UNIVERSITY OF LEICESTER
Archaeological Services

An Archaeological Evaluation by Trial Trenching on Land at Burbage Hall, Aston Lane, Burbage, Leicestershire.

NGR: SP 4444 9267

Ian Reeds

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Grid Ref: SP 4444 9267

Author: Ian Reeds

Client: Apricot CPS Ltd

Planning Ref. 20/00066/FUL

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OASIS RECORD

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	Previous/Future Work	Listed Building Impact Assessment Report No 2020-020		
	Project Type	Evaluation		
	Site Status	None		
	Current Land Use	Garden		
	Monument Type/Period	None		
	Significant Finds/Period	None		
	Reason for Investigation	NPPF		
	Position in the Planning Process	As condition		
	Planning Ref.	20/00066/FUL		
PROJECT LOCATION	**County**	Leicestershire		
	Site Address/Postcode	Burbage Hall, Aston Lane, Burbage, Leicestershire.		
	Study Area	0.75 hectares		
	Site Coordinates	SP 4444 9267		
	Height OD	125m OD		
PROJECT CREATORS	**Organisation**	ULAS		
	Project Brief Originator	ULAS		
	Project Design Originator	ULAS		
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An Archaeological Evaluation by trial trench on Land at Burbage Hall, Burbage, Leicestershire

(SP 4444 9267)

Ian Reeds

Summary

This document is a fieldwork report for an archaeological trial trench evaluation carried out by University of Leicester Archaeological Services (ULAS) on land at Burbage Hall, Burbage, Leicestershire (SP 4444 9267), in advance of residential development.

Five trenches were opened across the site, positioned to target the footprints of the proposed new buildings. These revealed evidence of substantial land alteration in the form of made ground for terracing of the modern gardens. In the north-east area a deposit of animal horn cores was found, probably dating to the post-medieval period and used as a cheap building material to line a drain.

The archive for the site will be deposited with Leicestershire County Museums under accession number XA107.2020.

Introduction

University of Leicester Archaeological Services (ULAS) were contracted by the client, Apricot CPS Ltd, to carry out an archaeological trial trench evaluation at Burbage Hall, Burbage, Leicestershire (SP 4444 9267). The fieldwork was carried out between 23rd and 25th November 2020.

Planning permission (20/00066/FUL) is being sought to develop the area with the erection of four dwellings and associated landscaping, parking and vehicle access. The Leicestershire Planning Archaeologist as advisor to Hinckley and Bosworth planning Authority in accordance with the National Planning Policy Framework (NPPF, MHCLG 2018) requested trial trenching. The aim of the work was to determine the presence/absence of buried archaeological deposits and preliminary indications of the character and extent of any heritage assets in order that the potential impact of the development on such remains could be assessed by the Planning Authority.

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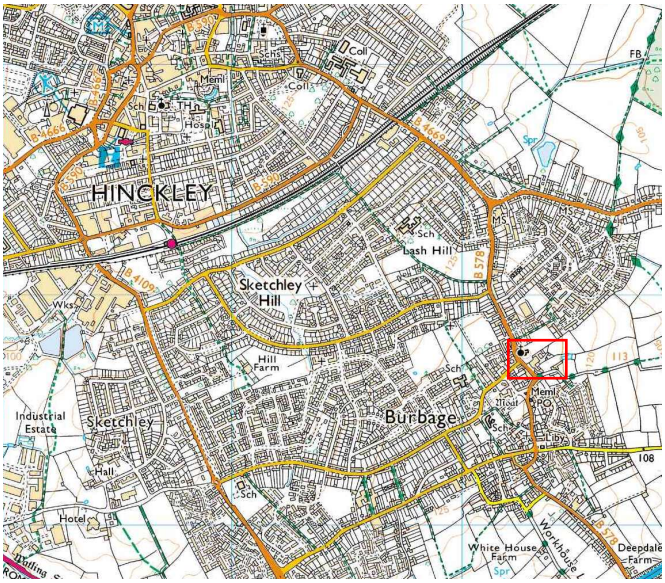

Figure 1: Site Location. Contains Ordnance Survey Data © Contains OS data Crown Copyright [and database right] 2020

Site Location and Geology

Burbage Hall is located towards the south-eastern edge of the historic village core. However, more recent development has significantly increased the size of the settlement so that housing is now encroaching to the north, west and south of the Hall, The Hall is reached via Aston Lane which runs eastwards from Church Street, which runs through the village. Aston Lane is a metalled road as far as the Hall gates, then continues around the southern perimeter of the Hall as s trackway.

The Hall sits within a roughly sub-rectangular piece of land with a spur running towards the western edge of the site (Fig. 1). The Hall is L-shaped in plan with outbuildings running form the main body towards the east. The garden faces out across open fields to the east which drop down towards a stream around 500m away. Trees and shrubs, predominantly on the southern and eastern edges, cover a significant part of the site. A tennis court has been built along the eastern boundary of the site.

The site is generally level but drops from around 125mOD in the west, to around 123mOD in the east. It is currently in use as a large garden, with a coverage of trees and shrubs with a significantly thick coverage towards the north and eastern part of the site.

The British Geological Survey website indicates that the superficial geology on the western half of the site where the Hall sits is likely to consist of Dunsmore Gravel, which is a mix of sand and gravel. The eastern half of the site is likely to be Oadby member, a type of diamicton clay silt with pockets of sand and gravel. The underlying bedrock of the whole site consists of Mercia formation mudstone. Soils are described as slightly acidic loamy and clayey soils with impeded drainage.

Figure 2: Site location within Burbage and detail of the existing site (Plans provided by client)

Historical and Archaeological Background

A Listed Building Impact assessment was undertaken in 2020 and shows that the area is an archaeologically rich landscape (Hyam 2020). The following is summarised from that report.

Prehistoric

Lithics have been found in the surrounding area and a Bronze Age cemetery and Iron Age Enclosure have been recorded within 1km.

Roman

Possible Roman sites have been identified in the area although mostly some distance away. A mosaic (**MLE7936**) was reported as being found at Horsepool around 200m south-west of the Hall. A site (**MLE2846**) is located at White House Farm consisting of coins , brooches and pottery.

Saxon and Medieval

The historic core of Burbage probably has its origins in the Saxon period, and the name relates to a slope or hill with a nearby brook, and there have been a number of finds recorded from the area including Saxon pottery and a square-headed brooch (**MLE20670**) has been found close to White House Farm.. There are earthworks thought to relate to a manor or Hall within the village.

Post-medieval to Modern

The remains of post medieval walls and drains were seen during a watching brief at Burbage Hall in 2001.Cartographic evidence indicates that the site has been used as a garden at least since the early part of the 18th century. Immediately to the north of Burbage Hall is a medieval fishpond (**MLE2843**).

Archaeological Objectives

The main aim of the investigation was to provide evidence to aid understanding the nature, date, function, and character of the archaeological remains at the site in their cultural and environmental setting, and to preserve it by record.

The main objectives of the archaeological work were:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range and significance of any surviving archaeological deposits.
- To establish the eco-factual and environmental potential of any archaeological deposits and features encountered.
- To provide sufficient information on the archaeological potential of the site to assess the impact of the proposed development on cultural heritage and to help formulate a mitigation strategy
- To record any archaeological deposits and produce an archive and report of any results.

The results of the evaluation provide information in order for the local planning authority

to make informed recommendations and to identify an appropriate mitigation strategy for the proposed development.

Research Objectives

While the nature, extent and quality of archaeological remains within the areas of investigation for the project remained unknown until archaeological work was undertaken, it was possible to determine some initial objectives derived from *East Midlands Heritage* research agenda (Cooper 2006, Knight *et al*. 2012, https://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/). The evaluation site lies on the periphery of the historic settlement of Blaby and therefore has the potential to contribute to the following research themes:

- *6. Early Medieval*
  6.4, 6.7 (Rural settlement patterns, the agricultural economy and rural landscape).

- *7. High Medieval*
  7.2, 7.3, 7.7 (Rural settlement, manors and manorial estates, agrarian landscape and food-producing economy).

- *8. Post-Medieval:*
  8.1, 8.2, 8.3, (Urbanism: morphology, functions and building. Landscape of display: country house and gardens. Agricultural landscape and the food-producing economy).

- *9. Modern*
  9.2 (Buildings in town and countryside).

These research aims have been identified based on the current state of knowledge within the area of the scheme.

Constraints

The site was heavily covered in trees and shrubs making access difficult in certain areas. Slight alteration of trench positions was required due to this (Fig. 3). It also required clearance of significant growth of brambles and levelling in places prior to commencement of machining. The proposed site was not accessible from the road, so mating was used to protect the lawn area of the garden from damage caused by the tracking of the machine over it.

The site operated under COVID-19 Social distancing measures.

Methodology

Prior to any machining of trial trenches, general photographs of the site areas were taken, and each trench location was surveyed using a hand held CAT scanner to help locate any services. Five 15m long trenches were positioned to target the planned building footprints, their position recorded using a Leica robotic EDM. The trenches were excavated in level spits, where

possible, using a mini 360° mechanical mini-digger equipped with a 1.0m wide toothless ditching bucket. In trench 2 and 3 this bucket was proving ineffective and so a 0.5m wide toothed bucket was used to get through the heavily compacted made ground.

The trenches were examined for archaeological deposits or finds by hand cleaning and then recorded. They were backfilled and levelled at the end of recording, with approval from the Leicestershire County Council Planning Archaeologist.

The work followed the approved WSI (ULAS 2020) and adhered to the Chartered Institute for Archaeologists (CIfA) *Code of Conduct* and adhered to their *Standard and Guidance for Archaeological Field Evaluations* (2020).

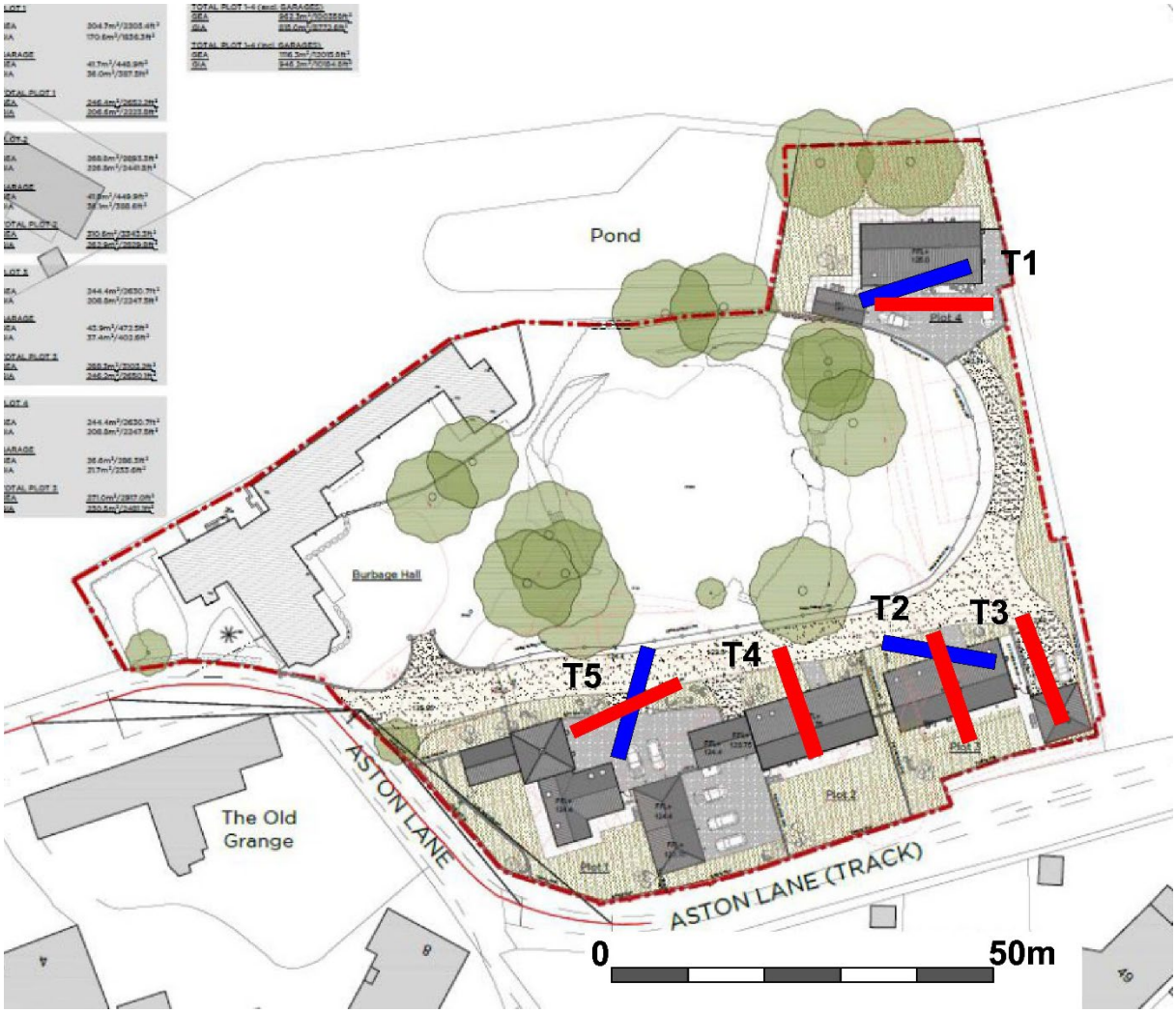

Figure 3: Trench locations overlain on the proposed plan (provided by client). Blue = planned location, Red = actual location

Results

Five trenches were excavated within the development area down to an archaeological horizon or the natural substratum of brown sands and gravels or red/brown clay. Topsoil and subsoil varied across the site.

Table 1: Trench data

TRENCH	ORIENTATION	LENGTH AND WIDTH (m)	TOPSOIL THICKNESS(m)	SUBSOIL THICKNESS(m)	ARCHAEOLOGY DESCRIPTION	TRENCH DEPTH(m)
1	E-W	15.3 x 1.5	0.30 – 0.32	0.30 – 0.50	Gullies [01]	0.65 – 0.90
2	NE- SW	15 x 1.50	0.20 – 0.40	0.10 – 0.25	Start of made ground at 7m	0.49 – 1.25
3	N - S	15 x 1.50	0.14 – 0.30	0.14 – 0.20	Start of made ground at 5m	0.40 – 1.30
4	NW -SE	13.5 x 1.50	0.25– 0.30	0.18 – 0.20	No archaeological deposits	0.50 – 0.70
5	N - S	14 x 1.50	0.10 – 0.38	0.16 – 0.30	Modern/post med drain	0.56 – 0.66

Trench 1 (Figs. 4-9)

Trench 1 was positioned to the north of the assessment area, next to the tennis court. The ground was sloping south towards the tennis court and was under considerable growth of small trees and brambles. This was cleared prior to excavation of the trench.

Figure 4: Trench 1, cleaning plant growth prior to digging. Looking south.

A linear feature [01] (Fig. 5) was seen in the base of the trench running diagonally south-east to north-west. It had moderately slopping sides, which were irregular on its eastern side. It survived to a depth of 0.20m cut into through the subsoil. The feature predominantly contained animal horn core, and can be seen in section in Fig. 6. No finds were recovered to provide a date for the feature, although it was cut through the subsoil.

The natural reached in Trench 1 was gravel, which started to let water into the trench very quickly. There was a modern drain across the area of Trench 1, which was drainage for the tennis court. This can be seen as a brown filled cut in Fig. 6, cutting through the edge of [01].

Figure 5: Trench 1, gully [01].

Figure 6: Trench 1, gully [01] in section.

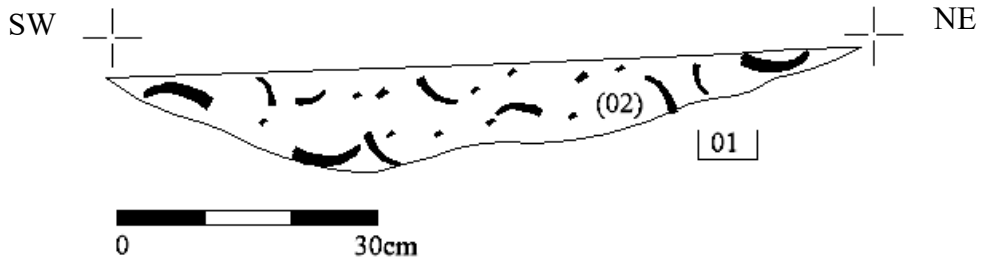

Figure 7: Section of [01].

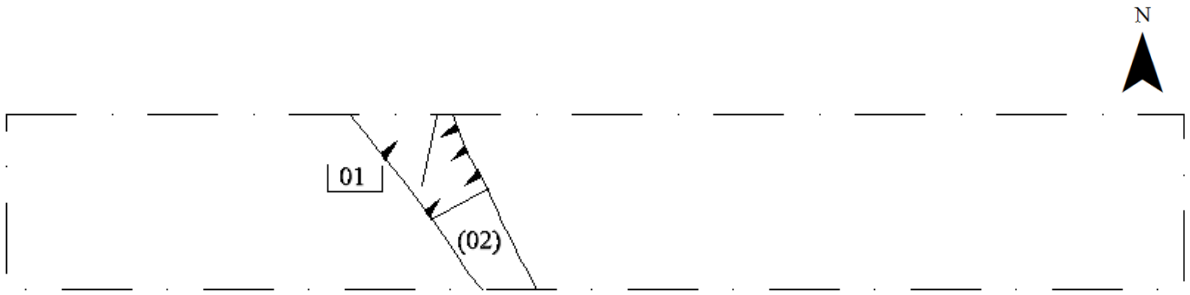

Figure 8: Trench 1 plan, showing [01].

Figure 9: Trench 1 looking west.

Trench 2 (Fig. 10).

Trench 2 was positioned in the far south-eastern area of the site, in a cricket practice area with artificial grass areas in places. The land here was terraced, with the natural substrata dropping south towards the trackway of Aston Lane. The southern end of Trench 2 was 1.25m deep, showing considerable amount of made ground to create a level area for the terrace. This consisted of hard compacted clay soils, with broken brick and occasional piece of twisted iron rod. The 1m wide ditching bucket was replaced with a 0.50m wide toothed bucket in the southern half of the trench to enable the machine to make any headway and the width was reduced to 1m. No archaeological deposits were seen.

Figure 10: Trench 2 looking north-west, showing depth of made ground.

Trench 3 (Fig. 11).

Trench 3 was located in the same south-eastern area as Trench 2, running N – S. It also had considerable depth of made ground towards the southern half of the trench, going down to a depth of 1.30m before original ground levels were reached. No archaeological deposits were seen.

Figure 11: Trench 3 looking south-west

Trench 4 (Fig. 12)

Trench 4 was situated on the southern side of the site with large trees to both the north and south. It was cut short by 1.5m in length due to a decommissioned power cable running just below the grass level at the northern end (see Fig. 12). This was not picked up when the area was surveyed using a CAT scanner. Animal burrowing activity was also seen at the southern end of the trench.

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Figure 12: Trench 4 looking south-east

Trench 5 (Fig. 13)

Trench 5 was positioned in the south-western area of the site, and the closest to the Hall. A decommissioned power cable was located at the western end of the trench. A modern land drain comprising of broken brick, some with white paint on was observed running east-west across the trench. This was noted, but not investigated further as it could still be performing a functionary duty.

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Figure 13: Trench 5 looking south-east

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The Animal Bones - Jennifer Browning

Introduction and Methods

A deposit of cattle horn-cores, unfortunately undated, was recovered from a linear feature (2) [1] in Trench 1. Large quantities of horn-cores are usually taken to signify waste from carcass processing for industrial or craft purposes. All the bones in the excavated section were collected for analysis (I Reeds *pers.comm*). The horn-cores were identified as cattle. Where it was possible to determine, left and right were represented in equal numbers (L=5; R=5), however this was almost certainly random, since no obvious pairs were noted.

Information on condition, completeness, side and butchery was recorded directly onto an excel spreadsheet. Where completeness allowed, four measurements were taken on each horncore, following von den Driesch (1976) and Sykes and Symmons (2007): outer length (OL); basal circumference (BC); maximum basal diameter (BA) and minimum basal diameter (BB). The shape of each horncore was assessed and scored on curvature and torsion (after Sykes and Symmons 2007, figure 1) and the angle of attachment to the skull (after Armitage and Clutton-Brock, 345). Butchery marks noted on the horn-cores and skulls were recorded using simple descriptions, which included type of implement used, location, angle and frequency.

Morphology and Metrical Analysis

The assemblage consisted of twenty horn-cores and associated fragments. The bones were generally in a good condition, facilitating examination for butchery marks and allowing for measurements in many cases. Although most of the horn-cores were damaged, it was possible to obtain minimum or approximate length measurements, which indicate that, even incomplete, almost half of the horn-cores fall in to the medium horn category, with one exceptionally large example defined as long horn. More accurate measurements were obtained from the basal part of the horn-core. These measurements have been compared with larger datasets of known date: these include an 18th century assemblage from Bath Lane, Leicester (Browning 2006) and a medieval assemblage from Sanvey Gate, Leicester (Browning 2012). Although horn-core morphology is not an indicator of date, most of the cattle from medieval and pre-medieval assemblages in Leicester have tended to be small horn or short-horn varieties. The Burbage Hall horn-cores plot better with the Bath Lane examples and even exceed them in size. As far as could be established, most of the horn-cores were lightly curved; only one had a more pronounced curve and there was very little torsion. Where it was possible to determine, horns branched horizontally from the skull, with one example projecting obliquely upwards.

Table 2: Horn types categorised by length (after Sykes and Symmons 2007, table 1). Since most of the horcnores were missing the tip, minimum length has been used for substantially complete elements

Category	**Minimum Length in mm**	**N**
Small horn	<145	2
Short horn	145-195	5
Medium	195-350	4
Long	>360	1
Total		**11**

Table 3: Table of horncore measurements from context 2.

Measurement	**N**	**Min (mm)**	**Max (mm)**	**Average (mean) (mm)**	**Standard Deviation**
Basal circumference (BC)	12	143	267	191.4	40.2
Minimum diameter (BB)	12	37.8	80	62.8	13.0
Maximum diameter (BA)	11	49.3	90	52.5	13.7

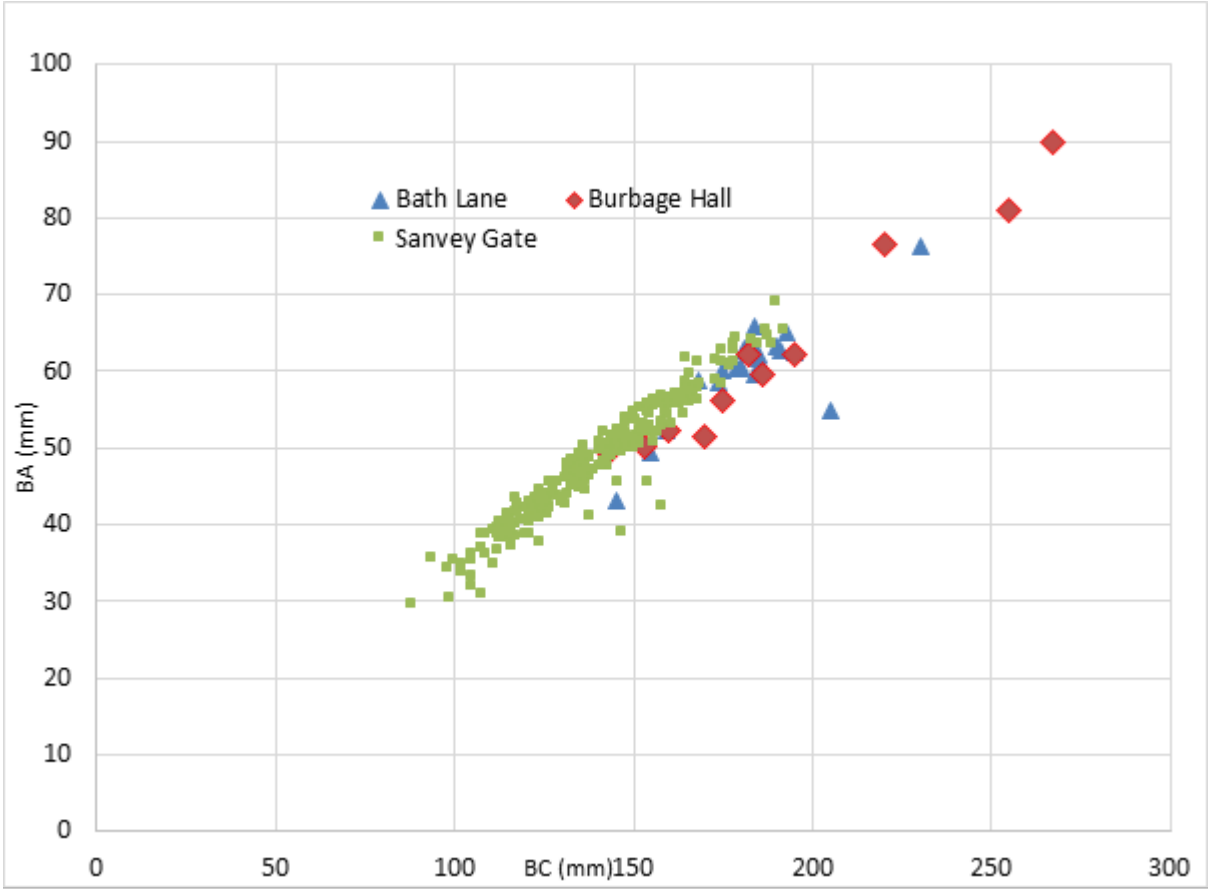

Figure 14: Distribution of horncores according to their maximum basal diameter (BA) and minimum basal diameter (BB).: Distribution of horncores according to their maximum basal diameter (BA) and basal circumference (BC)

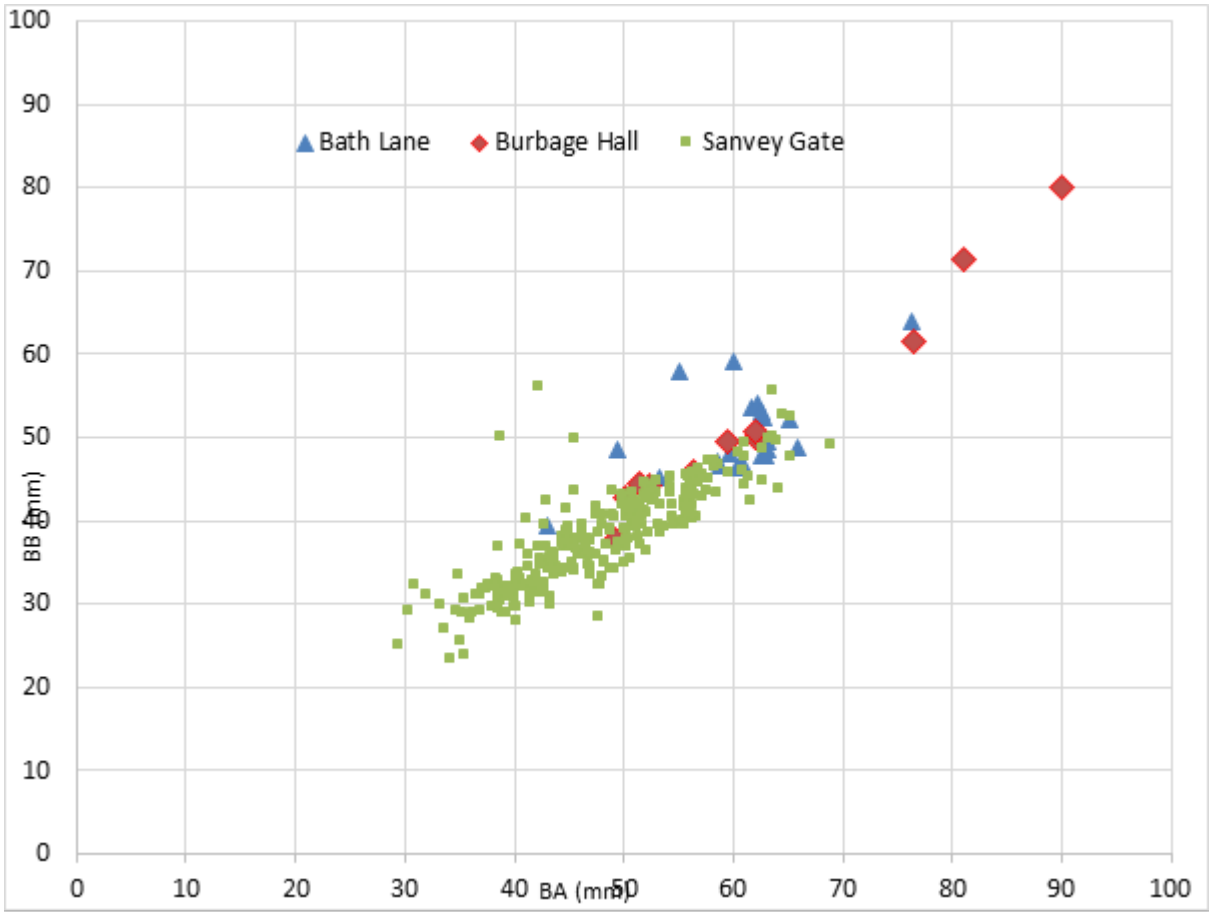

Figure 15: Distribution of horncores according to their maximum basal diameter (BA) and minimum basal diameter (BB)

Butchery

Eleven of the twenty horn-cores had clear butchery marks, which had been carried out using an axe or cleaver. However, none of the horn-cores was attached to a complete skull, indicating that they had been deliberately detached from the rest of the cranium even when chop marks were not obvious. This appears to have been a rough and ready process, which left a varying amount of the frontal and parietal bone associated with the horn-core. Where there was attached skull, specimens were chopped obliquely through the frontal bone, parietal and braincase, below the horn-core. In several cases the horn-core was roughly chopped or broken through the shaft and in seven case the tip had been deliberately removed. One example had a succession of obliquely-pitched butchery marks on the frontal around the base of the horn-core, probably inflicted during separation of the horn sheath.

Figure 16: Butchered cattle skulls and horncores

Discussion

Horn was a valuable animal product, which was used extensively in the medieval and post-medieval periods for such objects as lantern panes, beakers, spoons and even window panes, before glass became common (MacGregor 1989, 118). One of its key characteristics is its ability to be moulded. Horn itself perishes under normal preservation conditions (MacGregor 2001, 364) and consequently the discarded horn-cores (the bony structure beneath the horn sheath) often provide the main archaeological evidence.

Figure 17: The assemblage

The Burbage Hall assemblage consisted exclusively of cattle horn-cores, representing skeletal remains from craft activity. The animals are likely to be medium or long horn breeds, similar to an 18th century deposit from Bath Lane, Leicester (Browning 2006). Although undated, I would suspect them to belong to the post-medieval period and possibly to originate from outside the local area, since most of the earlier local assemblages are of the short-horn variety. Workshops most likely to amass this type of assemblage were those belonging to the tanner and the horner, however the butcher was also a possibility. The professions were closely allied: evidence at Brugge indicated that the horners and tanners worked closely together (Ervynck et al 2003, 68). A lack of documentary evidence implies that horners were less common than tanners in England; only London and York had registered Guilds (Albarella 2003, 72), which suggests that horn-working was relatively small-scale in other towns.

The context in which the deposit was found adds a further dimension, as it belongs to the tradition for using animal bones as building material. A study of similar remains has found that this use dates mainly from the 17th and 18th centuries and was more common in the Midlands (Armitage 1989a, 154). The phenomenon is linked to population growth and the driving of animals over long distances to supply the increased demand for meat. This generated large quantities of bones as a by-product, particularly horncores, skulls and metapodials (*ibid,* 154). One way to dispose of these excess bones was to use them as a cheap building material, for repairing walls, as hardcore or for purposes such as constructing 'knuckle-bone' floors. In this case, they may have been used to line a land-drain. Use of horncores in this way has been seen in a number of 17th and 18th century contexts (Armitage 1989b, 216-217) and was probably used a substitute for traditional drain linings such as brushwood (Armitage 1989a 157).

Discussion and Conclusion

The program of trial trenching revealed a substantial amount of horn core in Trench 1. This could be the result of industrial waste generated by a local workshop using bone and horn as a resource, possibly a tanner or a horner, however a butcher is also possibility. It may be safe to assume that it would not have travelled too far for it to be deposited there.

The horns are undated but probably belong to the post-medieval period and possibly come from outside the local area, since most of the earlier local assemblages are of a different variety. They seem to represent a tradition in the post-medieval period of using excess bones as a cheap building material or hard core – in this case used to line a land-drain.

Along the southern side of the area the land appeared to have been previously levelled with more than 1.2m of made ground visible in trenches 2 and 3. No further archaeological features were noted.

The trial trench evaluation has provided sufficient information to determine the archaeological potential of the proposed development area. Landscaping of the southern area and lack of any archaeological deposits suggests that the archaeological potential here is very low. Although the horn cores in Trench 1 are interesting they are deposited in a later feature. In the event that planning permission is granted, any further work required by the planning archaeologist in this area could be secured by a condition.

Archive and publication

The archive for this project will be deposited with Leicestershire Museums with accession number XA107.2020 and consists of the following:

1 Unbound copy of this report (ULAS Report No. 2020-165)

1 Context Index sheet

2 Context Recording sheets

5 Trench Recording sheets

1 Drawing Index sheet

1 Permatrace drawing sheet

1 Photo Record sheet

2 Contact sheets of digital photographs

1 CD containing a copy of this report and the digital photographs

1 finds checklist (with appropriate finds: animal bone)

Since 2004 ULAS has reported the results of all archaeological work through the *Online Access to the Index of Archaeological Investigations* (OASIS) database held by the Archaeological Data Service at the University of York.

A summary of the work will also be submitted for publication in a suitable regional archaeological journal in due course.

Acknowledgements

ULAS would like thank Rich Chapman of Apricot CPS Ltd for his help and co-operation with the project. Richard from Planters who drove the machine, and Planters for providing the machine. Ian Reeds carried out the fieldwork for ULAS and the project was managed by Vicki Score. The project was monitored by Sophie Clarke, Planning Archaeologist for Leicestershire County Council.

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Bibliography

Albarella, U., 2003 'Tawyers, tanners, horn trade and the mystery of the missing goat' in P. Murphy and P.E. J. Wiltshire *The Environmental Archaeology of Industry* Symposia of the Association for Environmental Archaeology No. 20

Armitage, P. L. 1989a 'The use of animal bones as building material in post-medieval Britain' in D. Serjeantson and T. Waldron (eds) *Diet and Crafts in Towns: The evidence of animal remains from the Roman to the Post-Medieval periods*. BAR British Series 199, 147-160

Armitage, P. L. 1989b 'Gazetteer of site with animal bone used as building material' in D. Serjeantson and T. Waldron (eds) *Diet and Crafts in Towns: The evidence of animal remains from the Roman to the Post-Medieval periods*. BAR British Series 199, 201-223

Armitage, P. L., and Clutton-Brock., 1976 'A system for classification and description of the horn cores of cattle from archaeological sites' *Journal of Archaeological Science* **3,** 329-348

Brown, D., (2008). *Standard and guidance for the preparation of Archaeological Archives* (Institute for Archaeologists).

Browning, J 2012 'The Animal Bones' in S. Clarke and W. Jarvis (eds) *In the shadow of the defences Leicester Square, Sanvey Gate, Leicester. Excavations 2004-2005*. Vol. 2 The Specialist reports Vol 2009-034, 95-126

Browning, J., 2006 *The Animal Bones from Bath Lane Accession number: A16 2003* Unpublished bone report.

CIfA (Chartered Institute for Archaeologists) rev 2019, *Code of Conduct.*

CIfA (Chartered Institute for Archaeologists) 2014, *Standard and Guidance for Field Evaluation.*

CIfA (Chartered Institute for Archaeologists) 2014. *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives.*

Cooper, N., (Ed.) (2006). *The Archaeology of the East Midlands: An Archaeological Resource Assessment and Research Agenda.* Leicester Archaeological Monographs No. 13. University of Leicester Archaeological Services: Leicester.

Ervynck, A., Hillewaert, B., Maes, A., and Van Strydonck, M., 2003 'Tanning and horn-working at late- and post- medieval Bruges: the organic evidence'. *In The Environmental Archaeology of Industry* Edited by P., Murphy and Patricia E.J. Wiltshire. Oxbow Books.

Historic England, 2006. *Management of research Projects in the Historic Environment*.

MacGregor, A., 1989 'Bone, Antler and Horn Industries in the Urban Context' In D. Serjeantson and T. Waldron *Diet and Craft in Towns* BAR British Series 199, 107-128

MacGregor, A., 2001 'Antler, bone and horn' in J. Blair and N. Ramsey (eds) *English Medieval Industries* Hambledon and London: London and New York

MHCLG (Ministry of Housing, Communities and Local Government) 2019 (Rev.), *National Planning Policy Framework.*
Sykes, N. and Symmons, R., 2007 'Sexing cattle horn-cores: problems and progress', *International Journal of Osteoarchaeology* **17, 5**, 514-523

von den Driesch, A 1976 *A guide to the measurement of animal bones from archaeological sites.* Cambridge, Mass., Peabody Museum of Archaeology and Ethnology, Bulletin no. **1**

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