part of the assemblage was of medieval date and the principal elements were Doncaster Hallgate wares, notably Hallgate A and Hallgate B (Buckland *et al.* 1979) and Doncaster Reduced Sandy wares together with Shell Tempered wares from Lincolnshire. Other elements included Fine Coal Measures wares and some other possible non-local wares, specifically a jug rim from context **313** and body sherds from context **311** which most probably originated from Lincoln or, more likely, Nottingham. The origin of the Reduced Sandy wares (**310** and **507**) is uncertain as is that of a sherd of medieval Whiteware from an unstratified context. They are most probably regional imports and are not of European origin.
- 6.1.4 The combination of Hallgate A and B wares in the same context is one that is common in Doncaster and is generally held to indicate the presence of residual 12th century pottery (Hallgate B) in contexts of 13th century date (as indicated by the presence of Hallgate A ware), following the chronological scheme presented by Buckland *et al.* (1979). In the absence of any evidence to the contrary, the same conclusion is suggested here although this is

something that should be revisited and re-examined as part of a full report on the pottery from the Site.

- 6.1.5 Shell Tempered wares are a regular and significant element in assemblages from Doncaster and the evidence from this assemblage suggests that the same was true in Tickhill.
- 6.1.6 Outside Doncaster, the best parallel for the Tickhill assemblage is probably Laughton-en-le-Morthen (Cumberpatch 2006), although with the important *caveat* that there is no evidence of late Saxon pottery in the Tickhill assemblage. It contrasts with the assemblage from Wellgate, Conisbrough (Cumberpatch 2003) in that it includes Hallgate A ware and, with the exception of a sherd of questionable type from context **304**, does not include any Hallgate C ware. It is most probably later in date than the medieval phases of the Wellgate site.
- 6.1.7 Later medieval pottery was rare and was limited to a sherd of Coal Measures Whiteware from context **307**. The sherds of Coal Measures Fineware from contexts **304** and **307** are most probably of 14th century date, contemporary with the Coal Measures Whitewares, although a slightly earlier date for this type of pottery is not beyond the bounds of possibility and it could belong to the latter part of the 13th century.

6.2 Pottery from Areas 1 and 2 (Dr Chris Cumberpatch)

- 6.2.1 The excavation assemblage (summarised in **Table 2** in **Appendix 2**) was almost entirely of medieval date with single sherds of 17th to early 18th century slipware, 19th century Sponged and a small piece of transfer printed Whiteware present only in an unstratified group. Amongst the stratified finds, local Doncaster wares and Coal Measures wares from the Don valley predominated but the assemblage also included a significant Shell Tempered ware component and a number of sherds of unidentified Whitewares which were not of local manufacture. An origin in Nottinghamshire or the Vale of York is likely but further work is required to identify specific parallels.
- 6.2.2 The Doncaster wares included sherds of three Hallgate types, Hallgate A, B and C (Buckland *et al* 1979). The presence of Hallgate A and B is to be expected as these wares have a wide distribution and were also present in the assemblage from Trenches 1-5. The presence of Hallgate C is of particular interest as this type is rare outside Hallgate itself, even elsewhere in Doncaster (Cumberpatch in prep) and it may indicate a late 11th century date for activity on the Site.
- 6.2.3 The Coal Measures wares included the common late medieval Coal Measures Purple type dating to the 15th and 16th centuries (contexts **1061**, **1064** and unstratified), but finer and earlier Coal Measures type wares were somewhat commoner (contexts **1001**, **1022**, **1025** and **1064**). An unidentified group of Buff Sandy wares may also be the product of potteries located on or close to the Coal Measures clay deposits, but were not of the typical Coal Measures type as defined elsewhere (Hayfield and Buckland 1989, Cumberpatch 2004). These wares were particularly prominent in context **1022** but were also present in contexts **1064** and **1025**. Further work is required to identify parallels for these sherds.

- 6.2.4 Later medieval pottery was limited to the Coal Measures Purple ware mentioned above and to a sherd of Humberware from context **1004**.

6.3 Clay Tobacco Pipe (Lorraine Mephram)

- 6.3.1 Three fragments of clay tobacco pipe were recovered, from contexts **115**, **503** and **1012** respectively. All are small, plain stem fragments, which cannot be dated more closely within the post-medieval period. The only comment that can be made is that none of them are of the characteristic wide bore common prior to the 18th century.

6.4 Animal Bone (Lorrain Higbee)

Introduction

- 6.4.1 The assemblage comprises 165 fragments of hand-recovered animal bone, c.55% of which is identifiable to species and skeletal element (**Table 3**, **Appendix 2**). Most (87%) of the identified bones are from medieval deposits. The remaining 13% of identified fragments are from modern layers (i.e. topsoil and subsoil) or are unstratified finds.
- 6.4.2 Bone preservation is generally good to fair and only four bones were recovered with the characteristic marks indicative of carnivore gnawing. This suggests that the majority of bone deposited at the site was rapidly buried and scavenging carnivores did not have access to the accumulating bone waste.

The medieval assemblage

- 6.4.3 The following species have been identified from the medieval assemblage; cattle, sheep/goat, pig, horse, dog, cat and roe deer. Bones from cattle predominate (71% NISP) and there is a strong bias in the representation of different skeletal elements. Horn cores account for 66% of skeletal elements from medieval deposits and most of the fragments in the large mammal category are small pieces of broken horn core or skull. The evidence indicates that tanning activity that was taking place on the Site during the 14th/15th century (Phase 1b) however, the presence of a few horn cores from 13th/14th century (Phase 1a) deposits suggests that the industry might have been established prior to this, although on a much smaller-scale.
- 6.4.4 Cattle horn cores are sexually dimorphic and differences in the size and shape of the basal section can allow bulls to be separated from cows. Summary descriptive statistics indicate that there is considerable variation in the size of the horn cores (**Table 4**, **Appendix 2**). The standard deviation and coefficient of variance for the three basal measurements are relatively high and this suggests that both sexes are represented in the sample of horn cores. A plot of the measurements (**Table 5**, **Appendix 2**) confirms the size and shape variation suggested by the summary statistics. The progression is linear and appears to separate out into two, possibly three distinct clusters. The third, intermediate cluster between small cows and large bulls could represent male castrates. Grooves were noted on a small number of horn cores and this is thought to be a characteristic that develops as a result of castration (Sykes and Symmons 2007; Luff 1994). It was also noted that a number of the broken horn cores assigned to the large mammal

category were also grooved, these fragments were also large and thin walled, and all of these characteristics confirm the presence of castrates.

- 6.4.5 The medieval assemblage is dominated by bone waste from the processing of cattle hides. The parietal part of the skull, which includes the horns were usually left attached to skins that were sold on to tanners. It is generally accepted that the horns were used to assess the age of the animal and therefore the quality of the leather that could be produced. This in turn determined the price that a tanner was prepared to pay for his raw materials (see Albarella 2003; Serjeantson 1989; Shaw 1996).
- 6.4.6 Medieval tanners sometimes processed the carcasses (e.g. for dog food) and hides of casualty animals such as old horses, which would explain why horse is the second most common species in the assemblage. Other evidence in support of this includes skinning marks on a fragmented horse skull from layer **308**. The bones from the other species are taken to represent domestic food waste.

The modern and unstratified assemblages

- 6.4.7 Six bones were identified from modern contexts; these include two cattle teeth, a sheep/goat metacarpal, horse first phalanx and two duck bones, a tibiotarsus and tarsometatarsus.
- 6.4.8 The unstratified group includes four horse bones, a cattle mandible and a goat horn core. The general character of this group suggests that some or all of this material relates to the medieval tanning activity.

Conclusions

- 6.4.9 Assessment of the animal bone assemblage has confirmed that it is mostly waste from a heavy tanning industry that operated at the site during the 14th/15th century (Phase 1b). The evidence suggests that the industry is likely to have grown from an earlier but smaller-scale operation (Phase 1a) on the same site. In addition to cattle hides, the carcasses of casualty animals (i.e. horses) were also processed at the site.

6.5 Worked Stone (Oliver Jessop)

- 6.5.1 A single fragment of worked stone was recovered from the excavations. It was found within context **1064**, representing a sealed deposit at the base of Pit 1.
- 6.5.2 The stone fragment is crudely carved from a single block of cream coloured shelly limestone. It represents a corner of a square, or rectangular stone trough, or basin. It measures 24cm in height, with maximum surviving dimensions for the sides of the fragment measuring 33cm x 21cm. The external sides and base form flat edges, cut at right angles to one another. There is a curved inner face, comprising a series of irregular shaped groves that are crudely formed. The thickness of the top edge of the stone is 6cm. The fragment weighs 11kg.
- 6.5.3 The stone object is interpreted as part of a trough of unknown function, although it is likely to have held a liquid. No further work is recommended.

7 STATEMENT OF POTENTIAL

7.1 Summary

7.1.1 Prior to the recent archaeological excavations little was known about the Site; the earliest recorded structure was Sunnyside Cottage built in the later 19th century. Five trenches were investigated in the evaluation, placed in areas where the proposed redevelopment would have the greatest impact upon any surviving archaeology. Following this two larger areas were targeted on the areas of greatest archaeological interest in order to mitigate the impact of development.

7.1.2 Three broad phases of activity have been identified based on stratigraphic and artefactual evidence. Phase 1 is medieval in date and comprises two sub-phases of activity. The levelling deposits and shallow ditches and pit of Phase 1a are dated to the 13th/14th centuries from pottery evidence, although the cut features post-date the levelling deposits stratigraphically. Phase 1b comprises a series of clay-lined tanning pits and a limekiln which appear to date to the 14th/15th centuries. The animal bone assemblage indicates some tanning activity on the Site in Phase 1a but the majority of the faunal evidence for tanning relates to Phase 1b. A brief outline of medieval tanning processes is presented below for information (**Section 7.2**) followed by a discussion of the archaeological data by phase (**Section 7.3**).

7.2 Historic Context: The Tanning Process

7.2.1 Medieval and post-medieval tanning processes have been described in detail in several previous reports and the description below has been based upon these (see Thomson 1981; Shaw 1996; and Chadwick *et al.* 2008).

7.2.2 During the medieval period leather manufacture was split into two distinct varieties. Cow or horse hides were processed at tanneries to produce 'heavy' leather for the manufacture of shoes, saddles, belts and other hard wearing items whilst tawyers, or whittawyers, processed 'light' leather from smaller animals such as sheep, goats and even dogs for the production of gloves and parchment. The separation of these two industries was formalised in the 14th century (Thomson 1981).

7.2.3 Cattle hides for tanning were usually bought from butchers with their horns and hooves still attached. A tanner's first job was therefore to trim off these parts. The horns were frequently used in horn working and the hooves were either disposed of or possibly used to produce Neatsfoot oil, used to soften leather. Once the appendages were removed from the hide it was washed, normally in clean running water, to remove blood and dung. The hair was then removed. This could be done in two ways, the first was to fold the hide in half and sprinkle urine over the hair surface to accelerate putrefaction. The second method was to immerse the hide in an alkaline solution such as lime to loosen the hairs. The hide was then spread over a wooden frame and both sides scraped with curved two handled knives to remove hair, fat and flesh.

7.2.4 It was common for the hide to be immersed in lime a second time to further open the skin structure before scraping with a blunt knife. The hide was

again washed and treated with either an acidic mixture of used tanning liquors, waste vegetable matter and stale beer, urine or fragments of rotting hide, or a warm alkaline infusion of bird or dog faeces. Both of these treatments cleaned the hide structure and removed excess lime. The hides were washed again and worked with a scudding slate to make the leather supple.

- 7.2.5 The first stage of the actual tanning process was to immerse the leather in a pit containing used tanning liquors to produce a uniform surface colour. Once this was achieved the leather was moved to another pit and stacked between layers of ground oak bark for up to a year. The hides were then rinsed and smoothed out before being examined, certified and finally sold.
- 7.2.6 The 'light' leather pre-tanning processes were similar to those used by the tanner. Once these stages were complete the skins had a mixture containing alum, egg yolks, butter, oatmeal, olive oil and flour worked into them (Thomson 1981). After this they were stretched out flat and piled overnight. The following day the skins were worked again and hung to dry. The leather was then softened using a series of blunt blades, dyed and hung to dry.

7.3 Discussion and Interpretation of the Archaeological Data

Phase 1a: Medieval tannery (13th/14th centuries)

- 7.3.1 The earliest activity at the Site probably dates to the 13th/14th centuries and comprises a sequence of layers, two ditches and a pit. Most of these features were too truncated to allow coherent interpretation, but the animal bone assemblage included a small number of horn cores which suggests that hide-processing was taking place on Site at this time.

Phase 1b: Medieval tannery (14th/15th centuries)

- 7.3.2 Nine heavily truncated pits, also dating to the medieval period, had been cut through the Phase 1a deposits and therefore form a separate sub-phase of activity which probably dates to the 14th/15th centuries. The pits are interpreted as eight clay-lined tanning pits (**Pits 2-9**) and a probable limekiln (**Pit 1**).
- 7.3.3 Seven of the eight tanning pits (**Pits 2-9**) were positioned in a closely spaced line, with **Pit 8** offset at one end. Each pit was lined with clay to form a watertight barrier and would have originally contained a wooden structure, tub or barrel. The clay linings were light grey in colour, becoming darker towards the surface which had been in contact with the contents of the pit. Such a reaction may be caused by contact with alkaline substances such as quicklime. Impressions in the bases of three of the pits (**Pits 4, 6 and 7**) indicate that they had been divided into two halves. Evidence from other tanneries (Shaw 1996) suggests that this may result from the insertion of a wooden frame into the pit, to support the animal skins. Such a structure would disperse the weight of its load, reducing the risk of breaking the watertight clay seal in the pit.
- 7.3.4 The position and alignment of **Pit 1** (respecting Pits 2-9) indicates that it was contemporary with the tanning pits but its shape and form suggest a different function to the rest of the pit group. It is interpreted as a limekiln

based on comparison with a very similar feature at a medieval tannery in Jubilee Place, Pontefract, West Yorkshire (Burgess 2001). In addition to being of a similar size and shape, Pit 1 and the Pontefract limekiln occupy similar positions relative to the tanning pits (**Figure 5**). The Pontefract limekiln was fully excavated and contained a heat-affected sandstone flue in its base. No lime-burning debris, pottery, or food-processing waste was found but calcified weed seeds from one of the fills may have become mineralised by contact with lime, and lime was certainly required in the tanning process. Use of the Pontefract kiln was dated to AD 1380-1415 by archaeo-magnetic techniques (Burgess 2001).

- 7.3.5 The central part of Pit 1 was not excavated and no flue was recorded. Several of its fills contained limestone and charcoal fragments, but these were incorporated in the backfill of the pit rather than relating to its use. Pottery from Pit 1 dates its backfilling to the 15th or 16th centuries. The similarities between Pit 1 and the Pontefract limekiln are sufficient to suggest that both were built to produce lime for use in the tanning process (see **Section 7.2** above). The piece of broken limestone trough in its primary fill may reflect the use of broken limestone objects as a raw material.
- 7.3.6 The animal bone assemblage is entirely consistent with the stratigraphic evidence for tanning. The large quantity of cattle horn cores in the assemblage indicates that this was a 'heavy' tanning site making leather for shoes, saddles, belts and other hard-wearing items. Although there is evidence for low-level tanning activity at the Site during Phase 1a, the animal bone evidence indicates that this was scaled up and intensified during Phase 1b.
- 7.3.7 It is likely that the surviving remains were originally part of a larger tannery complex. Comparison with better preserved and more extensive tannery sites (e.g. Shaw 1996) suggests that additional features may have included open-sided sheds and additional rows of pits.

Phase 2: Post-medieval - Sunnyside Cottage (19th century)

- 7.3.8 The features in this phase relate to the mid to late 19th century ground preparation and construction of Sunnyside Cottage.

Phase 3: Modern - Stonebridge House (late 20th century)

- 7.3.9 This phase includes all modern features, including those relating to the construction, occupation and demolition of Stonebridge House.

7.4 Archaeological Significance

- 7.4.1 The medieval settlement at Tickhill initially developed around the Norman castle which lies approximately 250m east of the Site, and the earliest streets appear to be Castlegate and West Gate (**Figure 1**). The core of the medieval town, around Market Place and St Mary's Church, developed to the north of the castle. Pottery evidence suggests that the Site was occupied from the 13th century onwards and that some tanning was being carried out here at this time. The majority of tannery features date to the 14th or 15th centuries and appears to correspond with the height of the town's prosperity. Tanneries are typically located on the periphery of settlements,

away from residential areas, and the Site is both a suitable distance from the Market Place and close to a water source. Therefore, it may be suggested that this Site represents the southern margins of Tickhill in the 13th to 15th centuries.

7.4.2 The results of the archaeological investigations have the potential to enhance understanding of the medieval settlement at Tickhill, but the limitations in the quality of the stratigraphic data are clear. Large parts of the medieval site have been lost and consequently the quantity and quality of surviving stratigraphic, artefactual and environmental evidence is reduced. Post-medieval and modern disturbance has left only an 'island' of surviving archaeology from a once larger site and, as an example of a medieval tannery site in this region, the Site does not have the data quality of Church Way, Doncaster (Chadwick *et al.* 2008) or Jubilee Place, Pontefract (Burgess 2001). Nevertheless, the results are of local archaeological significance.

8 PROPOSALS

8.1 Introduction

8.1.1 The investigations identified and recorded a previously unknown medieval tannery site. Comparison with other similar sites in the region has enhanced interpretation and understanding of the excavated remains. The Site has poor levels of preservation but is of local archaeological significance.

8.2 Updated Project Aims

8.2.1 The aims of the investigations are outlined above. The aims of the evaluation phase of work (see **Section 3.1**) were addressed during fieldwork and led to the identification of areas suitable for detailed excavation. With the completion of this assessment report, the aims of the mitigation phase of work (see **Section 3.2**) have also been addressed. Consideration of the results of the investigations allows the following updated project aims to be proposed:

- To carry out detailed pottery analysis, examining the character of the assemblage as a whole, and prepare a full report.
- To utilise pottery and stratigraphic data to clarify the dates of the medieval phases of activity and to consider whether this activity was continuous or if a hiatus can be identified.
- To consider the Site in the context of the local/regional medieval tanning trade.
- To consider the Site in the context of the development of medieval Tickhill.
- To prepare an illustrated report for publication in the *Yorkshire Archaeological Journal*.
- To prepare the site archive and deposit it with the Doncaster Museum and Art Gallery for long term storage.

8.3 Proposals for Further Analysis of Stratigraphic Data

- 8.3.1 The combination of poor archaeological survival and loss of part of the excavation archive means that further analysis of the site records would not provide additional stratigraphic information to enhance description or interpretation of the Site. No further work is recommended.

8.4 Proposals for Further Documentary Research

- 8.4.1 Limited documentary research was carried out in order to understand the significance of the Site. Further research on the medieval history and archaeology of Tickhill would enhance our understanding of the results.

8.5 Proposals for Further Analysis of Finds

- 8.5.1 The assessment of the pottery has shown that the majority of the assemblage is medieval. Tickhill has no known medieval potteries, which may explain the presence of significant quantities of Doncaster wares and other regional imports in the assemblage. Further analysis of the pottery assemblage will enable a fuller understanding of the pottery found on site, whether it was imported, or if there is evidence of a previously unknown local pottery. It will also contribute to understanding of the medieval economy of South Yorkshire. Detailed analysis of the pottery will also seek to refine the dates of the medieval activity at the Site.
- 8.5.2 The majority of the animal bone assemblage comprises waste from the heavy tanning trade. The bone has been catalogued and interpreted and no further analysis work is recommended by the specialist.
- 8.5.3 The limestone trough fragment has been assessed and no further work is recommended by the specialist.
- 8.5.4 The clay tobacco pipe assemblage has been assessed and no further work is recommended by the specialist.

8.6 Proposed Publication

- 8.6.1 A short illustrated report will be prepared for publication in the *Yorkshire Archaeological Journal*. This will concentrate on the Phase 1 activity only and will describe the archaeological and finds evidence for the medieval tannery, identify comparable sites and summarise the medieval development of Tickhill.
- 8.6.2 Estimates of the proposed word count of each section of the article are shown below, together with illustration totals. The report will present a short synthetic narrative summarising the archaeology and will be based on the text of this Assessment Report with the results of the additional research and finds analysis incorporated as appropriate.

Report Section	Word Count	Illustrations
Introduction, project background	100	Site location & trench plan
Historical background	150	
Excavation methodology	50	
Results – overview	50	Plan of Ph1 pits, 1 B&W plate
Description of stratigraphic data	500	Section of medieval pits
Pottery analysis	500	2 finds drawings
Discussion of archaeological data	1000	
Comparable sites	250	Plan
Medieval Tickhill	750	Map
Conclusion	150	
Bibliography	500	
Acknowledgements	100	
Sub-totals	4100 (c.13 pages)	3 pages
Total		16 pages

8.7 Archive Deposition, Storage and Curation

- 8.7.1 It is proposed that the project archive will be deposited with **Doncaster Museum and Art Gallery** under the accession number **DONMG:2009.56**. Deposition of the finds with the Museum will only be carried out with the full agreement of the landowner and a written agreement regarding the ownership and curation of the finds from the evaluation and mitigation will be reached with the museum.
- 8.7.2 The complete site archive, which will include paper and photographic records, graphics, digital records and artefacts, will be prepared in accordance with national guidelines (Walker 1990; Society of Museum Archaeologist 1993; Richards and Robinson 2000; Brown 2007) and the requirements of Doncaster Museum and Art Gallery.
- 8.7.3 All archive elements will be marked with the ARCUS site codes: **887b** for the trial trenching and **887c** for the excavations.

8.8 Finds Storage

- 8.8.1 The finds are stored in perforated polythene bags in cardboard archive boxes, ordered by material type, following nationally recommended guidelines (Walker 1990).

8.9 Finds Conservation

- 8.9.1 No conservation requirements have been identified in any respect of the materials recovered from the Site.

8.10 Finds Discard Policy

- 8.10.1 Wessex Archaeology follows the guidelines set out in Selection, Retention and Dispersal (Society of Museum Archaeologists 1993), which allows for the discard of selected artefacts categories which are not considered to warrant any future analysis. However, the discard of any artefacts will be carried out only with the complete agreement of Doncaster Museum and Art Gallery.

8.11 Copyright

- 8.11.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profit making and conforms to the Copyright and Related Rights Regulations 2003.
- 8.11.2 This report and the archive generally, may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for a limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

9 RESOURCES AND PROGRAMME

9.1 Project Team

- 9.1.1 The proposed project team is presented below. The team consists of internal Wessex Archaeology staff and an external finds specialist: Wessex Archaeology reserves the right to replace any member of the named team at its discretion.
- 9.1.2 The project will be managed by Andrea Burgess BSc MIfA. Chris Moore BA MIfA (Director, Northern Region), will provide project quality monitoring.

Name	Position	Role
Andrea Burgess BSc	Project Manager	Author
James Thomson BA, MA	Archaeologist	Researcher
Chris Cumberpatch BA, PhD	Freelance ceramic specialist	Contributing author
Linda Coleman BA	Illustrator	Graphics

9.2 Task List

9.2.1 An outline task list for the proposed analysis and publication is presented below.

Task No	Task	Estimated Duration (days)	Staffing
1	Project Management		
1.1	Project management	0.25	AB
2	Research Tasks		
2.1	Research historical and archaeological medieval sites and remains	1.5	JT
2	Analysis Tasks		
2.1	Analysis of pottery	2	CC
2.2	Cross-reference pottery and archaeological data	0.5	AB
2.3	Cross-reference research and archaeological data	1	AB
3	Preparation of Text and Figures		
3.1	Preparation of text	2	AB
3.2	Preparation of illustrations and plates	1.5	LC
3.3	Preparation of pottery appendix	0.25	AB
3.4	Preparation of pottery illustrations	1	LC
3.5	QA review	0.25	CM
4	Publication		
4.1	Submission, editor's amendments, review of proofs	0.5	AB

Task No	Task	Estimated Duration (days)	Staffing
4.2	Illustration edits	0.25	LC
5	Archive Preparation and Deposition		
5.1	Preparation of archive	0.5	JT
5.2	Deposition	0.5	JT
Total Duration (days)		12 days	

9.3 Programme

- 9.3.1 The publication and archiving programme will commence on approval of the proposals by the South Yorkshire Archaeology Service. It is anticipated that, subject to instruction by the Client, the text and illustrations would be completed by the end of **April 2012**. Subject to approval from the South Yorkshire Archaeology Service, the finalised text and illustrations would be submitted to the journal editor by **June 2012** for publication the following year.
- 9.3.2 The finds and archive will be prepared and deposited with the museum on completion of the publication programme; it is anticipated that this will take place by **September 2012**.
- 9.3.3 Wessex Archaeology understands that the submission of an article to the journal editor and the deposition of the archive with the museum will represent the completion of the programme of archaeological work required by the planning condition, subject to confirmation from the South Yorkshire Archaeology Service.

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10.2 Archive Documents

Joseph Dickinson, 1724, Plan of the Sandbeck Estate.

APPENDIX 1: CONTEXT SUMMARIES

Context number	Site code	Site sub-division	Context type	Description	Site phase
1001	887b	WB	Deposit	Demolition of 1970's/80's house	3
1002	887b	WB	Cut	Cut Through Top Soil, filled by 1001	3
1003	887b	WB	Cut	Cut for house service Ceramic Pipe 1006	3
1004	887b	WB	Deposit	Limestone chip bedding for 1006	3
1005	887b	WB	Deposit	Redeposited natural, packing for 1006	3
1006	887b	WB	Structure	Ceramic service pipe in 1003	3
1007	887b	WB	Cut	Cut for ceramic service pipes 1010/11	3
1008	887b	WB	Deposit	Limestone chip bedding for 1010/11	3
1009	887b	WB	Deposit	Redeposited natural, packing for 1010/11	3
1010	887b	WB	Structure	Ceramic service pipe in 1007	3
1011	887b	WB	Structure	Ceramic service pipe in 1007 under 1010	3
1012	887b	WB	Deposit	Top soil	3
1013	887b	WB	Deposit	Sub soil	3
1014	887b	WB	Deposit	Natural Yellow Clay	-
1015	887b	WB	Deposit	Alluvial Clays, Red	-
1016	887b	WB	Deposit	Lime Chips Above Top Soil	3
1017	887b	WB	Cut	Construction Cut for New House	3
1018	887b	WB	Deposit	Poured Concrete in 1017	3
1019	887b	WB	Cut	Cut for service access	3
1020	887b	WB	Structure	Concrete service access	3
1021	887b	WB	Deposit	Grey rubble fill in 1020	3
100	887b	Trench 1	Deposit	Limestone - natural bedrock	-
101	887b	Trench 1	Deposit	Reddish brown alluvial clay	-
102	887b	Trench 1	Cut	Cut for land drain 103	3
103	887b	Trench 1	Structure	Land Drain	3
104	887b	Trench 1	Deposit	Silty fill of land drain 103	3
105	887b	Trench 1	Deposit	Buried topsoil	3
106	887b	Trench 1	Deposit	Mixed clay made ground	3
107	887b	Trench 1	Deposit	Rubble hardcore	3
108	887b	Trench 1	Cut	Cut for drain 109	3
109	887b	Trench 1	Structure	Drain	3
110	887b	Trench 1	Deposit	White limestone gravel in 108	3
111	887b	Trench 1	Deposit	Rubble backfill of 108	3
112	887b	Trench 1	Cut	Cut for earlier drain near 108	
113	887b	Trench 1	Deposit	Redeposited clay backfill of 112	
114	887b	Trench 1	Cut	Cut for electrical services SE corner of Trench 1	3
115	887b	Trench 1	Deposit	Redeposited clay backfill of 114	3
116	887b	Trench 1	Cut	Modern disturbance	3

Context number	Site code	Site sub-division	Context type	Description	Site phase
117	887b	Trench 1	Deposit	Rubble backfill of 116	3
118	887b	Trench 1	Deposit	Grey marl clay above 100	
200	887b	Trench 2b	Deposit	Yellow Magnesian Limestone - natural bedrock	-
201	887b	Trench 2	Deposit	Reddish brown alluvial clay	-
202	887b	Trench 2	Deposit	Topsoil, partially buried	3
203	887b	Trench 2b	Cut	Cut for path	3
204	887b	Trench 2b	Deposit	Lower pinkish gravel make up of path	3
205	887b	Trench 2b	Deposit	Upper white gravel make up of path	3
206	887b	Trench 2	Deposit	Hardcore rubble	3
207	887b	Trench 2a	Cut	Cut for removal of cess tank	3
208	887b	Trench 2a	Deposit	Fill of 207 - Hardcore	3
209	887b	Trench 2a	Cut	Cut for waste pipe out of cess tank	3
210	887b	Trench 2a	Structure	Plastic sheeting above pipe out of cess tank	3
211	887b	Trench 2a	Deposit	Fill of 209	3
212	887b	Trench 2a	Deposit	Layer capping 202, 211 - Ground make up	3
213	887b	Trench 2a	Deposit	Grey gravel beneath 210 - Drain packing	3
214	887b	Trench 2b	Deposit	Grey clay natural above 200	-
300	887b	Trench 3	Deposit	Yellow Magnesian Limestone - natural bedrock	-
301	887b	Trench 3	Cut	Cut into natural N end of trench	1a
302	887b	Trench 3	Deposit	Clay fill of 301	1a
303	887b	Trench 3	Cut	Tree throw	-
304	887b	Trench 3	Deposit	Dark silty clay in N section	1a
305	887b	Trench 3	Deposit	Clay at base of trench 3, over most of trench	1a
306	887b	Trench 3	Deposit	Dark clay at base SW corner	1a
307	887b	Trench 3	Deposit	Stoney clay layer above 305	1a
308	887b	Trench 3	Deposit	Orange silt layer middle of E facing section	1a
309	887b	Trench 3	Deposit	Disturbed natural limestone base of E section	-
310	887b	Trench 3	Deposit	Brown silty layer below stones	1a
311	887b	Trench 3	Deposit	Brown clay layer above 312	1a
312	887b	Trench 3	Deposit	Burnt layer in E facing section at S end of trench	1a
313	887b	Trench 3	Deposit	Clay layer towards base of E facing section	1a

Context number	Site code	Site sub-division	Context type	Description	Site phase
314	887b	Trench 3	Deposit	Heavily disturbed layer at top of N end of trench	1a
315	887b	Trench 3	Deposit	Clay towards N end of trench cut by 316	1a
316	887b	Trench 3	Cut	Cut for demolition of 1850s house	2
317	887b	Trench 3	Deposit	Demolition Rubble filling 316	2
318	887b	Trench 3	Deposit	Silty clay above 309 towards N end of trench	1a
319	887b	Trench 3	Deposit	Disturbed limestone base S end of trench	-
320	887b	Trench 3	Deposit	Clay (root disturbed) above 319	1a
321	887b	Trench 3	Deposit	Limestone (root disturbed) above 320	1a
322	887b	Trench 3	Deposit	Clay below 312	1a
323	887b	Trench 3	Deposit	Gravel above 305 w facing section	
324	887b	Trench 3	Deposit	Mortar layer in N facing section	
325	887b	Trench 3	Deposit	Sandy layer above 324	
326	887b	Trench 3	Deposit	Made ground	
327	887b	Trench 3	Cut	Root disturbance	
328	887b	Trench 3	Deposit	Fill of 327	
329	887b	Trench 3	Cut	Root disturbance N of 327	
330	887b	Trench 3	Deposit	Fill of 329	
331	887b	Trench 3	Cut	Modern cut - Possible soakaway	3
332	887b	Trench 3	Deposit	Fill of 331	
333	887b	Trench 3	Deposit	Black deposit below 310	
334	887b	Trench 3	Cut	Cut for possible stone drain	
335	887b	Trench 3	Structure	Stone drain	
336	887b	Trench 3	Deposit	Red sandy fill of 335	
337	887b	Trench 3	Structure	Red Brick drain	
338	887b	Trench 3	Deposit	Topsoil	3
339	887b	Trench 3	Deposit	Fill of 303	
340	887b	Trench 3	Cut	Possible natural hollow	
341	887b	Trench 3	Deposit	Fill of 340	
342	887b	Trench 3	Cut	Cut through 330	
343	887b	Trench 3	Cut	Cut for 324	
400	887b	Trench 4	Deposit	Subsoil	3
401	887b	Trench 4	Deposit	Grey natural clay	
402	887b	Trench 4	Deposit	Yellow Magnesian Limestone - natural bedrock	
403	887b	Trench 4	Cut	Cut for modern geological trial pit	3
404	887b	Trench 4	Deposit	Fill of trial pit 403	3
405	887b	Trench 4	Deposit	Burnt ground from bonfire of demolition material	3
406	887b	Trench 4	Cut	Truncation of topsoil and subsoil - modern leveling	3
500	887b	Trench 5	Deposit	Grey natural clay	
501	887b	Trench 5	Deposit	Yellow Magnesian Limestone - natural bedrock	
502	887b	Trench 5	Deposit	Subsoil	3

Context number	Site code	Site sub-division	Context type	Description	Site phase
503	887b	Trench 5	Deposit	Topsoil	3
504	887b	Trench 5	Deposit	Weathered grey clay and bedrock	
505	887b	Trench 5	Cut	Double 'u' shaped ditch in 5 and 5a	1a
506	887b	Trench 5	Deposit	Red sand in 505	1a
507	887b	Trench 5	Deposit	Mid reddish brown clay above 506	1a
508	887b	Trench 5	Deposit	Hardcore for car park	3
1000	887c	Area 1	Cut	Large Pit (Group 1)	1b
1001	887c	Area 1	Deposit	Grey Clay Fill of [1000]	1b
1002	887c	Area 1	Cut	Pit West of [1000] (Group 2)	1b
1003	887c	Area 1	Deposit	Grey Clay Lining of [1002]	1b
1004	887c	Area 1	Deposit	Mixed Clay Fill of [1002]	1b
1005	887c	Area 1	Cut	Tanning Pit (Group 3)	1b
1006	887c	Area 1	Deposit	Grey Clay lining of [1005]	1b
1007	887c	Area 1	Deposit	Red Clay Fill of [1005]	1b
1008	887c	Area 1	Cut	Tanning Pit (Group 7)	1b
1009	887c	Area 1	Deposit	Grey Clay Lining of [1008]	1b
1010	887c	Area 1	Deposit	Black Deposit in [1008]	1b
1011	887c	Area 1	Void	Void	
1012	887c	Area 1	Cut	Indentations in Clay Lining (1009)	1b
1013	887c	Area 1	Deposit	Mid Brown Silty Fill of [1008]	1b
1014	887c	Area 1	Deposit	Light Grey Fill of [1008]	1b
1015	887c	Area 1	Cut	Square Posthole	
1016	887c	Area 1	Deposit	Dark Red/Brown Fill of [1015]	
1017	887c	Area 1	Deposit	Topsoil	3
1018	887c	Area 1	Deposit	Bedding Layer for Footpath	3
1019	887c	Area 1	Deposit	Subsoil	3
1020	887c	Area 1	Deposit	Degraded Bedrock Crush Material	
1021	887c	Area 1	Deposit	Natural Bedrock	
1022	887c	Area 1	Deposit	Medieval Levelling Layer	1a
1023	887c	Area 1	Cut	Modern Land Drain	3
1024	887c	Area 1	Deposit	Redeposited Topsoil	3
1025	887c	Area 1	Deposit	Red Clay Medieval Levelling Layer	1a
1026	887c	Area 1	Void	Void	
1027	887c	Area 1	Deposit	Mixed Clay Fill of [1000]	1b
1028	887c	Area 1	Deposit	Dark Brown Medieval Levelling Layer	1a
1029	887c	Area 1	Deposit	Sandy Medieval Levelling Layer	1a
1030	887c	Area 1	Cut	Small Pit (Group 8)	1b
1031	887c	Area 1	Deposit	Light Yellow/Brown Fill of [1030]	1b
1032	887c	Area 1	Deposit	Brown Sandy Clay Fill of [1030]	1b
1033	887c	Area 1	Cut	Tanning Pit (Group 9)	1b
1034	887c	Area 1	Deposit	Grey Clay Lining of [1033]	1b
1035	887c	Area 1	Deposit	Black Deposit in [1033]	1b
1036	887c	Area 1	Deposit	Red Brown Clay Fill of [1033]	1b
1037	887c	Area 1	Deposit	Brown Sandy Silt	1a
1038	887c	Area 1	Deposit	Pink Clay	1a
1039	887c	Area 1	Deposit	Post Medieval Made Ground	2
1040	887c	Area 1	Cut	Cut for Drain	3
1041	887c	Area 1	Deposit	Primary Fill of Drain [1040]	3

Context number	Site code	Site sub-division	Context type	Description	Site phase
1042	887c	Area 1	Deposit	Upper Fill of Drain [1040]	3
1043	887c	Area 1	Deposit	Possible Medieval Made Ground	2
1044	887c	Area 1	Deposit	Medieval Made Ground	1a
1045	887c	Area 1	Cut	Tanning Pit (Group 6)	1b
1046	887c	Area 1	Deposit	Grey Clay Lining of [1045]	1b
1047	887c	Area 1	Cut	Indentations in Clay Lining (1046)	1b
1048	887c	Area 1	Deposit	Black Deposit in [1045]	1b
1049	887c	Area 1	Deposit	Mid Brown Silty Fill of [1045]	1b
1050	887c	Area 1	Deposit	Backfill of Pit [1045]	1b
1051	887c	Area 1	Cut	Tanning Pit (Group 5)	1b
1052	887c	Area 1	Deposit	Grey Clay Lining of Pit [1051]	1b
1053	887c	Area 1	Deposit	Upper Fill of Pit [1051]	1b
1054	887c	Area 1	Deposit	Black Fill of Pit [1051]	1b
1055	887c	Area 1	Cut	Tanning Pit (Group 4)	1b
1056	887c	Area 1	Deposit	Grey Clay Lining of Pit [1055]	1b
1057	887c	Area 1	Cut	Indentations in Clay Lining (1056)	1b
1058	887c	Area 1	Deposit	Black Fill of Pit [1055]	1b
1059	887c	Area 1	Deposit	Black Fill of Pit [1002]	1b
1060	887c	Area 1	Deposit	Backfill of Pit [1002]	1b
1061	887c	Area 1	Deposit	Dark Brown Fill of Pit [1000]	1b
1062	887c	Area 1	Deposit	Silting Deposit of Pit [1000]	1b
1063	887c	Area 1	Deposit	Silting Deposit of Pit [1000]	1b
1064	887c	Area 1	Deposit	Lowest Fill of Pit [1000]	1b
1065	887c	Area 1	Deposit	Clay Marl Cut by [1000]	1b
1066	887c	Area 1	Deposit	Silting Deposit of Pit [1055]	1b

APPENDIX 2: FINDS TABLES
Table 1 Pottery from Trenches 1- 5

Context	Ware types	Spot date for context	Site Phase
212	TP Whiteware	M - LC19th	3
302	Hallgate A	C13th	1a
	Hallgate A		
	Hallgate B		
	Shell Tempered ware		
	Shell Tempered ware		
304	Coal Measures Fineware	LC13th - C14th	1a
	Hallgate A		
	Hallgate C type ware		
	Shell Tempered ware		
305	?Potterhandworth type	C13th	1a
	Doncaster Reduced Sandy ware type		
	Hallgate A		
	Hallgate B		
306	Hallgate B	C12th	1a
	?Hallgate A	LC13th - C14th	1a
307	Coal Measures Fineware		
	Coal Measures Whiteware		
308	Doncaster Reduced Sandy ware type	C13th	1a
309	Shell Tempered ware	C11th - C13th	1a
310	DRS/Hallgate A	C13th	1a
	Reduced Sandy ware type		
311 311	?Lincoln/Nottingham reduced ware	MC13th - LC14th	1a
	Shell Tempered ware		
313	?Lincoln/Nottingham reduced ware	MC13th - LC14th	1a
339	Hallgate B	C12th	
400	Brown Glazed Coarseware	LC18th - C19th	3
	Unglazed Red Earthenware		
503	Late Blackware	C18th	3
	Slipware		
507	Hallgate A	C13th	1a
	Hallgate B		
	Reduced Sandy ware type		
	Reduced Sandy ware type		
	Shell Tempered ware		
1012 (WB)	Shell Tempered ware	M - LC19th	3
	Brown Glazed Fineware		
	Edged ware		
	TP Whiteware		
U/S	Whiteware	C12th – C13th	
	Hallgate B		
U/S	Whiteware (Medieval)		

Table 2 Pottery from Areas 1 - 2

Context	Ware types	Date range	Spot date	Site Phase
1001	Coal Measures Whiteware	C14th – EC15th	C14th – EC15th	1b
1004	Humberware	LC13th – LC15th	LC13th – LC15th	1b
1009	Medieval Whiteware	C13th – C14th	C13th – C14th	1b
	Shell Tempered ware	Medieval		
1022	Buff Sandy ware	LC11th – C13th	?C13th	1a
	Coal Measures Fineware type	?LC13th – C14th		
	Hallgate A ware	C13th		
	Hallgate C type	LC11th – C12th		
	Medieval Whiteware	C12th – C14th		
	Reduced Sandy ware	C13th		
	Shell Tempered ware	Medieval		
1025	Buff Sandy ware	LC11th – C13th	C12th – C13th	1a
	Coal Measures Fineware	C13th – C14th		
	Hallgate B ware	C12th		
	Shell Tempered ware	Medieval		
1027	Reduced Sandy ware	C13th – C14th	C13th – C14th	1b
1029	Hallgate A ware	C13th	C13th	1a
	Shell Tempered ware	Medieval		
1036	Shell Tempered ware	Medieval	Medieval	1b
1037	Hallgate A ware	C13th	C13th	1a
1044	Hallgate A ware	C13th	C13th	1a
	Shell Tempered ware	Medieval		
1046	Coal Measures ware type	C15th – EC16th	C15th – EC16th	1b
1061	Coal Measures Purple ware	C15th – C16th	C15th – C16th	1b
	Coal Measures Whiteware type	C14th – C15th		
1062	CBM	Undated	C13th	1b
	Hallgate A ware	C13th		
	Hallgate B ware	C12th		
	Shell Tempered ware	Medieval		
1064	Buff Sandy ware	Medieval	C15th	1b
	Coal Measures Purple ware	C15th – C16th		
	Hallgate A ware	C13th		
	Medieval Whiteware	C13th – C14th		
	Shell Tempered ware	Medieval		
U/S	Buff Sandy ware	LC11th – C13th	C12th – MC19th	U/S
	Coal Measures Purple ware	C15th - C16th		
	Hallgate A ware	C13th		
	Hallgate B ware	C12th		
	Hallgate C type	LC11th – EC12th		
	Reduced Sandy ware	C13th – C14th		
	Shell Tempered ware	Medieval		
	Sponged ware	c.1830+		
	TP Whiteware	M – LC19th		
	Type 1 Slipware	C17th – EC18th		

Table 3 Animal bone quantification by period

US = unstratified

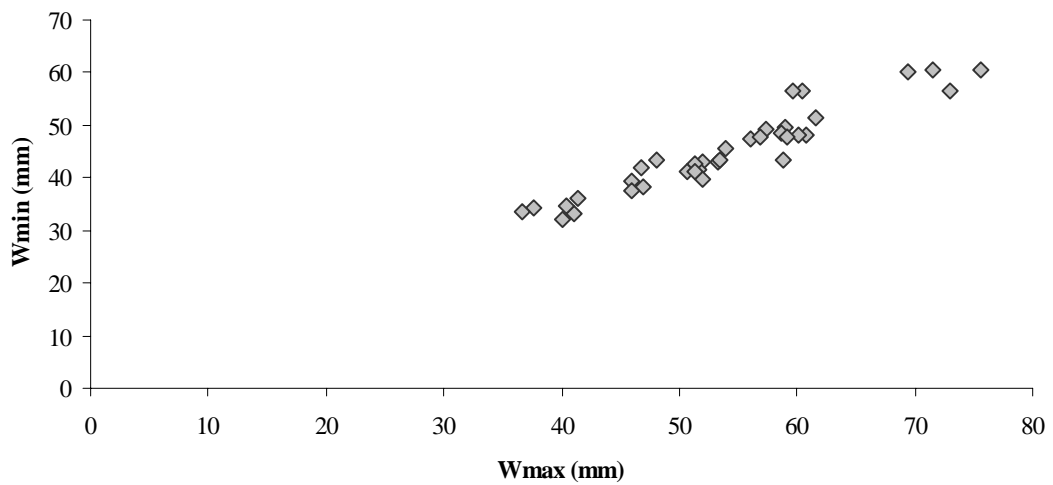
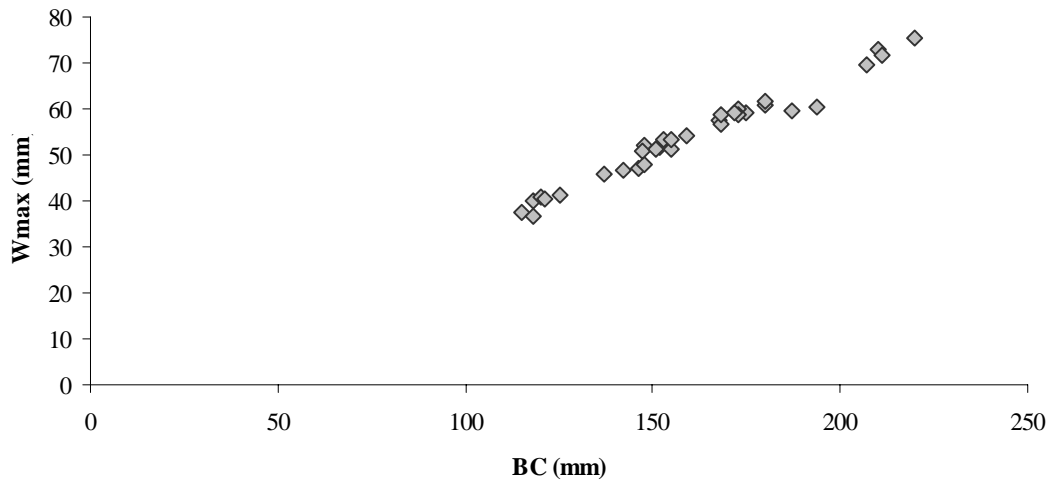
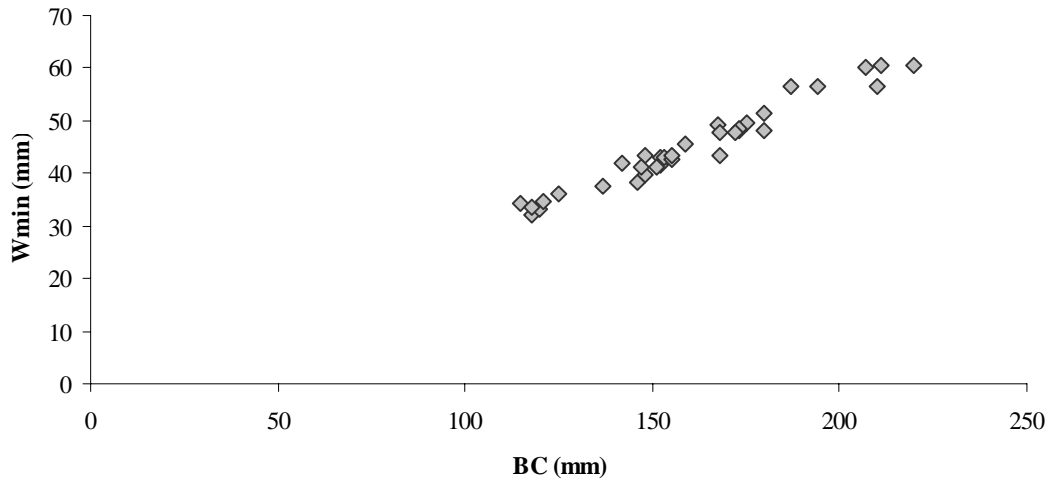
Species	medieval (phase 1a)	medieval (phase 1b)	modern (phase 3)	US	Total
cattle	14	42	2	1	59
sheep/goat	4		1		5
goat				1	1
pig	2	1			3
horse	8	4	1	4	17
dog	1	1			2
cat	1				1
roe deer	1				1
duck			2		2
Total identified	31	48	6	6	91
large mammal	10	58			68
medium mammal				1	1
mammal	2	1	2		5
Total unidentified	12	59	2	1	74
Overall Total	43	107	8	7	165

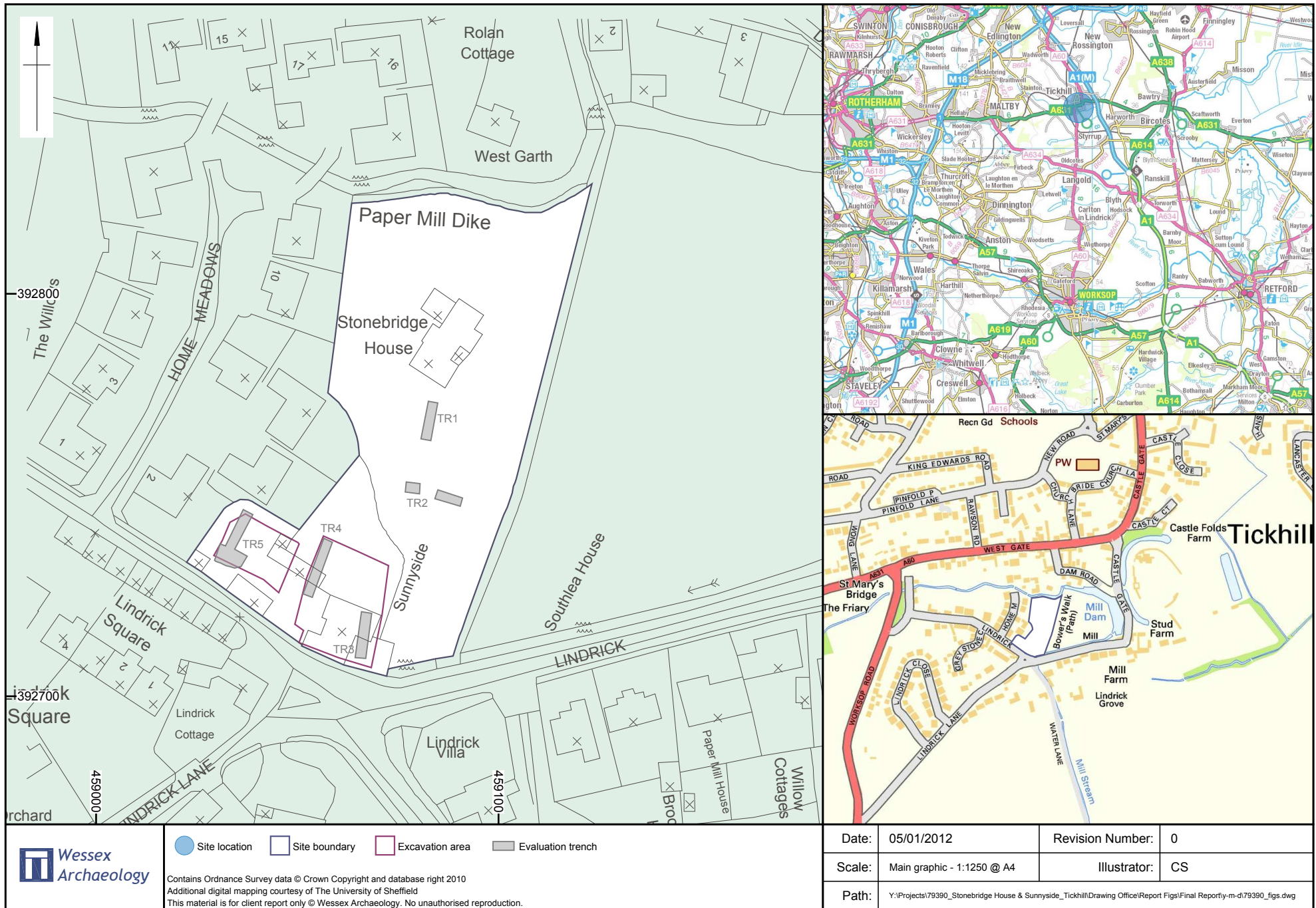
Table 4 Summary of horn cores from medieval deposits

 SD = standard deviation and CV = coefficient of variance. BC = basal circumference,
 Wmin = minimum diameter and Wmax = maximum diameter.

Measurement	N	Min.	Max.	Mean	SD	CV
BC	34	115	220	160.2	28.1	17.5
Wmin	36	32.2	60.7	44.9	7.9	17.5
Wmax	36	36.6	75.6	53.8	9.6	17.8

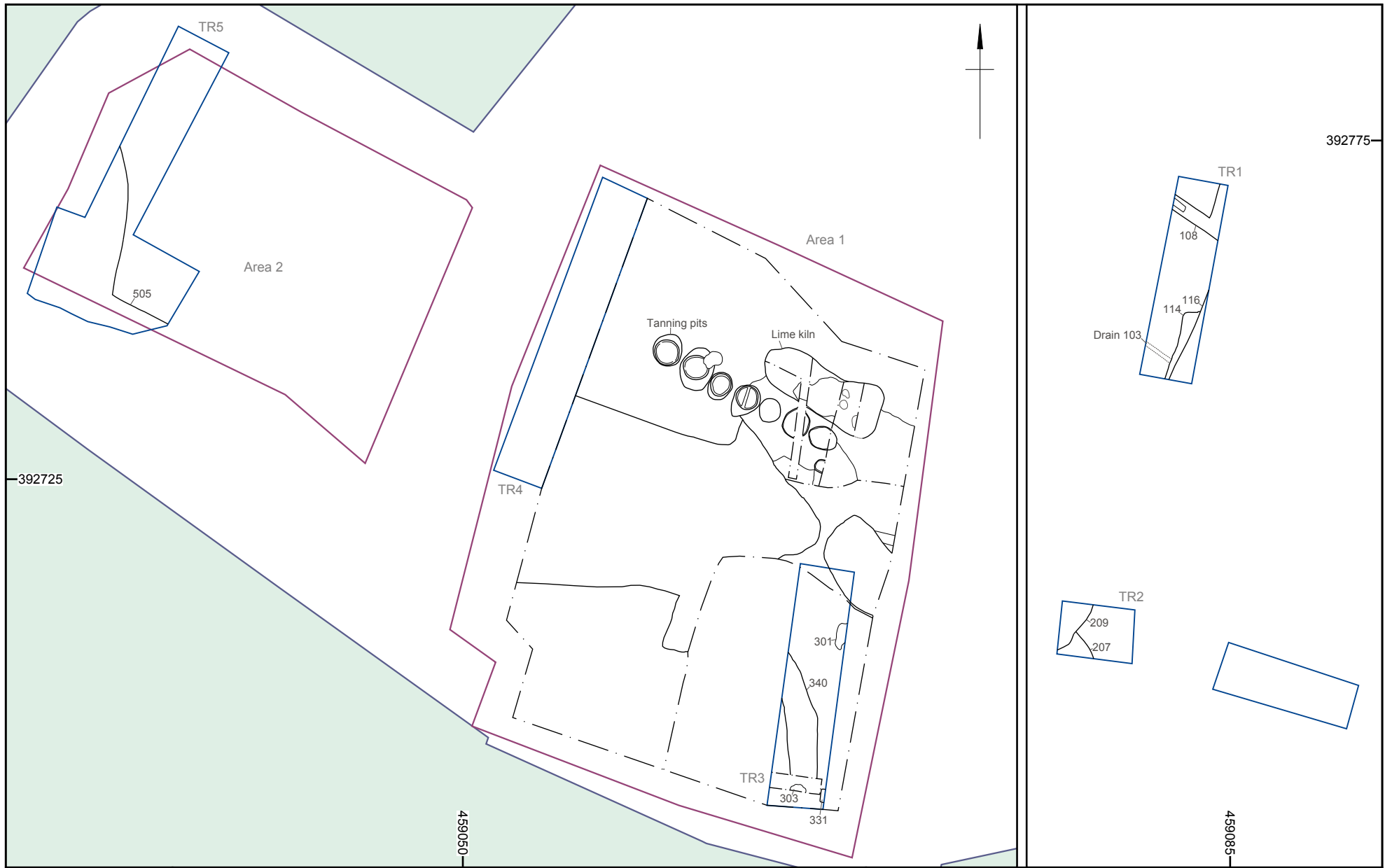
Table 5 Scatterplots of cattle horn cores from medieval deposits.





Site location

Figure 1



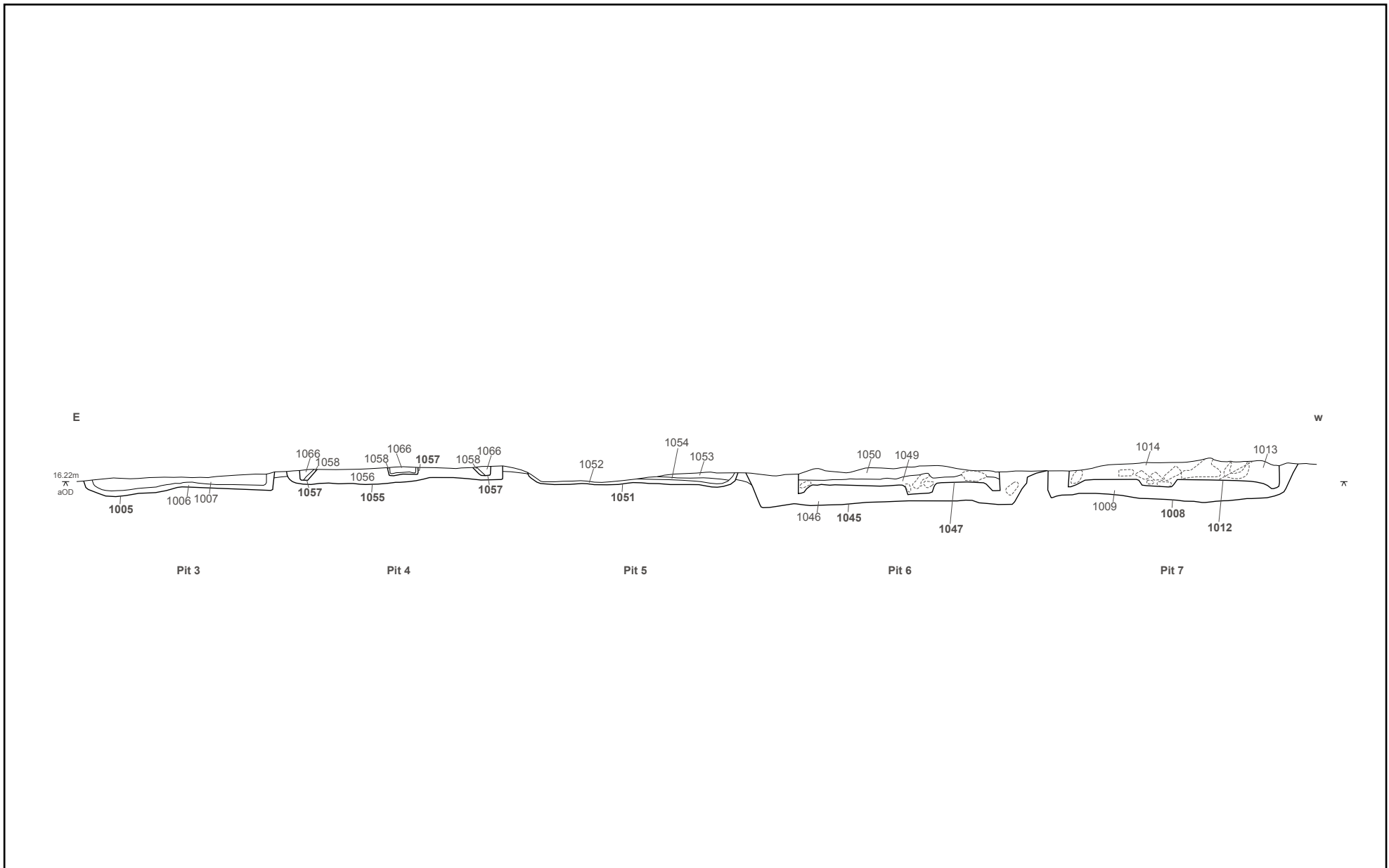
Site boundary
 Excavation area
 Evaluation trench

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Site plan

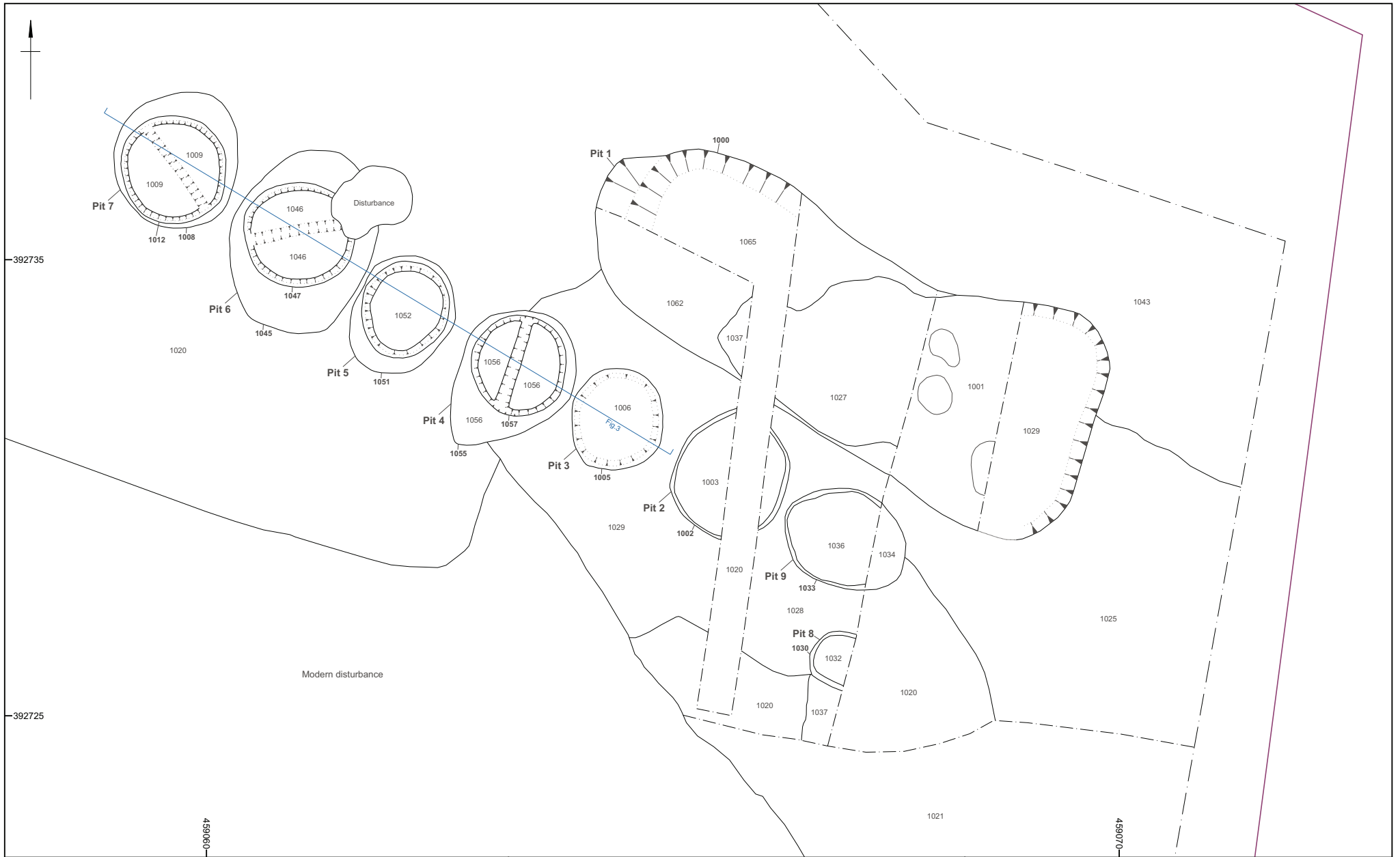
Figure 2



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Northeast facing section through Pits 3-7

Figure 3



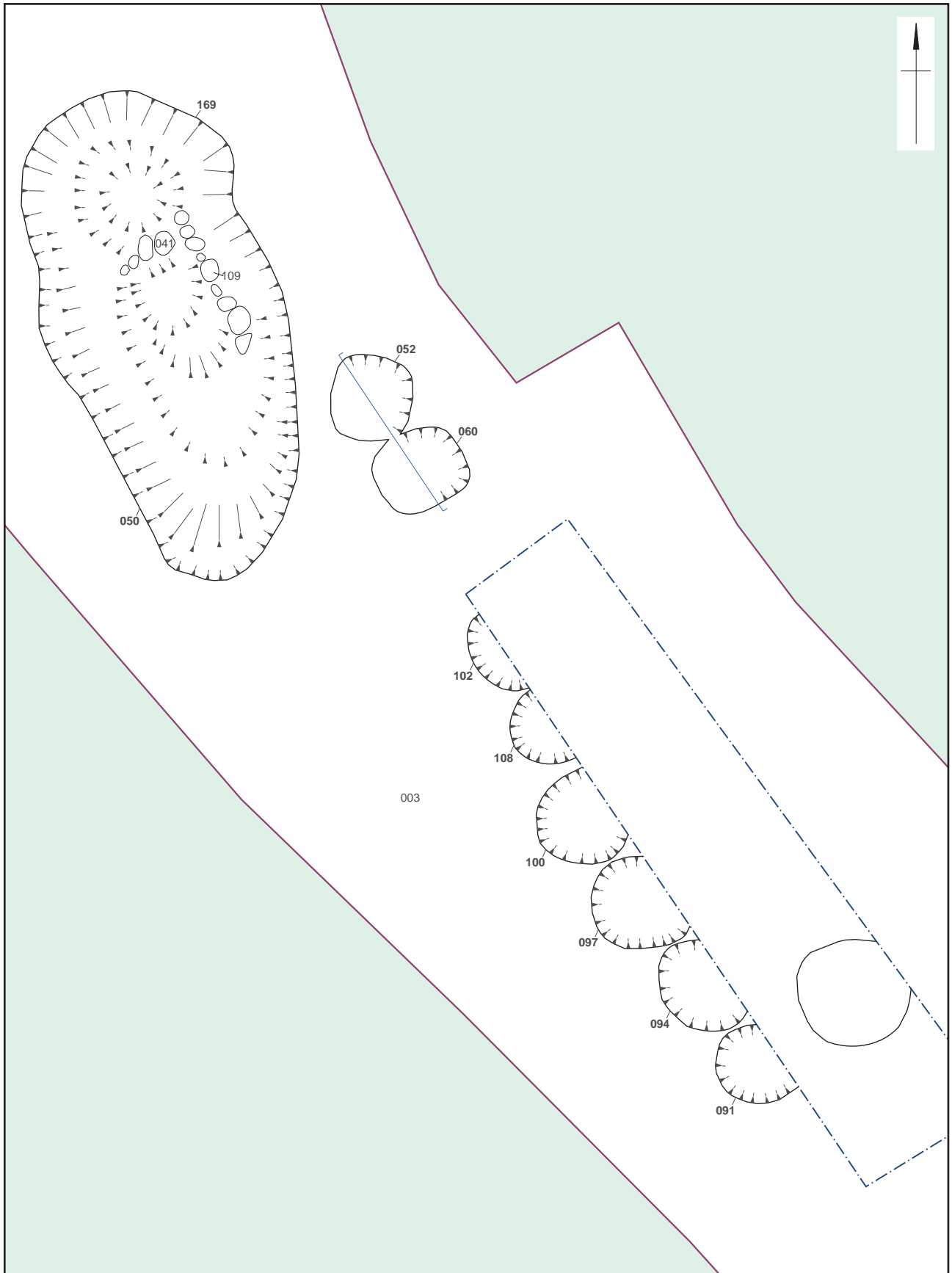
Area 1

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Plan of Pit Group

Figure 4



Excavation area
 Evaluation trench

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Plan of tannery features at Jubilee Place, Pontefract.

Figure 5



Plate 1: Pit group in Area 1 (pre-excitation), looking southeast.



Plate 2: Pit 7, showing slot in base.



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