

**An Archaeological
Excavation
at Westgate Lane,
Lubenham,
Leicestershire
NGR: SP 70327 87237**

Roger Kipling



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For: Grace Homes

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**An Archaeological Excavation on Land at Westgate Lane, Lubenham, Leicestershire
NGR SP 74263 88810**

Roger Kipling

Summary

An archaeological excavation was undertaken between May and October 2017 by University of Leicester Archaeological Services on behalf of Grace Homes on land at Westgate Lane, Lubenham, Leicestershire, in advance of a residential development.

The archaeological excavation was a follow up to earlier evaluation work which had identified the potential for medieval deposits. A preliminary earthwork survey suggested the presence of medieval and post-medieval earthworks and features on the western edge of the village, including possible building platforms. Evaluation in 2016 identified ditches defining the putative platforms as well as pits with pottery dating to the 11th-12th centuries. The 2017 open area excavation produced further evidence for rear property medieval occupation in the form of gullies and refuse pits, defined by probable close boundary ditches extending west from the Westgate Lane frontage and linking with a major north-south ditch which appeared to demarcate the western village boundary. The paucity of evidence in the faunal record for animal husbandry suggests that the ditches were serving to delineate gardens and/or stock enclosures rather than upstanding cultivation platforms.

The ceramic evidence suggests low level Anglo-Saxon occupation and/or activity prior to a surge in activity from the 11th century. Environmental evidence provided rich evidence of cereal processing and on-site bread production. Towards the end of the 14th century the site appears to have been abandoned. This cessation of activity tallies with results from other excavations such as Kilsby, Northamptonshire, reflecting a widely observed phenomenon of shrinkages and/or desertions of villages during this period, as a result of a fall in rural populations. On-site activity appears to have been resumed following a lengthy period of abandonment with construction of the Poor Law Cottages in the 18th century.

The site archive will be deposited with Leicestershire County Council under the accession number X.A53.2017.

Introduction

An archaeological excavation was undertaken on land at Westgate Lane, Lubenham, Leicestershire, in advance of a residential development. The site occupies pasture land on the western edge of the village flanked to the west by Westgate Lane and to the north by Main Street. A preliminary desk-based assessment of the site (Dawson 2015) suggested that the site lies on the western outskirts of the early settlement, focussed south of the main road and which includes the probable 16th century former moated manor house site and associated buildings.

A follow-up earthwork survey undertaken by MOLA (Simmonds 2016) found that the northern part of the site appears to have been ploughed arable land during the medieval period and that ridge and furrow earthworks were still visible, in part overlying earlier earthworks. Along the line of Westgate Lane were several closes and the survey identified four platforms and a number of drainage ditches forming east-west aligned tenement plots.

A programme of archaeological work comprising trial trenching was undertaken by MOLA at the request of the Planning Archaeologist for Leicestershire in order to determine the impact of the proposed scheme on any buried archaeology and produce a mitigation strategy for the site. The evaluation (Hewitt *et al.* 2016, Kidd 2017) identified the ditches forming the platforms as well as pits with pottery dating to the 10th-12th centuries. Post-medieval and modern ditches were also recorded. In view of this, the Senior Planning Archaeologist for Leicestershire County Council (LCC), as advisor to Harborough District Council, requested an archaeologically controlled strip and excavation of the area in order to record any archaeological deposits which would be impacted on by the groundworks connected with the outline planning permission P.A 15/01471/OUT.

Fieldwork was undertaken between May and August 2017 and with a follow-up watching brief phase in October 2017 and involved the control and supervision of machine removal of overburden followed by hand cleaning, excavation and recording of archaeological remains across the footprint of the new buildings. The archaeological excavation was undertaken in accordance with National Planning Policy Framework Section 12: Conserving and Enhancing the Historic Environment (DCLG March 2012). The fieldwork was intended to provide a record of the archaeological remains in mitigation of the impact of the proposed development and the agreed scheme was set out in a Written Scheme of Investigation (WSI; ULAS 2017).

All archaeological work was in accordance with the Chartered Institute for Archaeologists (CIfA) Code of Conduct (2014) and adhered to their *Standard and Guidance for Archaeological Field Evaluation* (2014).

Site Description, Topography and Geology

The development is located on the western edge of Lubenham, a village in the Harborough district of Leicestershire, 3.2km west of Market Harborough (Fig. 1). The site lies on the western edge of the village to the rear of Westgate Lane and fronting Main Street to the north and comprising grassed pasture land. The land is relatively level at a height of c.98m O.D.

The British Geological Survey identifies the bedrock geology of the area as mudstone of the Charmouth formation overlain with clay, silt sand and gravel alluvium and river terrace deposits. The River Welland runs just to the south of the site.

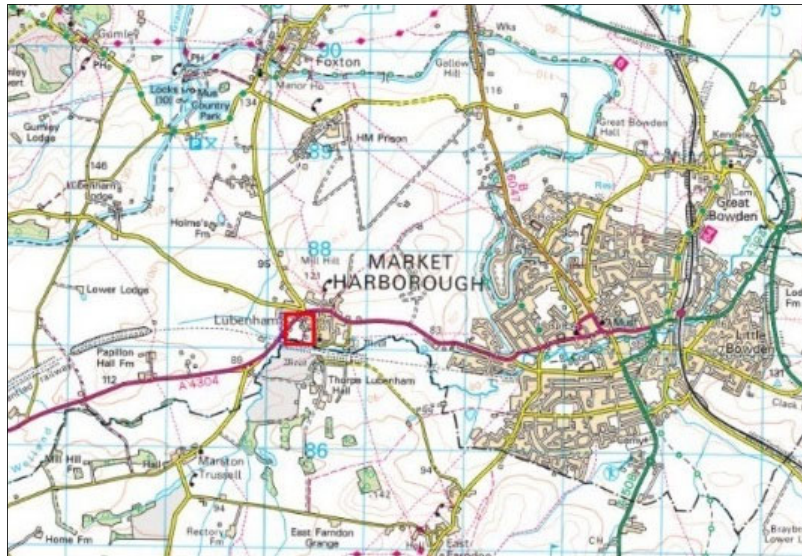


Figure 1: Location of the site (Scale 1:50 000)

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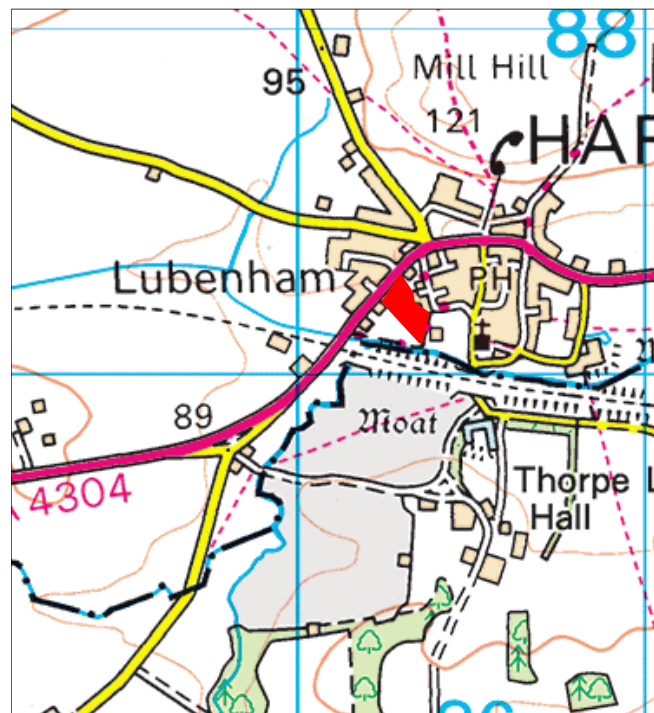


Figure 2: Site location (detail)

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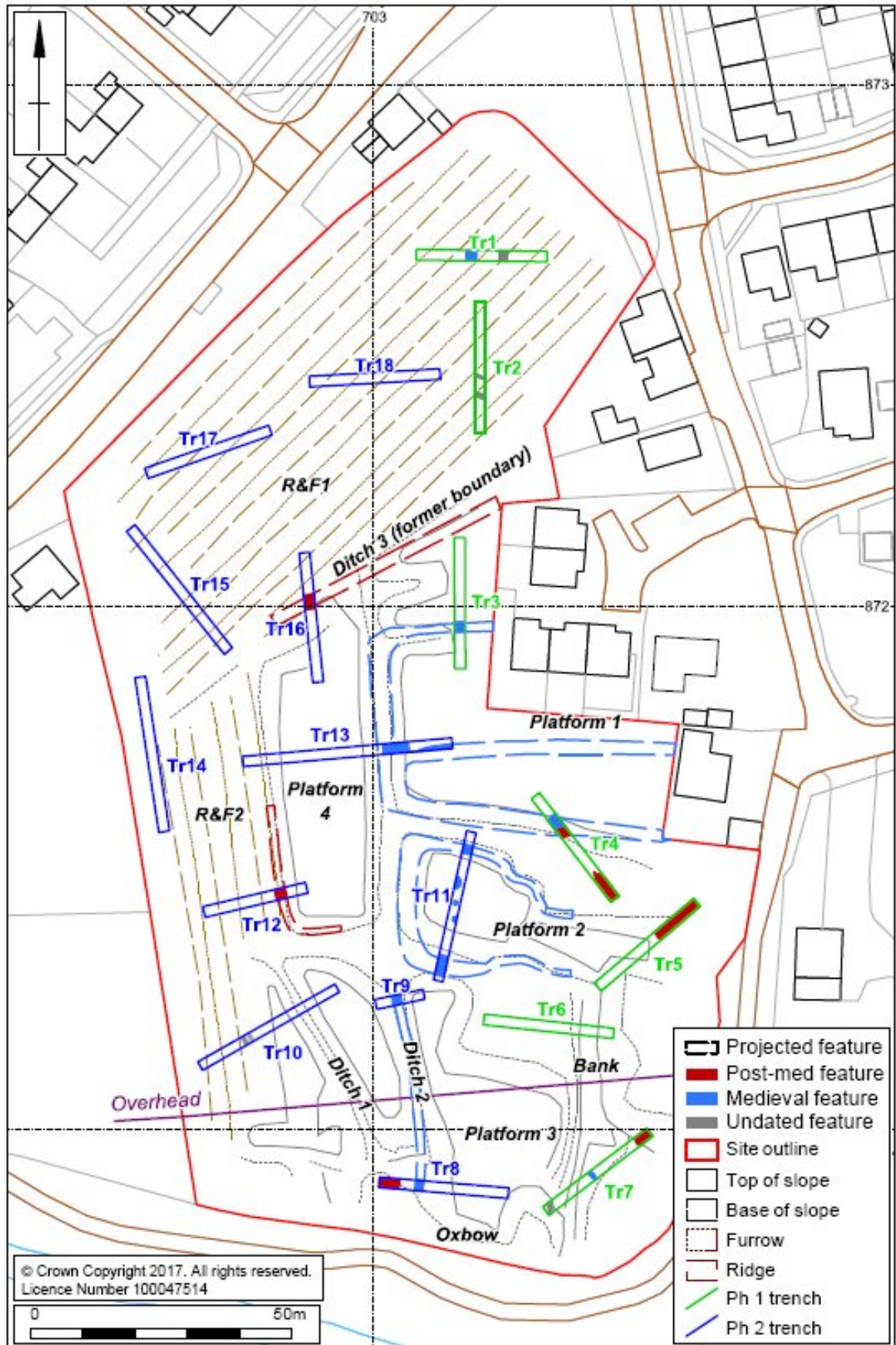
Archaeological and Historical Background

A desk-based assessment documents the early history of the site (Dawson 2015). Lubenham first appears in the Domesday survey as *Lubanham* and was held by three tenants. The older part of Lubenham lies south of the main road and includes the former manor house (probably 16th century) on a moated site as well as a number of other buildings. The site appears to lie on the western outskirts of the early settlement.

The earthwork survey (Simmonds 2016) demonstrated that the northern part of the site appears to have been ploughed arable land in the medieval period and ridge and furrow earthworks are still visible in some case overlying earlier earthworks (Fig. 3). Several closes were identified along the line of Westgate Lane, and the survey identified four platforms and a number of drainage ditches forming east-west aligned tenement plots. Trial trench excavations conducted in January 2016 (Hewitt *et al.* 2016, Kidd 2017) identified the ditches forming the platforms as well as pits with pottery dating to the 10th-12th centuries. Post-medieval and modern ditches were also recorded (Fig. 3).

Nineteenth century maps show occupation along the western side of Westgate Lane with work house cottages within rectangular plots which appear to have been mostly demolished by 1879. The evaluation trenching did not locate any evidence for buildings, although possible plot boundaries were identified as was demolition rubble. During the 19th century the site was known as Poor House Close and Westgate Lane was known as Back Lane.

The villages of Leicestershire and the wider English Central Midlands appear to have evolved, alongside their open field systems, during the later 1st millennium AD. Buried archaeological evidence constituting one or more as yet unidentified heritage asset(s) (National Planning Policy Framework (NPPF) Section 12, Paragraph 128 and Appendix 2) spanning the period from the earliest evolution of the village to its more recent past were expected within the development area. Historic mapping and aerial photographs indicate that the application site has remained largely undisturbed since at least the 19th century, therefore any archaeological remains present on the site would be likely to be preserved *in situ*.



Scale 1:1000 Excavated trenches showing archaeological features Fig 2

Figure 3: Site plan showing previous evaluation trench locations

Aims and Objectives

The general aims of the archaeological programme of works were as follows:

- To recover evidence for the date of formation of the features
- To provide an adequately detailed project report, placing the investigation's findings in their local and regional context
- To disseminate and publish the project results, as appropriate
- To produce a site archive for deposition with an appropriate museum and to provide information for accession to the Leicestershire HER

In addition, the archaeological work was identified to have the potential to contribute to the following research aims, derived from *East Midlands Heritage: An updated research agenda and strategy for the Historic Environment of the East Midlands* (Knight et al. 2012) and *The Archaeology of the East Midlands: An Archaeological Resource Assessment and Research Agenda* (Cooper 2006).

The identified land use history of the development site focuses attention on the medieval period and the later 18th century. The excavation could contribute towards the following research objectives:

- Research Objective 7E Investigate the morphology of rural settlements and
- Research Objective 9C Investigate the development of social and religious building types.

Methodology

Prior to the commencement of works an Accession Code was obtained, an OASIS online record was initiated. Following recommendations from the Senior Planning Archaeologist of Leicestershire County Council, a programme of archaeological investigation was undertaken, involving an initial phase of control and supervision of overburden removal supervised by an experienced professional archaeologist, followed by excavation and recording of the resultant features.

The strip map and record excavation area had previously been agreed between the Senior Planning Archaeologist and ULAS, as set out in the Written Scheme of Investigation (ULAS 2017). The precise extent of area to be machine stripped was kept under review in order to fully expose surviving archaeological remains.

Two mechanical excavators equipped with toothless ditching buckets were employed under constant archaeological supervision to remove overburden, with excavation ceasing at undisturbed archaeological deposits. Archaeological deposits were recorded at an appropriate scale by measured drawing and photography and were located to Ordnance Survey National Grid. All features and layers of potential significance were sampled by hand excavation in order to determine their date and character using standard ULAS procedures, with additional limited machine excavation of larger features.



Figure 4: General view east of machine strip in progress



Figure 5: View southeast of southern excavation area

Results (Figs 5-6)

The machine stripping phase produced an excavation area totalling $c.8400\text{m}^2$ (0.84 ha), with the main area separated from a smaller, secondary zone to the south of power cables running east-west across the site (Fig. 6). Archaeological preservation was revealed to be reasonably good across the stripped area, with little demonstrable modern disturbance. A simplified plan depicting the principal phases is included below (Fig. 7).

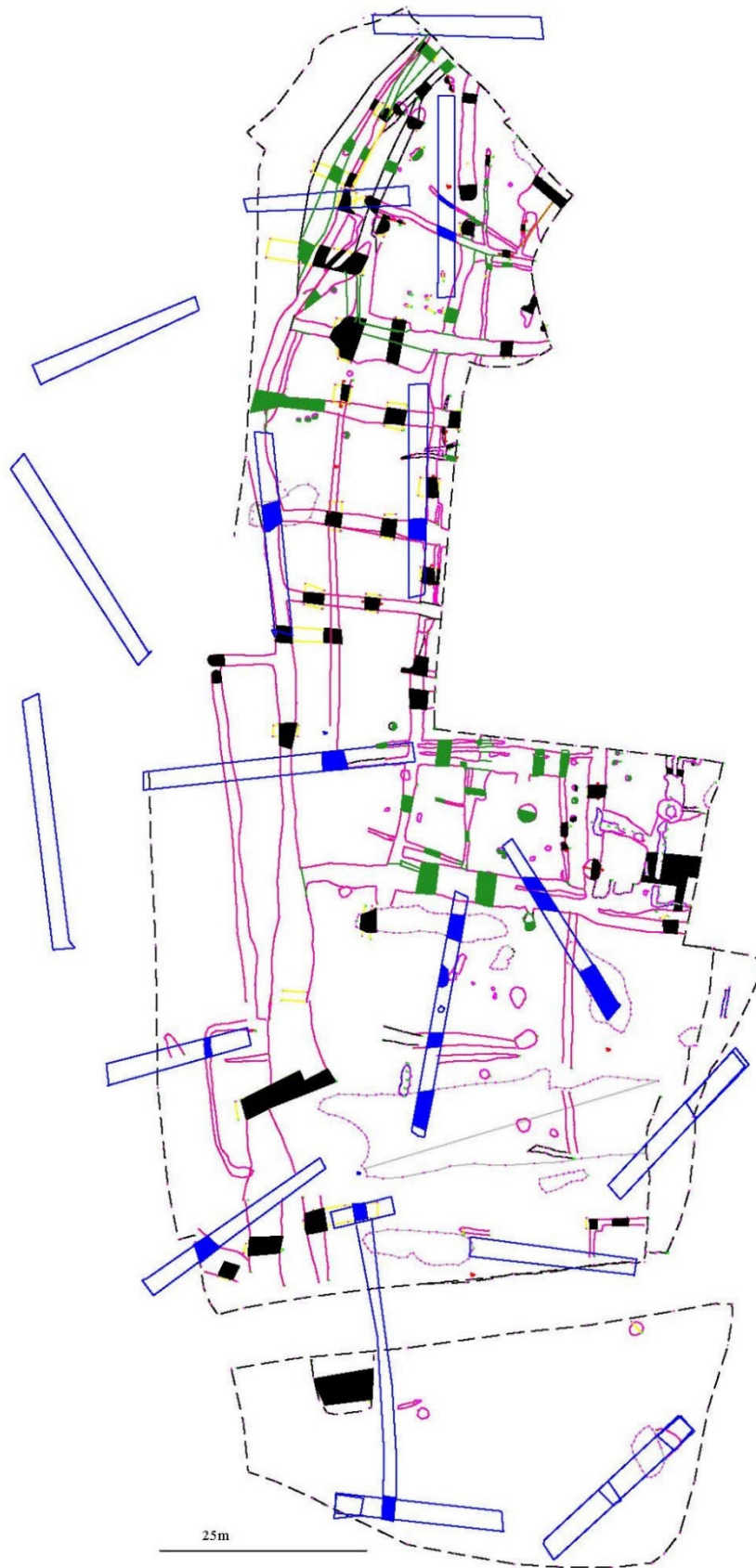


Figure 6: General machine strip area showing archaeology and 2016 evaluation trenches (in blue)



Figure 7: Plan of suggested broad phasing

The Late Saxo-Norman to Early Medieval Period (c.1100-1400)

Introduction

The majority of archaeological activity at Lubenham dated to the Saxo-Norman/early medieval transition to the middle medieval period, between c.1100 and 1400. This period witnessed the establishment of a network of ditches likely relating to the initial setting out of the western village boundary to Lubenham and several attendant closes or properties running east towards Westgate Lane. The ditches were dominated by the probable western village boundary ditch which emerged from the northern edge of the excavation and ran briefly south-west before shifting alignment and running south downslope for c.150m before exiting the excavation area and heading south to drain into the River Welland. This ditch appears to have been maintained for a lengthy period, being the subject of several recuts, the sequence sealed by a general subsoil or riverine silt deposit. Standing ridge and furrow earthworks directly to the west suggested that the ditch delineated the boundary between the village and its accompanying open fields to the west. A short distance to the east, an earlier, Saxo-Norman parallel ditch may represent a village boundary predating the setting out of the several closes extending east towards the Westgate Lane frontage, as defined by further smaller ditches.

Suggestions of domestic activity occupying the rear of properties fronting Westgate Lane was provided by post holes and pitting along the eastern zone of the excavation, notably in the north-east corner and in the vicinity of the Poor Law cottage (Structure 1) to the south.

Northern Area (Figs 8-9)

Western village ditch(es)

[2063] (2064); [2065] (2066); [2067] (2068); [2069] (2070)

[2163] (2164)

[2206] (2207, 2208, 2209); [2210] (2211, 2212)

[2241] (2242); [2243] (2244); [2245] (2246)

[2448] (2449); [2492] (2491)

[2261] (2262, 2263 & 2270)

[2264] [(2265)]; [2266] (2263)

[2271] (2272); [2273] (2274); [2275] (2276); [2277] (2278); [2279] (2280); [2281] (2282); [2283] (2284)

[2350] (2349)

[2393] (2394), [2395] (2396), [2397] (2398)

The principal western north-south ditch was traced south-west along the western limit of excavation before shifting alignment and running south downslope for c.150m to drain into the Welland off-site. The ditch appears to have been maintained for a lengthy period, being subject to several 45° sided, concave based recuts, resulting in a broad but shallow feature measuring c.2.5m wide and 0.6m deep. Ceramic material from several of the ditches produced a broadly Late Saxon to Early Medieval usage date. Ditch fills [2069] (2070), [2206] (2207 & 2208) and [2210] (2212) contained Saxo-Norman pottery, whilst [2065] (2066), [2281] (2282), [2283] (2284) and [2395] (2396) produced material of 1100-1250 date.

At one point the ditch widened noticeably, forming a 9m wide and 0.8m deep cut formed of three parallel cuts, [2261], [2264] and [2266], the deepest of which, [2261], was cut into the ironstone bedrock with a ramped cut on the western edge (Figs 9 and 11). The depth and open character of the feature suggest a possible function as a cattle watering hole (Fig. 13). The recovery of a water flea egg from fill (2262) of [2261] is indicative of features that have dried up, while 18th-19th century pottery from the ditches suggest that this was a late feature and/or one which endured as a functioning open feature into the modern era.

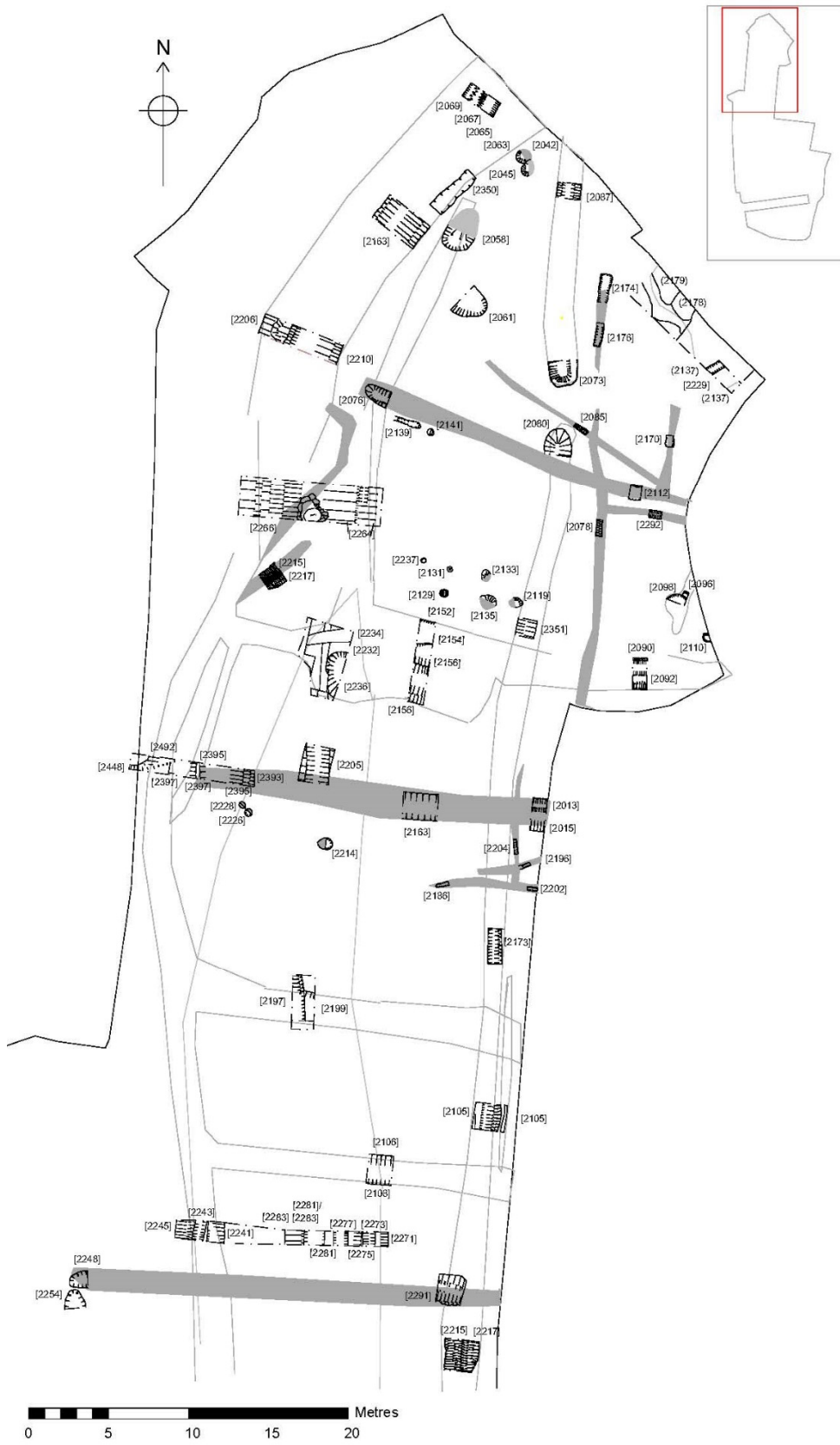


Figure 8: North excavation area

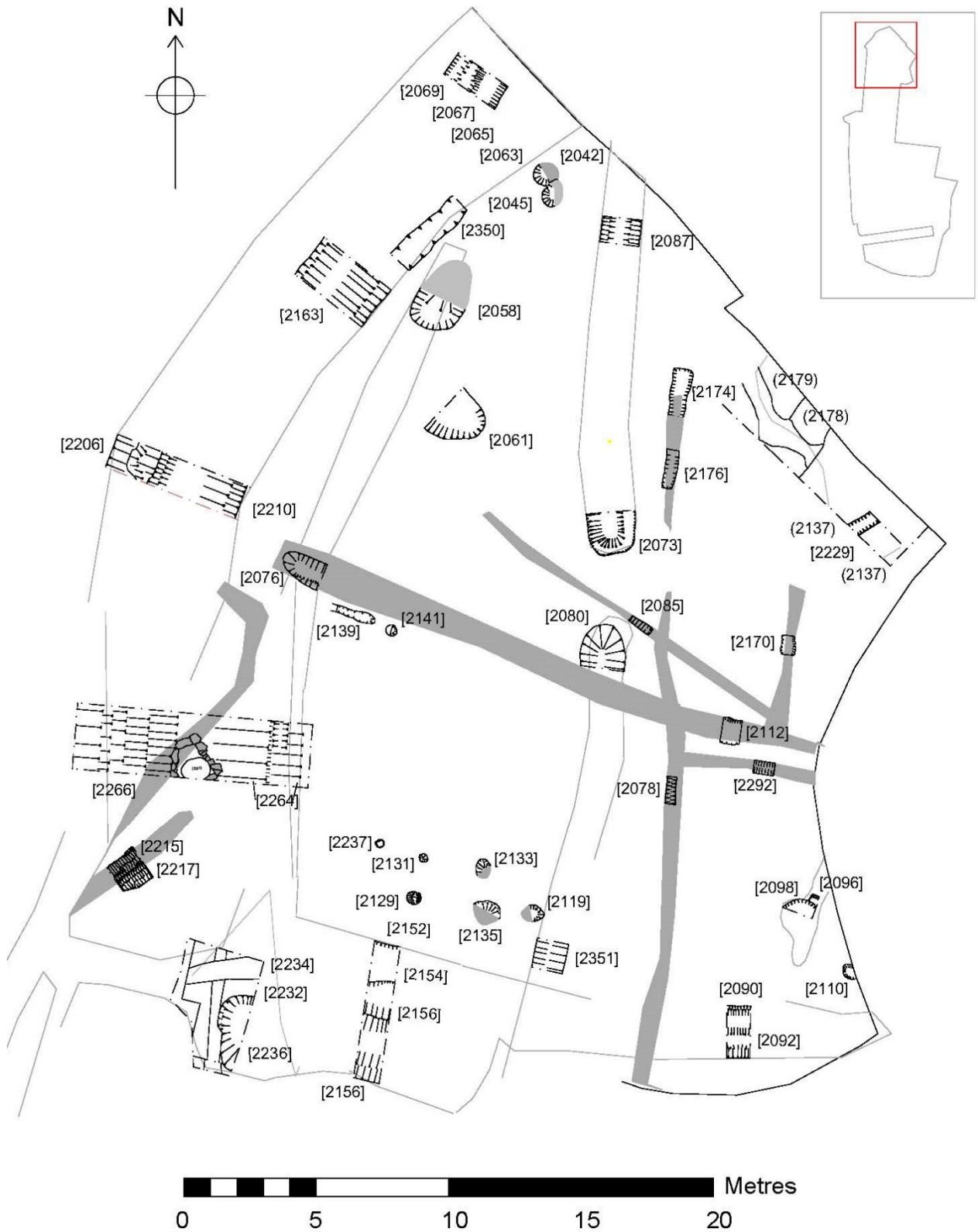


Figure 9: Detail of north excavation area

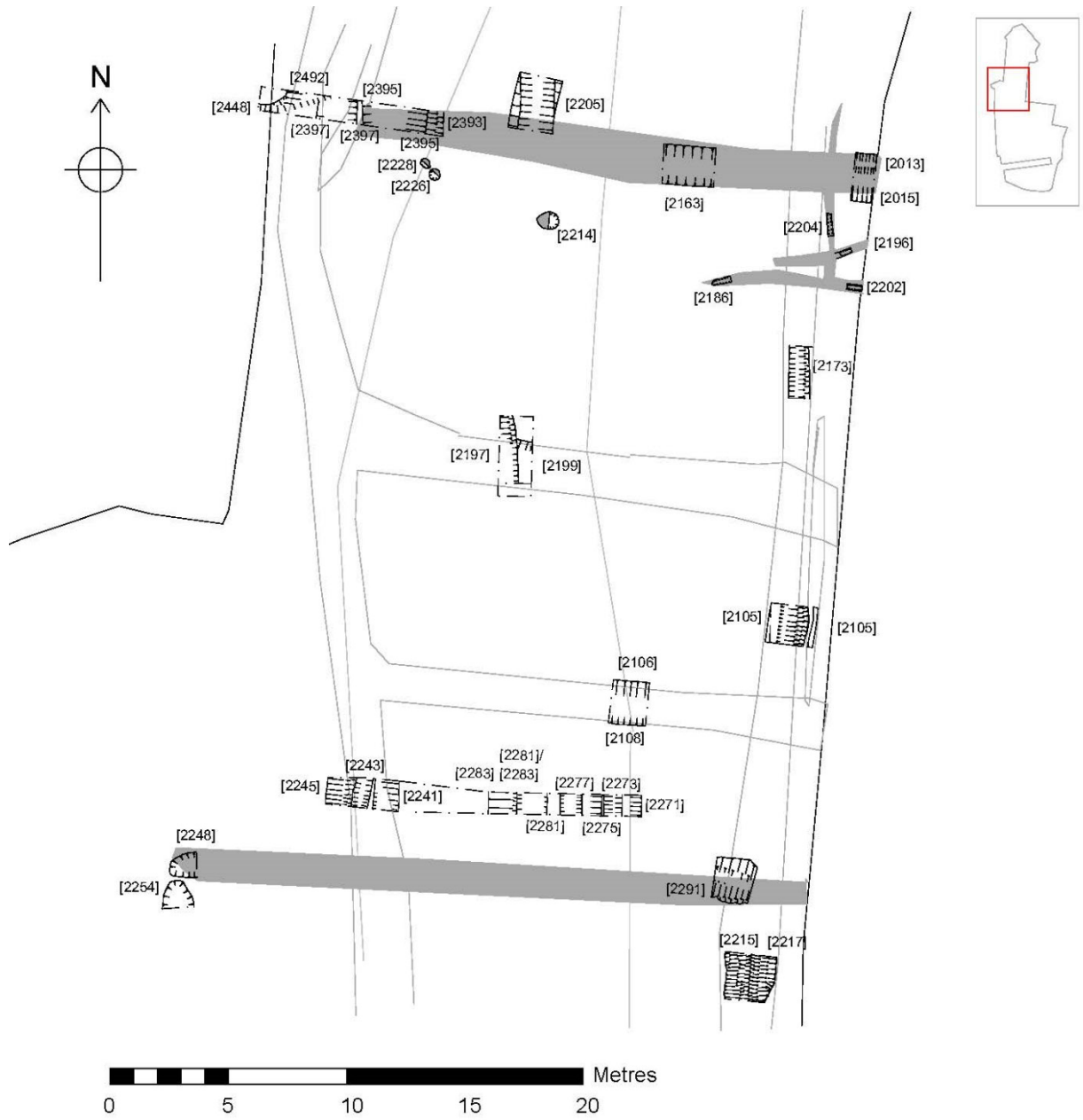


Figure 10: Detail of north excavation area



Figure 11: Watering hole/ditch (2261); view south-west (2m scale)



Figure 12: Ditches [2271], [2283] *et al.* view south-west (2m scale)

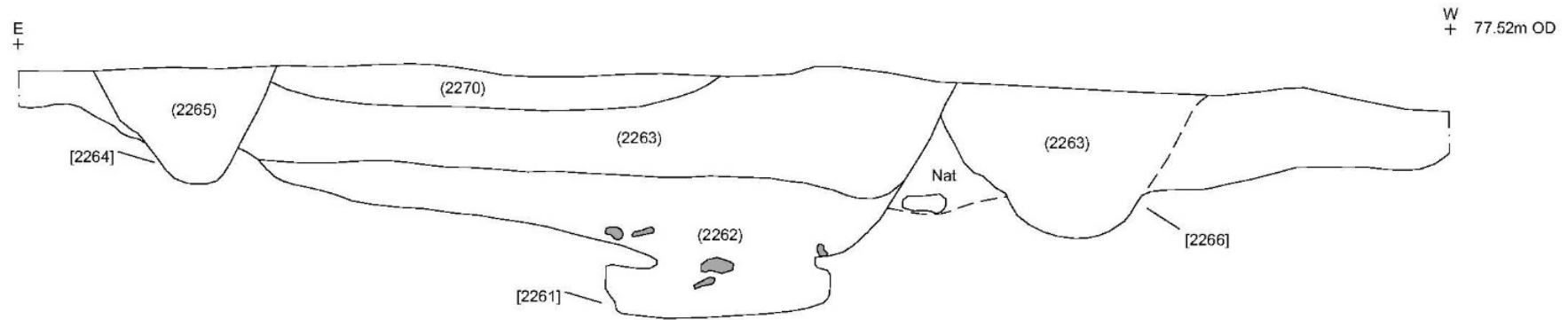


Figure 13: Watering hole/ditch sequence [2261] section drawing

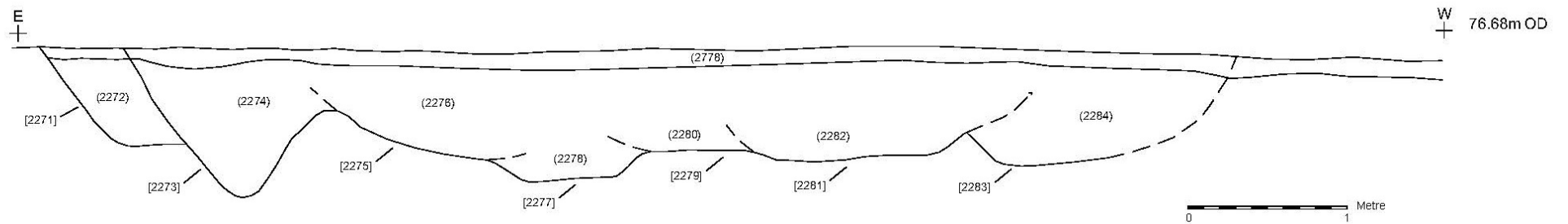


Figure 14: Ditch sequence [2271] to [2283] section

Western close boundary ditch (Figs 8-10, Fig. 15)

[2073] (2074, 2075)/[2087] (2088, 2089)

[2080] (2081, 2082, 2083, 2084) / [2351] (2352) / [2173] (2172) / [2105] (2104) / [2215] (2216) / [2217] (2218)

[2174] (2175) / [2176] (2177) / [2078] (2079)

A second, smaller ditch was traced running north-south *c.*15m to the east of and parallel to the more substantial western village ditch (Fig. 15). The linear feature, measuring *c.*1.5m-2.25m x 0.7m-0.9m deep, predated the east-west close ditches (detailed below), which cut across it. A probable entrance was located at the northern end of the ditch, represented by two opposing ditch butt ends [2073] and [2080], forming a 2.6m wide gap. Saxo-Norman pottery recovered from fill (2089) of [2087] and (2216) of [2217] suggest that this linear formed an early element of the village ditch system, possibly serving to define the boundary between the rear of the Westgate Lane properties and the open fields, with access to and from the fields via the aforementioned entry point.



Figure 15: Ditches [2215] & [2217]; view north-east (1m scale)

Close boundary ditches (Figs 8-10)

[2076] (2077)/[2112] (2113)
[2085] (2086)
[2090] (2091); [2092] (2093), (2094), (2095)
[2197] (2198); [2200] (2199)
[2106] (2107); [2108] (2109)
[2154] (2155), [2156] (2157)
[2163] (2164)/[2013] (2014)/[2015] (2016)
[2232] (2230, 2231); [2234] (2233)
[2248] (2250)/[2291] (2289, 2290)
[2292] (2293, 2294)

A total of seven parallel ditches likely defining medieval closes were identified running east towards Westgate Lane from the probable north-south village boundary marker ditch. The northern linear features were more closely spaced (around 6-8m) than those to the south (10-12m apart), suggestive of later property subdivisions. Ditch profiles were of open v-shape with concave bases measuring 1.2m-2m in width and 0.5m-0.6m deep. The generally single silty clay fills generally lacked finds, although a small number - [2076] (2077)/[2112] (2113), [2090] (2091) [2092] (2093) - produced pottery ranging between the 11th to mid-13th centuries.

One ditch [2092] located on the eastern excavation edge was notable for producing high densities of charred grain, possibly burnt during the parching/storage stage of crop processing (Santer and Small, this volume). The likely continuation of this ditch to the east [2156] (2157) produced a dog femur showing suggestions of skinning (Banfield, this volume) and dated to c. 1250-1300, and a two-pronged iron fork of c. 1200-1250.

Rear property activity (Figs 8-9)

Pits [2042] (2043, 2044); [2045] (2046); [2058] (2059, 2060); [2061] (2062); [2098] (2099, 2100, 2101)
Post holes [2110] (2111); [2119] (2120); [2129] (2130); [2131], (2132); [2133] (2134); [2135] (2136); [2141] (2140); [2214] (2213); [2226] (2225); [2228] (2227); [2237] (2238)
Ditches [2096] (2097); [2229] (2080)
Spreads (2178) (2179)
Gullies [2139] (2138); [2186] (2185); [2196] (2195); [2202] (2201); [2204] (2206)

A series of features synonymous with medieval rear property activity and/or occupation were identified east of the principal north-south boundary ditch in the northern excavation area; namely a series of gullies, post holes and pits. A small grouping of undated features was defined by possible close linear features [2292] and [2078], comprising ditch [2096], which Saxo-Norman pottery, pit [2098] and post hole [2110]. The pit produced high quantities of charred grain. Flanking this to the west, a random grouping of post holes [2119], [2129], [2131], [2133], [2135], dated by pottery to the Late Anglo-Saxon period, [2141], [2237] may represent a post-built structure.

Finally, several heavily truncated pits were grouped at the northern limit of excavation [2042], [2045], [2058], [2061]; the latter produced Early Medieval pottery and a lead hanging weight.

Central Area (Figs 16-18)

North-south ditches

[2032] (2033); [2047] (2048, 2049); [2050] (2051); [2052] (2053); [2054] (2055); [2257] (2258); [2143] (2144); [2145] (2146); [2229] (2180); [2296] (2297, 2298); [2260] (2259); [2314] (2313); [2495] (2496, 2497); [2580] (2581); [2582] (2583); [2584] (2585); [2586] (2587); [2604] (2605, 2606); [2676] (2675); [2745] (2746); [2718] (2715, 2716, 2717)

The village ditches continued into the southern zone of excavation, from which close ditches extended east towards the Westgate Lane frontage. Again, the former comprised a sequence of broad, shallow and open concave-based cuts and, in cases, lengthy recut sequences (for example, Figs 17-18). Single fills and a general paucity of finds suggests short-lived individual use, whilst ceramic evidence [2050] (2051), [2052] (2053), [2413] (2144), [2314] (2313), [2584] (2585) points to overall usage ranging from the Saxon period through to the mid-13th century.

East-west ditches

[2001] (2002); [2008] (2009, (2010)); [2017] (2018); [2158] (2159); [2249] (2250); [2257] (2258); [2302] (2301); [2305] (2303, 2304); [2309] (2311, 2312); [2319] (2320); [2322] (2321); [2323] (2324); [2325] (2326); [2329] (2330); [2340] (2339); [2344] (2341, 2342, 2343); [2346] (2345); [2350] (2349); [2358] (2359); [2364] (2363); [2369] (2367, 2368); [2375] (2373, 2374); [2386] (2387); [2433] (2432); [2453] (2452); [2464] (2463); [2468] (2469); [2470] (2469); [2492] (2493); [2494] (2495); [2539] (2538); [2547] (2548); [2550] (2551); [2564] (2562, 2563); [2574] (2575); [2036] (2037, 2038); [2699] (2698); [2714] (2713); [2776] (2777)

Subsidiary east-west ditches defined a minimum of three *c.* 8m-10m wide closes fronting Westgate Lane, occupied by pits and post holes, increased slightly in density towards the east. Dating from the former ranged from the Early/Middle Anglo-Saxon period [2001] (2002) to the mid-14th to mid-15th century [2464] (2463), suggesting a lengthy period of use. Ditch [2008] (2009) produced a pintle from a door hinge.

Pits

[2005] (2006); [2251] (2252); [2366] (2365); [2370] (2371); [2384] (2385); [2428] (2429); [2488] (2489, 2490); [2498] (2499); [2507] (2506); [2519] (2520); [2523] (2524); [2525] (2526, 2527, 2528); [2555] (2556); [2602] (2603); [2678] (2677); [2695] (2696); [2712] (2706, 2707, 2708, 2709, 2710, 2711); [2719] (2720); [2728] (2724, 2725, 2726, 2727); [2732] (2733, 2734); [2743] (2744)

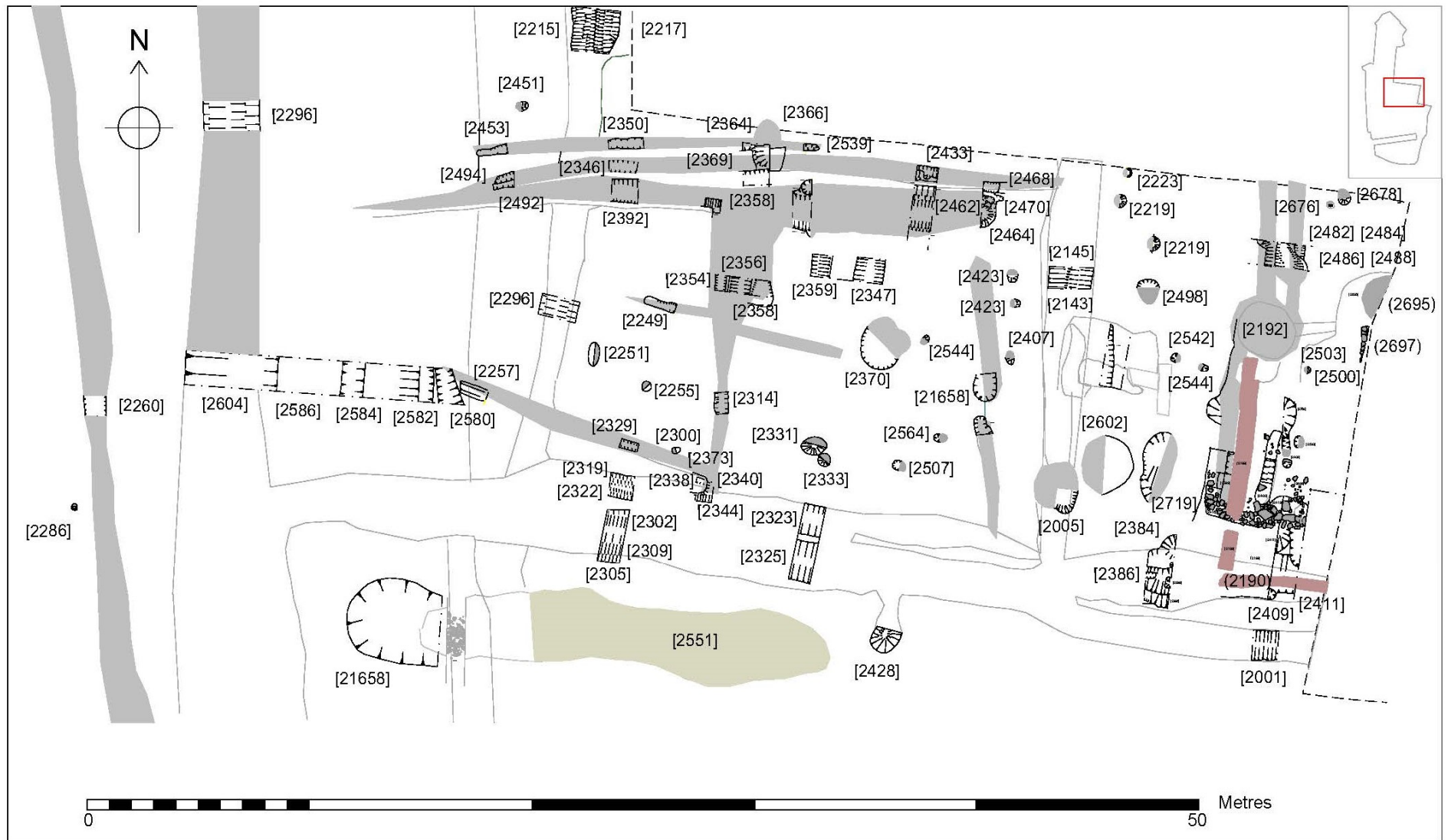


Figure 16: Central area features

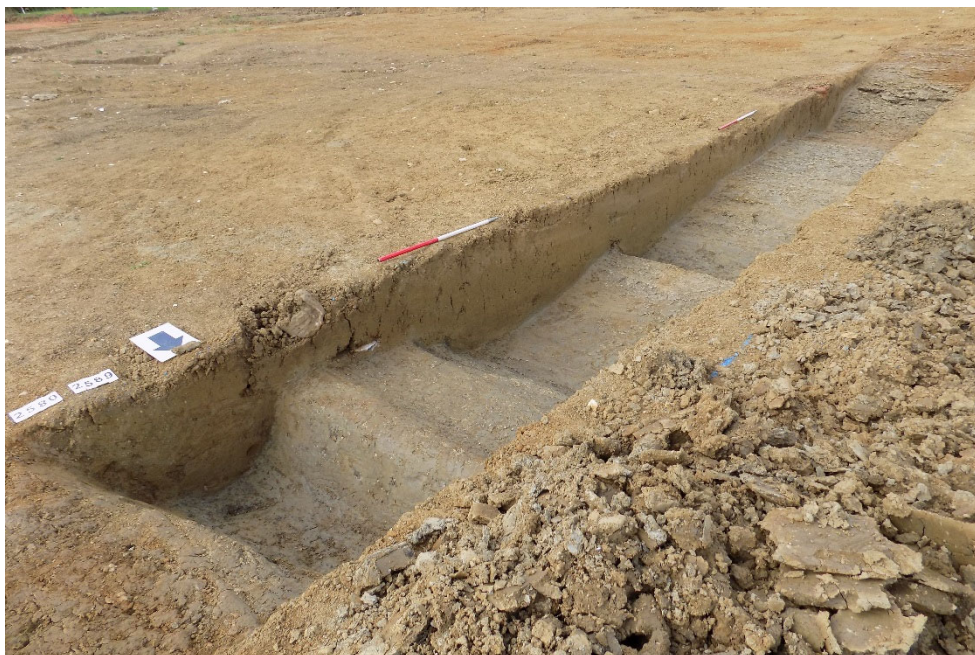


Figure 17: Ditches [2580], [2589] *et al.*, view south-west (1m scales)

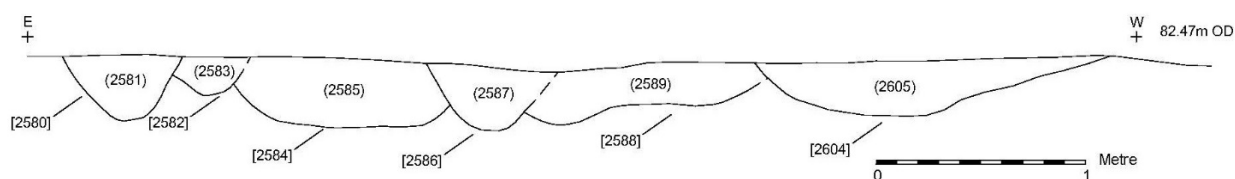


Figure 18: Ditch sequence [2580, [2640] *et al.* section

Post holes

[2219] (2220), [2223] (2224); [2255] (2256); [2286] (2285); [2331] (2332); [2300] (2299); [2333] (2334, 2335); [2407] (2408); [2433] (2432); [2451] (2450); [2482] (2483); [2484] (2485); [2486] (2487); [2500] (2501); [2503] (2504); [2507] (2506); [2542] (2540, 2541); [2544] (2543); [2564] (2563, 2564); [2591] (2590); [2595] (2594); [2597] (2598); [2599] (2600); [2601] (2600); [2730] (2729); [2750] (2749); [2755] (2754); [2757] (2756); [2764] (2763); [2766] (2765)

A number of pits and post holes were dispersed across the southern excavation area and dated by pottery ranging from the Late Anglo-Saxon period to the late 13th century. Feature densities increased slightly towards the east and the road frontage (Figs 18-19). Excavation of the 18th century Poor Law cottage (Structure 1, see below), revealed the building to overlie medieval features, and demonstrated that its wall lines respected underlying medieval close boundary ditches (Figs 20-21).

Dietary information was provided by pit [2488], located in the north-east corner of the excavated area, which produced an abundance of free-threshing wheat grains and some cultivated oats as well as some barley and rye grains (Figs 22-24). A number of other pits provided pottery dating ranging between the Late Anglo-Saxon period and the mid-13th century.

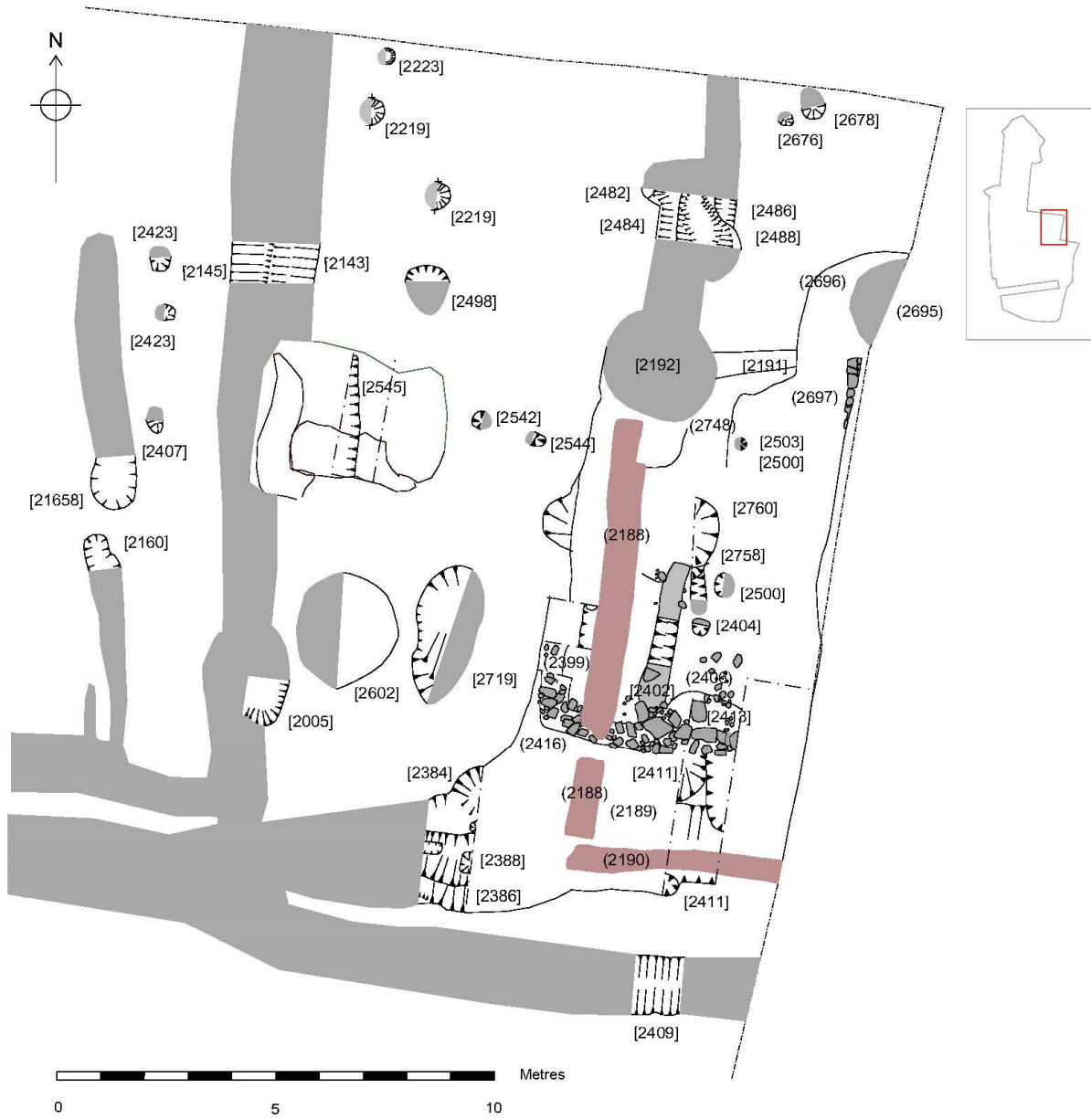


Figure 19: Principal features in eastern central excavation area

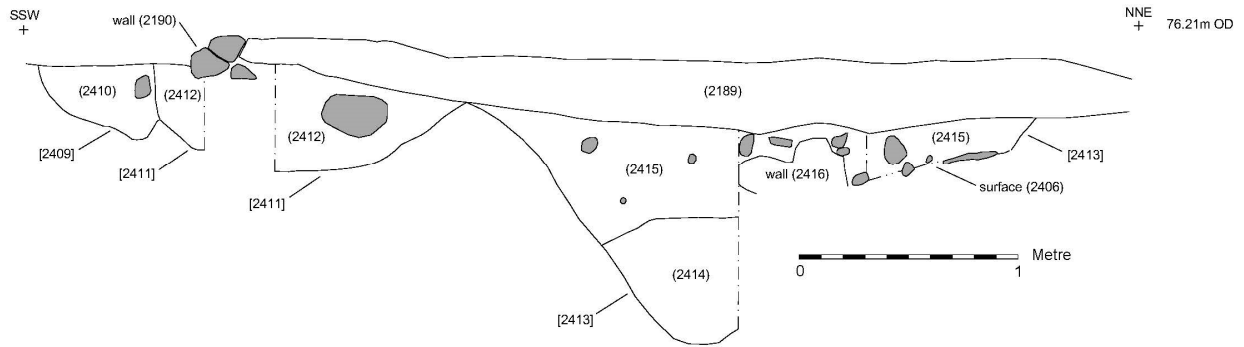


Figure 20: Longitudinal section across Structure 1 and underlying medieval deposits



Figure 21: Structure 1 wall (2416) truncating 13th century pit [2417]; view north-west (1m scale)



Figure 22: Pit [2488] and associated features; view south (1m scale)

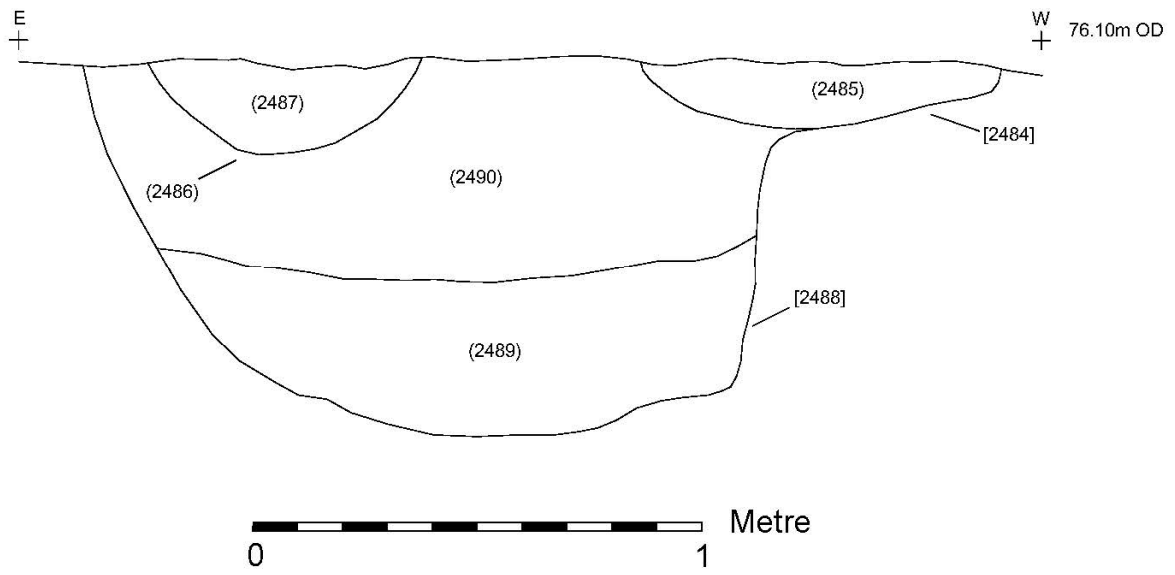


Figure 23: Pit [2488] and associated features



Figure 24: Pit [2498]; view south-west (0.3m scale)

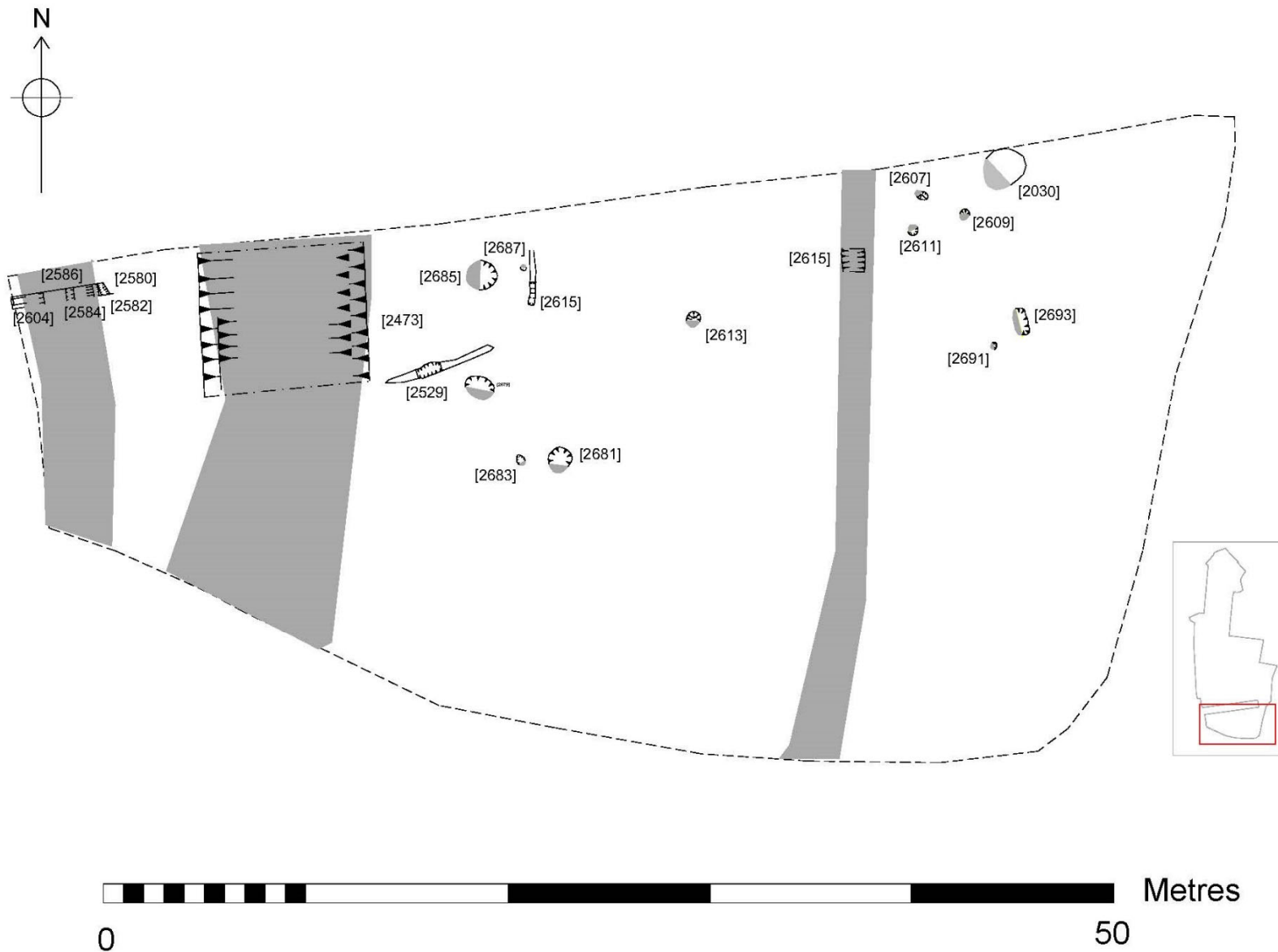


Figure 26: Southern area features

Southernmost Area (Figs 25-26)

Ditches

[2580] (2581); [2582] (2583), [2584] (2585); [2586] (2587); [2604] (2605); [2473] (2474), (2475), (2476); [2477], (2478); [2615] (2617)

Post holes

[2607] (2608); [2609] (2610); [2611] (2612); [2613] (2614); [2681] (2682); [2683] (2684); [2685] (2684); [2687] (2688); [2679] (2680); [2672] (2671); [2693] (2694)

Pit

[2030] (2031)

The south-west corner of the excavated area was occupied by the village ditches, which by this point had broadened to a wide, shallow cut. Ditch [2473] and its smaller recut [2477] was especially substantial, measuring c.8m wide and 1.35m deep overall with 45° sides and a flat base (Figs 27-28). To the west, the smaller scale smaller ditch [2580]/[2582]/[2584]/[2586] grouping produced a single sherd of Saxo-Norman pottery.

A small grouping of undated post holes were located to the east of the ditches, whilst the single fill (2031) of isolated pit [2030] produced early- mid-11th century pottery.

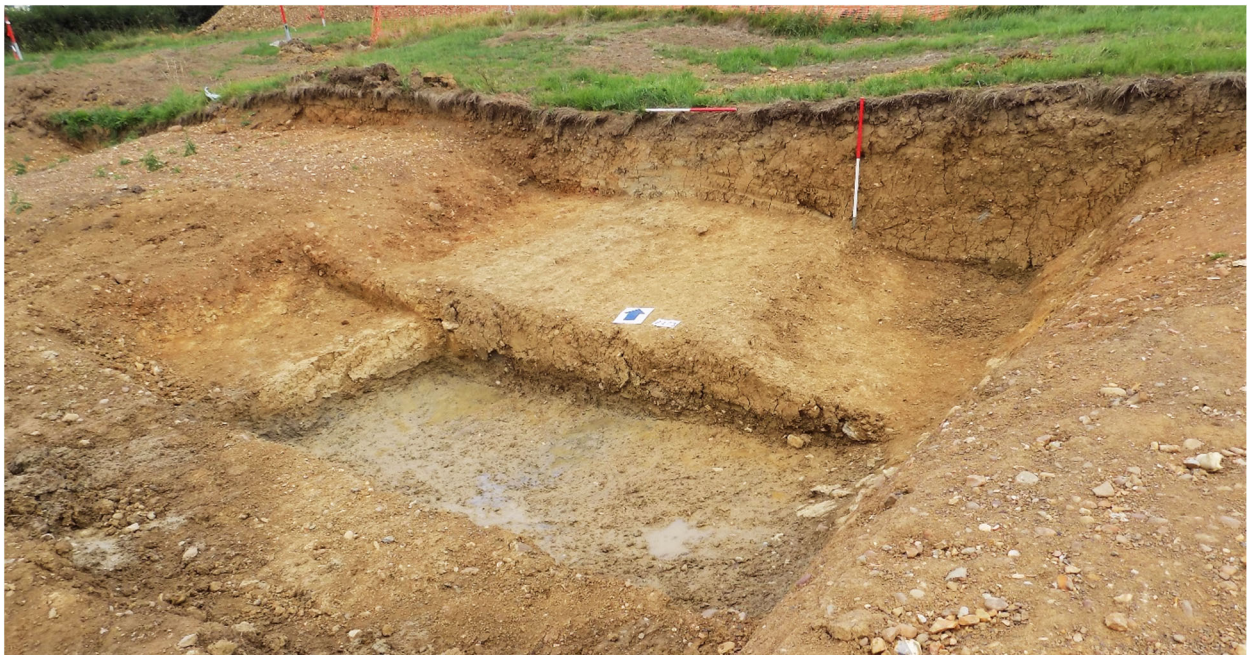


Figure 27: Ditch [2473]; view north-west (1m scales)

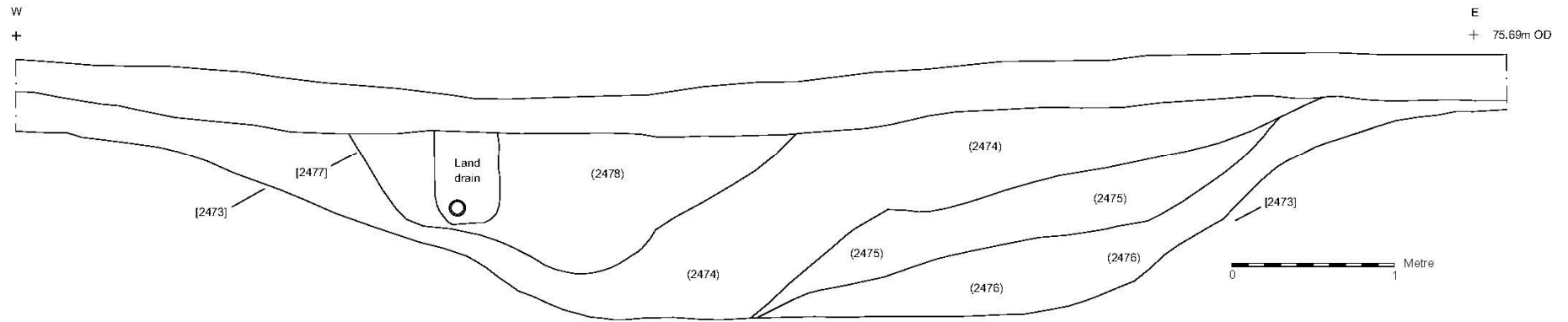


Figure 28: Ditch [2473] section drawing

The Modern Period (1760 onwards)

The excavation provided evidence for two of several cottages documented as having been constructed by the parish for the poor of Lubenham from the 1760s and featuring on early maps.

Structure 1

Walls (2149), [2182] (2188), (2190), (2697)

?Hearth (2150)

Surface/spread (2151)

Cobbled surface (2695)

Well [2191] construction cut backfill (2192), lining (2193)

Demolition/abandonment (2189)

Possible earlier building phase:

Wall (2416)

Surface (2406)

Cobbled surface (2748)

Post pad (2420)

Post holes [2500] (2501), (2502); [2503] (2504), (2505)

Structure 1 was located in the north-east corner of the excavation to the rear of gardens to properties fronting Westgate Lane (Figs 19, 29-31). The masonry structure was of rectangular plan measuring c.10m north-south and 5m+ east-west overall and consisting of wall foundations of a single surviving course of faced ironstone blocks of variable size and with a core of smaller irregular ironstone blocks. The north-south wall (**2188**) measured 0.75m wide, 0.25m tall and 10m in length. Traces of lime bonding material survived. A second, less substantial single course wall or foundation (**2190**) of irregular ironstone, cobbles and limestone build, appeared to form the southern property wall. A possible eastern wall (**2697**) was observed on the eastern edge of excavation, associated with traces of an internal cobbled floor surface (**2695**), which produced pottery of c.1680-1800 date.

An earlier structural phase was suggested by wall (**2416**), which crossed diagonally east-west beneath wall (**2188**). The c.5m x 0.45-0.55m limestone block build appeared to be earth fast and dated by pottery to c.1680-1800 and associated with adjacent post holes [**2500**] & [**2503**] and a single post pad (**2420**). The north west corner of the building was occupied by a coarse cobbled surface (**2748**) (Fig. 32), which was overlain by wall (**2188**), whilst a second crude surface of river cobbles and limestone rubble (**2406**) was identified on the eastern side of the building (Fig. 33).



Figure 29: Pre-excitation photograph of Poor Law cottage Structure 1; view north (1m scales)



Figure 30: Excavation of medieval phase underlying Structure 1; view north-west



Figure 31: Structure 1: general view east (1m scales)



Figure 32: Surface (2748); view west (1m scale)



Figure 33: Rubble surface (2406); view south-west (1m scales)

Indications of a possible adjoining wing aligned at right angles to the first were identified to the west (Figs 34-35), consisting of a single north-east-south-west aligned wall or foundation (**2149**) (2.8m x 0.7m x 0.25m high) of earthfast irregular limestone block build with a rubble core. A probable hearth or fireplace base (**2150**) (Figs 36-37) was positioned adjacent to the wall on its east side, constructed from pitched natural limestone blocks and river-washed pebbles (c.5m x 1m) and with indications of heat reddening, and flanked by an undated possible silty clay floor surface (**2151**).

A stone-lined well [**2191**] was positioned at the northern end of the building; the 2.7m diameter circular construction cut had an ironstone and limestone block lining (**2193**) and a rough ironstone and sandstone block capping. The well lining was set in a 2.7m diameter construction cut [**2191**] with (**2192**) clay and rubble backfill material (Fig. 38).



Figure 34: Photomosaic of Structure 1



Figure 35: Plan of Structure 1



Figure 36: Hearth (2150); view north-west (1m scales)

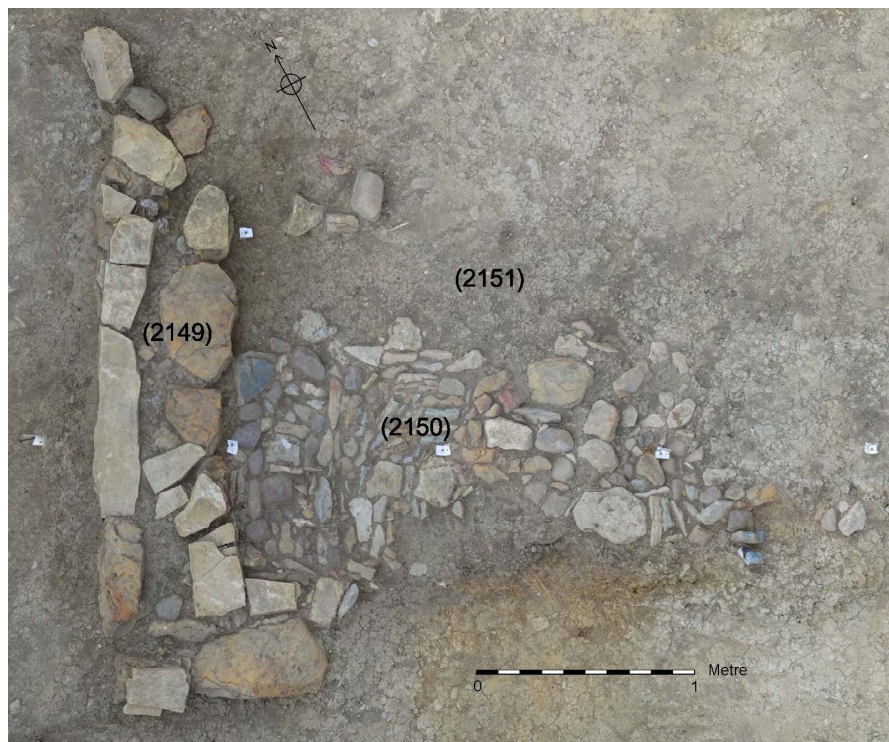


Figure 37: Wall (2149), hearth (2150) & spread/trample (2151); view north-east

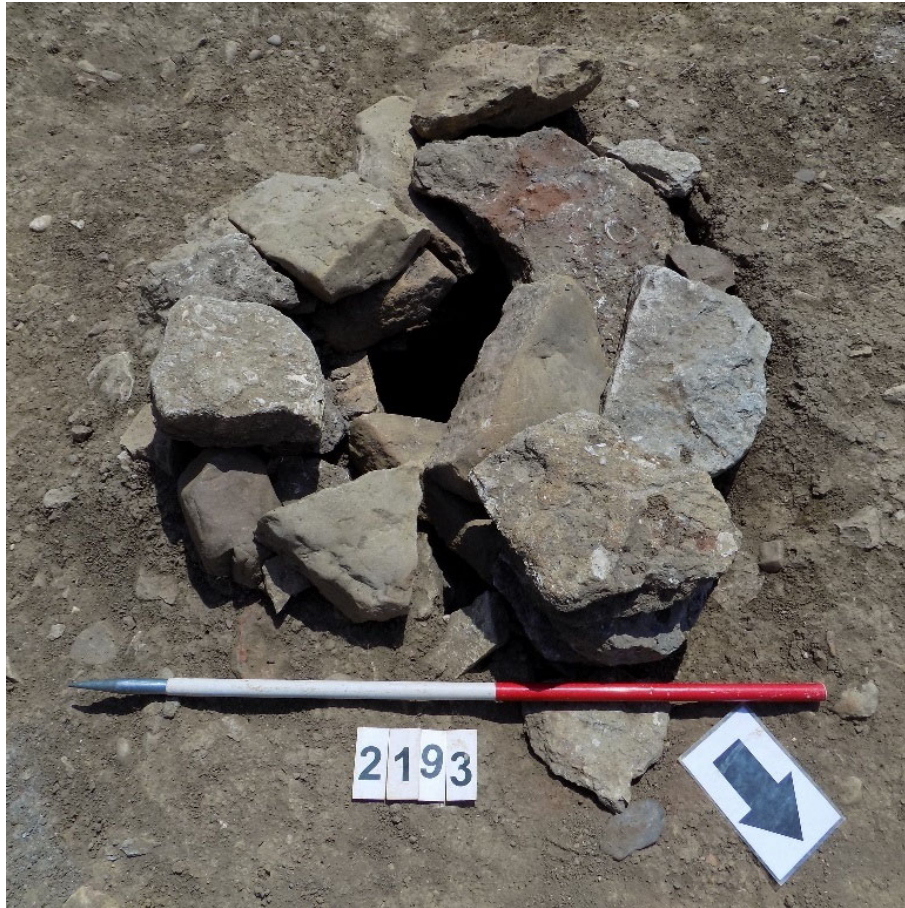


Figure 38: Well [2192]/(2193); view south-west (1m scale)

Structure 2

Walls (2771), (2772), (2775)

The second of two 18th century Poor Law cottages documented as having been present on the site was identified in the north-east corner of the excavation (Fig. 25). Three fragmentary wall foundations (2771), (2772) & (2775) formed three sides of an elongated rectangular structure measuring *c.*10m+ x 4.8m and aligned broadly NWW-SEE. Later disturbance had largely removed the 18th-century brick and limestone masonry fabric, with the wall lines mostly surviving as mortar-filled construction cuts. No internal features survived (Figs 39-41).

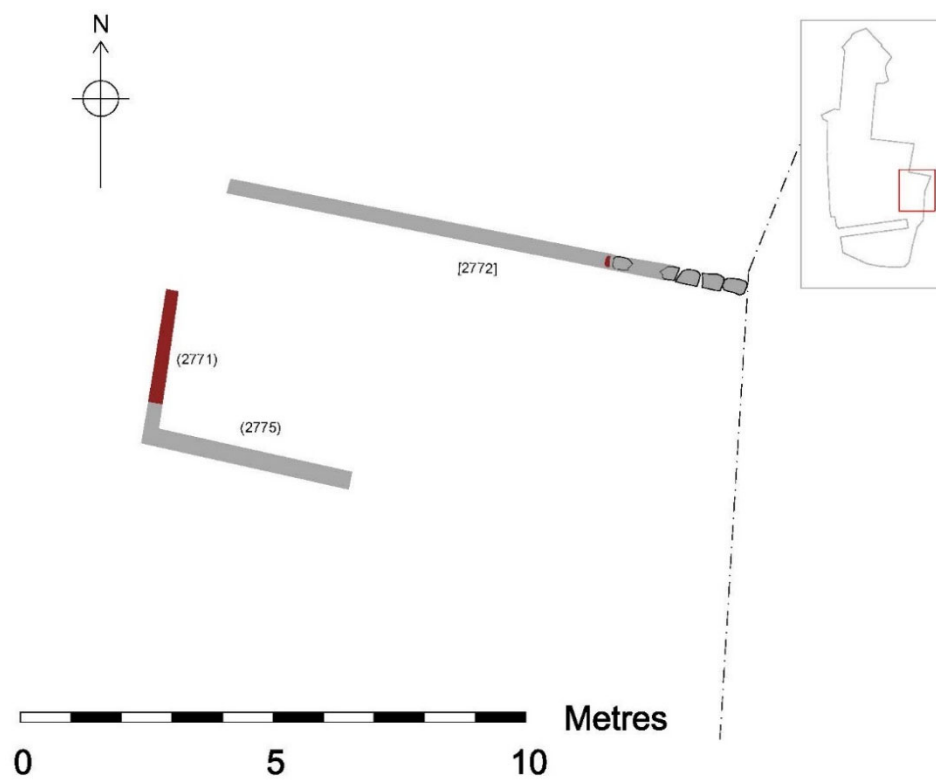


Figure 39: Structure 2: general plan



Figure 40: Structure 2; view north-east (1m scales)



Figure 41: Structure 2: view east (1m scales)

Trackways/Surfaces

Two crude heavily linear metalled surfaces of limestone rubble and river-washed cobbles were traced extending west into the excavation area to the major north-south ditches. The more northerly surface, **(2551)**, flanking the southern side of ditches [2001]/[2305]/[2325], measured *c.*20m x *c.*3m x *c.*0.10-0.20m thick and consisted of rounded flint pebbles and flat limestone blocks (Fig. 42). The surface lacked any tangible structure, although an arrangement of limestone blocks along its northern edge suggest a crude form of revetment (Fig.43).

The second area of metalling **(2019)** was located on the southern limit of the main excavation area and again aligned east-west adjacent to ditch [2036] (Figs 44-45). Its build was crude, similar to **(2551)** but lacking any constructional details. Two post-medieval copper alloy rumbler bells associated with livestock and a Charles II farthing were recovered from the surface.

The recovery of 18th and 19th century ceramic pottery and iron objects from these surfaces suggest their having having functioned as trackways affording access to the fields to the west from the Poor Law cottages (Structures 1 and 2).

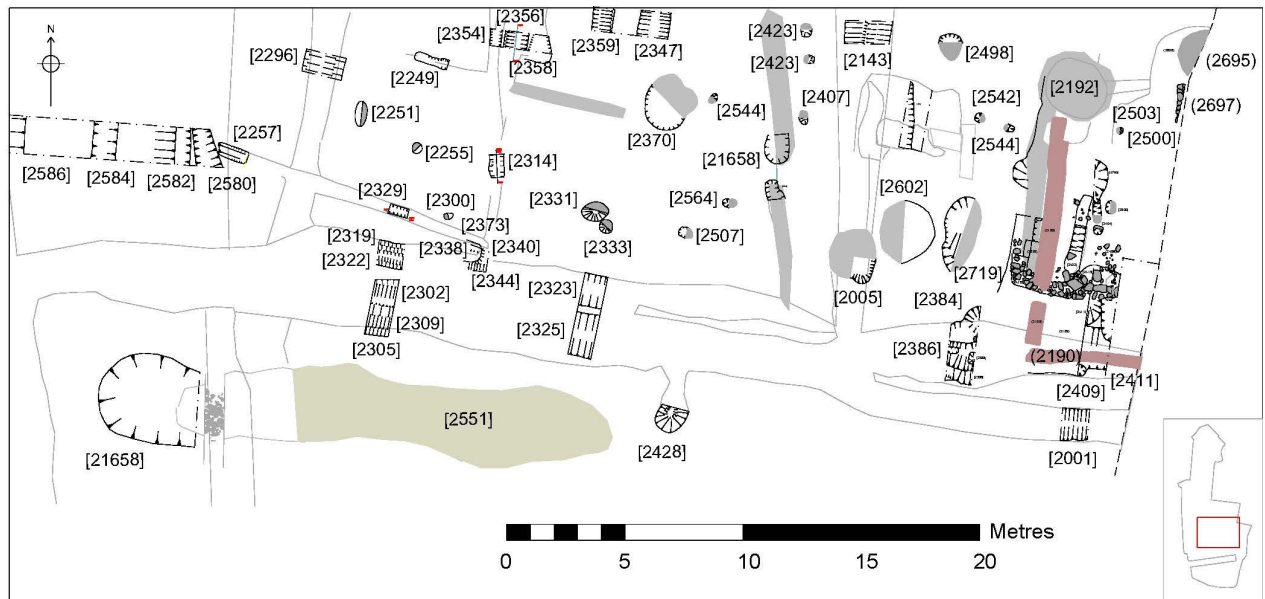


Figure 42: Trackway/surface (2551) location plan



Figure 43: 18th century trackway (2551); view east (1m scales)

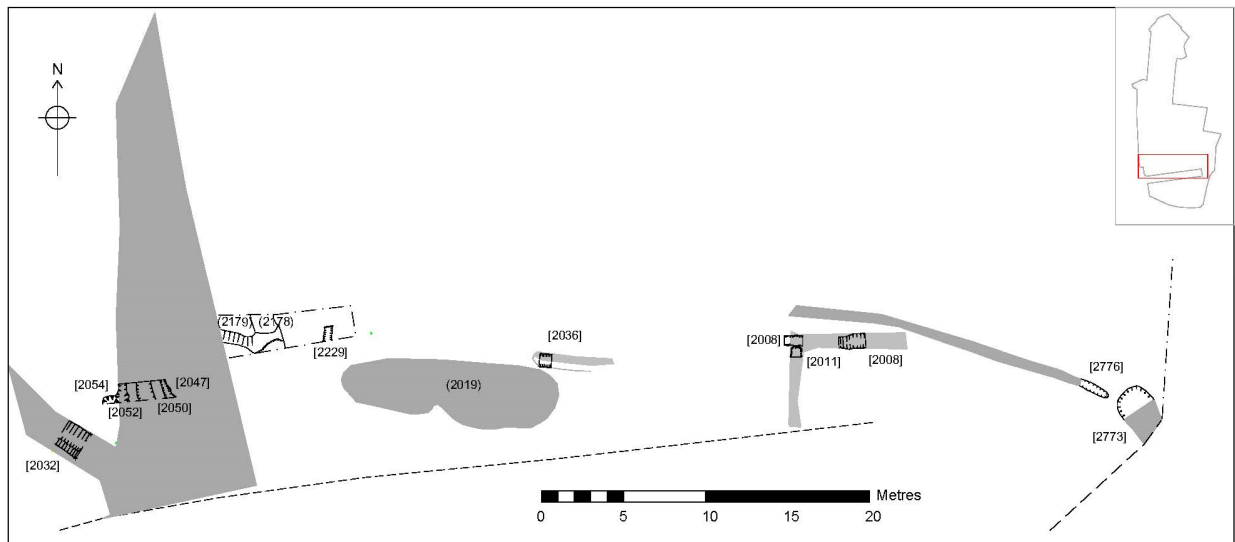


Figure 44: Trackway/surface (2019) location plan



Figure 45: Trackway/surface (2019); view north (2m scale)

Discussion and Conclusions

The archaeological excavation undertaken between May and October 2017 by University of Leicester Archaeological Services on behalf of CgMS on land at Westgate Lane, Lubenham, Leicestershire, followed a preliminary earthwork survey which had suggested the presence of medieval and post-medieval earthworks and features on the western edge of the village, including possible building platforms. A follow-up evaluation in 2016 identified ditches defining the possible platforms as well as pits with pottery dating to the 10th-12th centuries.

The 2017 open area excavation produced further evidence for and clarification of rear property medieval occupation in the form of gullies and refuse pits, defined by probable close boundary ditches extending west from the Westgate Lane frontage and linking with the major north-south ditch likely demarcating the western village boundary. Pottery suggests that the main occupation was between the 11th- 14th centuries, although there is earlier material suggesting some activity in the early/middle and late Anglo-Saxon periods, with a sherd of early-mid 5th century date.

Environmental evidence provided rich evidence of cereal processing and on-site bread production. Ceramic evidence indicated low-level occupation in the Anglo-Saxon period prior to a surge of activity from the 11th 14th century, following which the site appears to have been abandoned, likely due to shrinkage of the village, prior to a resumption of activity during the 18th century associated with the Poor Cottages.

Earlier Activity

A small quantity of residual Iron Age pottery from later features suggests low level activity on or near the site during the late prehistoric period.

The limited amount of Roman pottery, of broad date range and heavily abraded character distributed across the site suggests debris resulting from Roman manuring practice which has been redeposited in later features, or 'edge of settlement' Roman activity.

The Ditches

A network of ditches was identified at Lubenham likely relating to the initial setting out of the western village boundary and several attendant closes or properties running east towards Westgate Lane. The ditches were dominated by the probable western village boundary ditch which ran south through the excavation area and drained into the River Welland. This feature appeared to have its origins in the later Anglo-Saxon or Saxo-Norman period and to have been maintained throughout the medieval period via a series of recuts in order to maintain functioning drainage. Accumulation of a subsoil or riverine silt deposit during the post medieval period appears to have marked the functional end of the ditch. Standing ridge and furrow earthworks directly west of the site suggests that the ditch delineated the boundary between the village and its accompanying open fields. A short distance to the east, an earlier, Saxo-Norman parallel secondary ditch punctuated by a butt-ended entrance may represent an earlier village boundary with access to the fields.

Rear Property Occupation

A series of smaller parallel ditches extending east from the principal north-south linear towards Westgate Lane likely defined several medieval closes, those to the north more closely spaced than those to the south and suggestive of later property subdivisions. The open area excavation established that the close ditches served to define plots within which domestic and/or agricultural productive activity was identified via environmental, ceramic and faunal evidence, but not on artificial raised platforms, as had been suggested by the archaeological evaluation. This is at odds with evidence from other village excavations, such as those recently conducted at Kilsby (Kipling 2017), where platforms were identified with attendant buildings, and supports the view that the occupation at Lubenham was, rather, non-structural rear property domestic activity. Alternatively, and leading on from this, it may be the case that the ditches served to define enclosures, possibly associated with stock husbandry, rather than raised platforms. Evidence for small scale husbandry from the faunal record would support this interpretation.

The pottery is very typical of the region. The decline of pottery deposition in the 14th century suggests that the site was abandoned around that time and there appears to be no domestic activity during the late medieval period. The animal bone assemblage is also fairly typical of the period with horse, dog, cat, chicken, goose/gander and duck as well as wild species comparable with other sites in the region. The assemblage suggests small-scale stock keeping, with pig used as a source of meat, becoming more important in the diet over time. Sheep/goat were raised for both meat and secondary products such as fibre production, but also possibly dairying with horse and cattle kept primarily for secondary products.

Dietary evidence in the form of charred bread wheat grains recovered from several pit contexts at Lubenham is indicative of the manufacture of high status goods, namely white bread, on site. Faunal and ceramic evidence support the theory of low-density rear property domestic activity. A number of pits and post holes were dispersed across the southern excavation area and dated by pottery ranging from the Late Saxon period to the late 13th century. Feature densities increased slightly towards the east and the road frontage. The cessation of activity in the 13th-14th century reflects a widely observed phenomenon of shrinkages and/or desertions of villages during this period, as a result of a fall in rural populations.

The Poor Law Cottages and Trackways

The identification of two 18th century structures on the eastern side of the excavation confirmed written and cartographic evidence for the presence of two of several Poor Law cottages documented as having been built in Lubenham in the 1760s. The better preserved example (Structure 1) was sizeable and well-constructed, with stone footings. Whilst internal structural details did not survive, a sizeable hearth or fireplace and accompanying stone-lined well were identified. Excavation revealed the building to overlie medieval features, and demonstrated that its wall lines respected underlying medieval close boundary ditches. The buildings were associated with sizeable and substantial crudely metalled surfaces and interpreted as having provided access to the fields east from the village, as suggested by the recovery of finds associated with agriculture such as rumbler bells and horseshoes.

Archive and Publications

The site archive (X.A53 2017), consisting of paper, drawing and photographic records in addition to pottery sherds, animal bone and small finds will be housed with Leicestershire County Council. The archive consists of:

- 35 A1 plan sheets
- 778 context record sheets
- Photographic record indices
- 847 x digital photographs
- Risk assessment form

A version of the excavation summary (see above) will appear in due course in the *Transactions of the Leicestershire Archaeological and Historical Society*.

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Appendix 1: The Medieval Pottery

Paul Blinkhorn

The pottery assemblage comprised 1017 sherds with a total weight of 15129g. The estimated vessel equivalent (EVE), by summation of surviving rim sherd circumference was 6.14. It was all early/middle Anglo-Saxon or later, with the bulk of the material being of 11th-14th century date. The following fabric types were noted:

Early/Middle Anglo-Saxon

EMS1: Granitic. Sparse to moderate igneous rock fragments up to 2mm. 2 sherds, 49g, EVE = 0.05

EMS2: Fine Sandy. Moderate to dense quartz 0.1mm or less, rare calcareous material. 4 sherds, 24g, EVE = 0.

Late Anglo-Saxon and Later

The late Anglo-Saxon and later pottery was recorded using the conventions of the Leicestershire County type-series (Sawday 1994), as follows

- BR: Brill/Boarstall Ware**, 1200-1500. 5 sherds, 82g, EVE = 0.
- CC1: Chilvers Coton 'A' Ware**, 1200-1400. 7 sherds, 198g, EVE = 0.39.
- CC2: Chilvers Coton 'C' Ware**, 1300-1475. 8 sherds, 331g, EVE = 0.
- CW: Cistercian Ware**, 1475-1550. 5 sherds, 106g, EVE = 0.
- EA: Post-medieval Red Earthenware**, mid 16th century – 17th century. 4 sherds, 38g.
- EA2: Iron-glazed Earthenware**, 1680-1900. 80 sherds, 2412g.
- EA3: Staffordshire Manganese Mottled Ware**, 1680-1750. 7 sherds, 45g.
- EA7: Staffordshire Slipware**, 1650-1750. 9 sherds, 146g.
- EA10: Modern Earthenwares**, 1800+. 26 sherds, 247g.
- EA11: Tin-glazed Earthenware**, 1600-1800. 3 sherds, 20g.
- LY1: Lyveden/Stanian 'B' Ware**, 1200-1400. 55 sherds, 1303g, EVE = 0.15.
- LY2: Lyveden/Stanian 'A' Ware**, 1150-1400. 36 sherds, 483g, EVE = 0.39.
- LY4: Shelly Wares**, 1100-1400. 281 sherds, 3934g, EVE = 2.41.
- LY6: Lyveden/Stanian 'D' Ware**, 1350–1500. 15 sherds, 242g, EVE = 0.36.
- MP: Midland Purple Ware**, 1370-1550. 40 sherds, 1270g, EVE = 0.13.
- MY: Midland Yellow Ware**, 1550-1725. 8 sherds, 110g.
- OL: Oolitic Ware**, 975–1300. 164 sherds, 2118g, EVE = 0.99.
- PB: Potterspury Ware**, 1250-1600. 5 sherds, 57g, EVE = 0.
- PM: Potter's Marston Ware**, 1100-1300. 35 sherds, 566g, EVE = 0.17.
- SN: St Neots Ware**, 900–1150. 142 sherds, 866g, EVE = 0.85.
- ST: Stamford Ware**, 900-1150. 70 sherds, 471g, EVE = 0.25.
- SW4: Staffordshire White-glazed Stoneware**, 1730+. 3 sherds, 6g.
- SW5: English Brown Salt-glazed Stoneware**, 1700+. 3 sherds, 5g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Tables 1 and 2. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of contemporary sites in the region, particularly those to the east (eg. Blinkhorn 2010), with much of the material originating from manufactories in Northamptonshire and south Lincolnshire.

Chronology and Pottery Occurrence

Each stratified, context-specific pottery assemblage was given a ceramic phase ('CP') date based on the range of ware and vessel types present, and adjusted according to the stratigraphic matrix. The chronology, defining wares and the amount of pottery per phase is shown in Table 1. The occurrence of the major fabrics per ceramic phase is shown in Table 2.

Table 1: Ceramic Phase Chronology, Occurrence and Defining Wares

Phase	Defining wares	Date	No Sherds	Wt. Sherds	Mean Sherd Wt
E/MSAX	F1, F2	5 th – 9 th C	4	68g	17.0g
LSAX	SN	10 th C	23	117g	5.1g
SN	OL, ST	11 th C	92	835g	9.1g
M1	LY4, PM	1100-1150	287	4071g	14.2g
M2	LY2	1150-1200	52	498g	9.6g
M3	LY1, BR	1200-1250	190	2545g	13.4g
M4	PB, CC1	1250-1300	38	844g	22.2g
M5	CC2	1300-1350	24	293g	12.2g
M6	MP, LY6	1350-1470	44	1137g	25.8g
M7	CW	1470-1550	4	83g	20.8g
PM1	EA, MY	1550-1600	1	30g	30.0g
PM2	EA11	1600-1650	1	2g	2.0g
PM3	EA7	1650-1680	5	36g	7.2g
PM4	EA2, SW4	1680-1800	194	3715g	19.1g
MOD	EA10	1800+	43	617g	14.3g
U/S	-	Unstratified	15	218g	14.5g
		Total	1017	15129g	14.9g

The data shows that there was low levels of activity at the site in the Anglo-Saxon period, but it was only from the 11th century onwards that pottery began to be deposited in fairly large quantities, a process which continued until the beginning of the 14th century, followed by something of a hiatus until the 18th century.

Table 2: Pottery occurrence per ceramic phase by fabric type, expressed as a percentage of the total weight per phase, major phases and fabrics only

Fabric	LSAX	SN	M1	M2	M3	M4	M5	M6	M7	PM4	MOD
SN	100%	48.7%	3.7%	0.4%	3.5%	5.1%	1.0%	0.6%	0	1.6%	0
OL	-	40.0%	32.1%	19.3%	9.7%	3.3%	10.6%	2.0%	0	0.6%	1.8%
ST	-	11.3%	3.4%	1.0%	6.4%	1.9%	1.4%	0.9%	0	0.8%	0
LY4	-	-	54.5%	65.1%	38.3%	4.6%	8.9%	2.1%	0	6.9%	1.1%
PM	-	-	8.8%	0	3.5%	2.5%	0.7%	0	0	0.9%	1.3%
LY2	-	-	-	14.3%	8.6%	0.6%	37.2%	3.9%	0	1.0%	0
LY1	-	-	-	-	27.4%	55.8%	7.8%	6.8%	0	0.9%	0
BR	-	-	-	-	2.7%	0	0	0.8%	0	0.1%	0
PB	-	-	-	-	-	6.8%	0	0	0	0	0
CC1	-	-	-	-	-	19.4%	0	2.5%	0	0.2%	0
CC2	-	-	-	-	-	-	32.4%	16.1%	0	1.4%	0
MP	-	-	-	-	-	-	-	50.5%	55.4%	16.3%	5.5%
LY6	-	-	-	-	-	-	-	15.7%	0	1.7%	0
CW	-	-	-	-	-	-	-	-	44.6%	1.9%	0
EA	-	-	-	-	-	-	-	-	-	1.0%	0
MY	-	-	-	-	-	-	-	-	-	2.2%	0
EA2	-	-	-	-	-	-	-	-	-	56.6%	50.2%
EA3	-	-	-	-	-	-	-	-	-	1.2%	0

EA7	-	-	-	-	-	-	-	-	-	3.8%	0
SW4	-	-	-	-	-	-	-	-	-	0.2%	0
EA10	-	-	-	-	-	-	-	-	-	-	40.0%
Total	117	835	4071	498	2545	844	293	1137	83	3715	617

Shaded cells = residual material

The Pottery

EMS: Early/Middle Anglo-Saxon, 5th- 9th century

Six sherds (73g) of such pottery occurred, two of which were residual in a PM4 context (2179), the rest apparently stratified. The fabrics are typical of the tradition in the region. All are bodysherds, and all are plain, other than a single incised rim-sherd from context 2083 (Fig. LU1), which had broad, diagonal slashing on the shoulder, with the vessel appearing to have a somewhat open form. Myres (1977, Figs 262-275) saw such vessels as being very early, and an early/mid fifth century date for the sherd seems highly likely.

Ceramic Phase LSAX: 10th century. 23 sherds, 117g, EVE = 0.11

All the pottery from this CP is St Neots Ware (fabric SN), and entirely bodysherds, other than two jar rims. Both of them are from fairly small vessels (rim diameter = 160mm or less), which is typical of the earlier products of the tradition (Denham 1985). The mean sherd weight is somewhat low (5.1g), but this is typical of St Neots Ware generally, as it is soft, low-fired and very friable. Many other sites in the region have produced stratified assemblages which are similarly fragmented (eg. Blinkhorn 2010).

Ceramic Phase SN: 11th century. 92 sherds, 835g, EVE = 0.64

Most of the pottery from this CP comprises St Neots Ware (48.7% by weight) and Oolitic Ware (fabric OL; 40.0%), along with a smaller quantity of Stamford Ware (ST; 11.3%). All of the last-named is glazed, which is typical of the 11th century and later products of the tradition (Kilmurry 1980). The mean sherd weight is again quite low (9.1g), with the large proportion of St Neots Ware being a factor, but much of the OL pottery is similarly low-fired and friable.

Seven rimsherds were noted, of which three were from jars and four from bowls. Two of the jar rims are St Neots types (EVE = 0.11), the other Oolitic Ware (EVE = 0.27), with the latter being a large sherd in good condition with fairly heavy sooting on the outer surface (Fig. LU2). The four bowl rims are all St Neots types with inturned rims, a typical product of the tradition. They are all from quite large vessels with rim diameters of 240-360mm, which is typical of the later St Neots Ware products (Denham 1985).

Ceramic Phase M1: c AD1100-1150, 287 sherds, 4071g, EVE = 2.72

Over half the pottery (54.5% by weight) from this CP comprises fabric LY4, which is typical of sites in the region. Oolitic Ware is also very common, making up nearly a third of the group (32.1%), with the rest of the material consisting of relatively small quantities of Potters Marston Ware (fabric PM; 8.8%), SN (3.7%), and ST (3.4%). Twenty-three rimsherds were noted, with one (EVE = 0.08) being from a jug in LY4, and the rest from jars. Of the latter, nine were in LY4

(EVE = 1.68), six in OL (EVE = 0.52), four in SN (EVE = 0.26), two in PM (EVE = 0.10) and one in ST (EVE = 0.08). One of the LY4 rims is from a cylindrical jar, a specialist cooking vessel which is a common product of the tradition in the Saxo-Norman and early medieval periods (Blinkhorn 2010).

Some of the context-specific groups are quite large and produced a number of well-preserved sherds, indicating that they are primary deposits. For example, context 2031 yielded around 40% of the pottery by weight (70 sherds, 1618g) from the entire phase, including two full profiles of jars in LY4 and one in PM (Figs LU3 – LU5). Another probable primary deposit was noted, context 2284, which included 65 sherds (914g) from a single fairly large OL jar, although it was only partially complete and could not be reconstructed. Most of the rest of the material from this CP consisted of groups of relatively small sherds with few re-fits, indicating that they are probably the product of secondary deposition.

Ceramic Phase M2: c AD1150-1200, 52 sherds, 498g, EVE = 0

This appears to have been a period of relative inactivity in terms of pottery deposition. The assemblage from this CP is not only quite small, with just five contexts producing material of this date, but it is also very fragmented, with a mean sherd weight of 9.6g, suggesting it is all the product of secondary deposition. All the pottery is plain bodysherds. It is still dominated by LY4 (65.1%), with OL having a much reduced presence (19.3%), and LY2 making up the difference (14.3%). The other wares are present in much lower quantities than in the previous phase, other than PM, which is entirely absent.

Ceramic Phase M3: c AD1200-1250, 190 sherds, 2545g, EVE = 1.28

This CP sees the introduction of high medieval glazed wares in the form of BR (2.7%) and LY1 (27.4%). The major ware is still LY4 (38.3%), with the rest of the material being unglazed wares: OL (9.7%), PM (3.5%) and LY2 (8.6%). Residual material in the form of SN (3.5%) and ST (6.4%) are the only other types present, and suggest that there was some degree of disturbance of earlier strata at this time.

Eighteen rimsherds were noted, with 11 from jars, five from bowls and two from jugs. Four of the jars (EVE = 0.34) were in LY4, three each in OL (EVE = 0.20) and LY2 (EVE = 0.25), and one in PM (EVE = 0.07). Four of the bowls rims (EVE = 0.15) were in LY4, with the other being a residual ST example, and the two jug rims were one each in LY4 (EVE = 0.08) and LY1 (EVE = 0.15). One of the LY4 vessels, a cylindrical jar, survived to a full profile (Fig. LU6).

Most of the LY1 material is fragments of glazed jugs with thick vertical applied strips and/or stamped pads under a green glaze, the main output of the industry at this time, although a single example with a thick white slip and sgraffito comb-stabbing decoration was also noted. One of the Brill jugs had applied strips in a brown, iron-rich slip under the glaze, which is typical of the earlier products of the tradition (Mellor 1994).

Ceramic Phase M4: c AD1250-1300, 38 sherds, 844g, EVE = 0.46

The assemblage from this CP is fairly small, with just four contexts producing pottery of this date. The assemblage is dominated by glazed wares, with LY1 (55.4%) and CC1 (19.4%) forming the bulk of the group, along with a small group of PB (6.8%) which are all sherds from a single vessel, and small quantities of the unglazed wares noted in the previous CP. A total of 7.0% is residual Saxo-Norman material. Just two rimsherds were noted, one being a residual SN jar (EVE = 0.07) and the other a CC1 jug (EVE = 0.39) which occurred in contexts 2557 and 2722.

Ceramic Phase M5: c AD1300-1350, 24 sherds, 293g, EVE = 0.14

The small group of pottery from this CP came from five contexts, two of which produced just a single sherd each, and comprises entirely bodysherds, apart from a single LY2 jar rim. The mean sherd weight (12.2g) is fairly low, and it appears that all the material is the product of secondary deposition. Nearly 14% of the material is residual, and it seems that there was very little activity at the site at this time.

Ceramic Phase M6: c AD1350-1470, 44 sherds, 1137g, EVE = 0.14

The data for this CP is somewhat skewed by the fact that nearly half of the pottery (by weight) comprises a single sherd, a large fragment of an MP jug from context 2759 (Fig. LU7). In addition, around 18% of the assemblage is residual, suggesting that there was little activity at the site during this time. The only other rimsherd present is from a jug in LY6 (Fig. LU8). It is slightly unusual for the products of the tradition in that it has a patchy white slip over much of the outer surface, giving the glaze a far brighter green colour than is unusual for Lyveden/Stanion products. Two bodysherds from another vessel in the same fabric with a similar decorative scheme were also present.

Ceramic Phases M7 – PM3

This period of activity, representing around two centuries, produced just 11 sherds of pottery weighing 151g, indicating that the site was effectively abandoned for the duration. Three sherds (20g) were residual medieval material.

Ceramic Phase PM4: c AD1680-1800, 194 sherds, 3715g, EVE = 0.14

Around one-third of the pottery from this CP is residual medieval material, indicating that there was some disturbance of earlier strata at this time, although around half of it is MP, at least some of which could be post-medieval. The stratified material consists mainly of fragments of large bowls or pancheons in EA2, along with a few sherds of finer tablewares such as EA3, EA7, SW4 and SW5. This is a typical pattern for the period in the region.

Ceramic Phase MOD: c AD1800+, 43 sherds, 617g, EVE = 0.

The pottery from this CP comprised mostly utilitarian bowls and pancheons in EA2 and refined white earthenwares in the form of plates and bowls, etc. This is typical of the period in the region. A small quantity of residual medieval and early post-medieval material was also present.

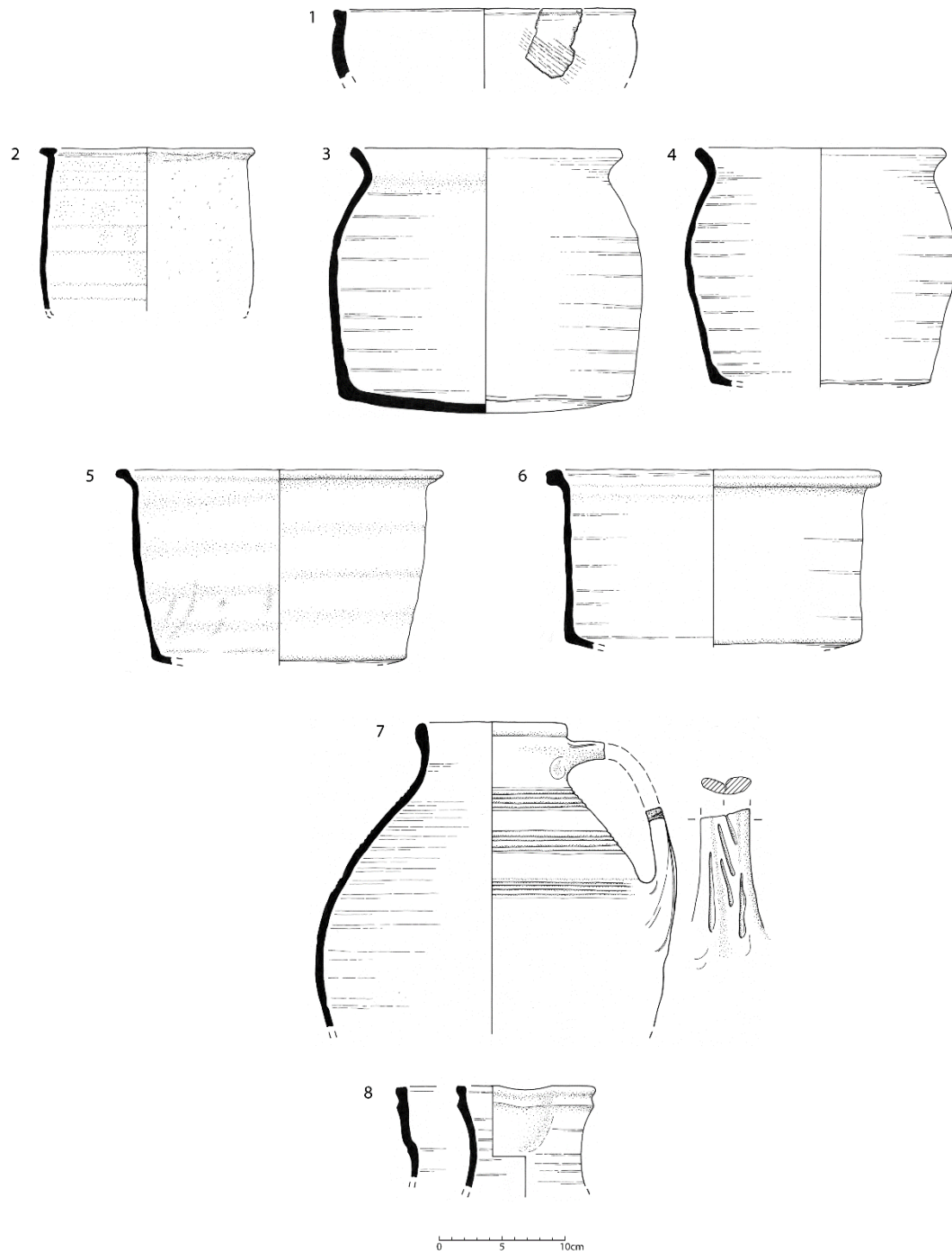


Figure 46: Medieval Pottery Illustrations

1. Context 2083, fabric EMS1. Decorated rimsherd. Uniform black fabric.
2. Context 2747, fabric OL. Rim and body of jar. Uniform dark grey fabric, fairly thick patches of sooting on the outer surface.
3. Context 2031, fabric LY4. Full profile of jar. Grey fabric with pale orange-brown surfaces. Lower outer body is heavily sooted.
4. Context 2031, fabric LY4. Full profile of jar. Grey fabric with pale orange-brown surfaces. Lower outer body and base is heavily sooted.
5. Context 2031, fabric PM. Full profile of jar. Grey fabric with orange surfaces.
6. Context 2396, fabric LY4. Full profile of small cylindrical jar. Grey fabric with pale orange surfaces. Fairly even smoke-blackening on the outer lower body and base,

7. Context 2759, fabric MP. Large fragment from a jug. Grey fabric with purple outer surface, a few thin patches of purplish-orange glaze on the outer surface.

8. Context 2006, fabric LY6. Jug rim. Grey fabric with orange surfaces, glossy green glaze over patchy white slip on the outer surface.

Overview

The pottery from this site seems a fairly typical domestic assemblage, with the bulk of the material dating to the 11th-14th centuries. There is a small amount of material from the early/middle and late Anglo-Saxon periods, with one of the sherds from the former almost certainly being of early-mid 5th century date.

The pottery from the main period of the medieval activity is very typical of the region, although it is mainly from sources in Northamptonshire and South Lincolnshire. It is mostly fairly fragmented and the product of secondary deposition, although a few primary groups were present, including a number of vessels which survived to a full profile. Pottery deposition declined sharply in the 14th century with the scarce amount of material present suggesting that the site was abandoned around that time. Certainly, specialist late medieval vessel forms associated with the storage, preparation, transportation and consumption of food are entirely absent, further indicating that there was no domestic activity at the site then.

The late post-medieval and modern material is unexceptional, and appears to be entirely of a domestic nature.

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Table 3: Pottery occurrence by number and weight (in g) of sherds per context by fabric type, Saxon and medieval contexts

Cntxt	E/MS		SN		OL		ST		PM		LY4		LY2		LY1		BR		PB		CC1		CC2		LY6		MP		CW		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
2002	2	19																													E/MS
2006							1	3			6	24	1	16									1	6	12	170					M6
2008					1	22																								M1	
2009					6	142	1	9			8	141			2	78														M3	
2012					1	14					3	63																		M1	
2018																							1	3						M5	
2021											1	10			1	19														M3	
2031					11	130	2	11	1	151	26	1326																		M1	
2051	1	25																												E/MS	
2053							1	4																						SN	
2060					5	45	1	2	1	6	19	273																		M1	
2061											3	22																		M1	
2062											1	2																		M1	
2066			1	3			2	4	1	135																				M1	
2070			11	38																										SN	
2072							1	8			1	34			1	2					1	36								M4	
2077			2	22			1	6			1	1																		M1	
2083	1	24																												5thC	
2089			1	7																										SN	
2091					1	3	1	10			6	95	4	43	1	6														M3	
2093							1	11																						SN	
2097			1	4																										SN	
2113							4	18	2	20	11	97																		M1	
2124			12	138	1	21																								SN	
2125			3	35																										SN	
2126					2	16																								SN	
2127			4	49																										SN	
2136			1	1																										LSAX	
2138			1	2																										SN	
2144											1	8	1	14	1	49														M3	
2149																										2	46	1	32	M7	

Archaeological Excavations at Westgate Lane, Lubenham, Leicestershire

Cntxt	E/MS		SN		OL		ST		PM		LY4		LY2		LY1		BR		PB		CC1		CC2		LY6		MP		CW		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
2151							1	15																							SN
2157			2	20	1	6							1	2	1	6															M3
2159					1	9						1	5																		M1
2161									1	7	1	3			1	11															M3
2167							1	4			3	23	2	23	1	22															M3
2171			1	3			2	5																							SN
2195			2	7	1	5																									SN
2207					4	22																									SN
2208					1	32																									SN
2212			1	12	4	23																									SN
2231					3	34					1	5																			M1
2250											2	5																			M1
2282															1	34															M3
2284					65	914	2	9			6	49																			M1
2285			5	40	1	4	4	40	5	38	5	85																			M1
2287			1	10																											SN
2295			1	15							4	31																			M1
2307					1	5					2	25																			M1
2311											3	16	1	32	1	46															M3
2313					1	12					7	22																			M1
2316			2	13	1	2																									SN
2318			1	6					1	5	1	7	1	22	1	22															M3
2319							1	8			1	6																			M3
2324											1	27			1	1															M3
2326			1	4																											M3
2332			4	9	1	1																									SN
2345			1	1																											SN
2348					4	72	1	5			36	312	2	12																	M2
2353			1	1																											SN
2360			1	8							1	4																			M1
2373											1	4																			M1
2379							1	4			8	24	3	109									1	47							M5
2380			1	3	2	15					1	2																			M5

Archaeological Excavations at Westgate Lane, Lubenham, Leicestershire

Cntxt	E/MS		SN		OL		ST		PM		LY4		LY2		LY1		BR		PB		CC1		CC2		LY6		MP		CW		Date	
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt		
2382					1	11					1	3																			M1	
2383					1	7							1	7																	M2	
2390					2	16			1	2					1	23							1	26							M5	
2391																							1	19							M5	
2396					2	35					4	410			3	31															M3	
2401															1	8											1	10			M6	
2406			1	17	2	28	1	8	1	4	1	5			6	226			5	57											M4	
2410											1	8																			M1	
2412							11	89			8	690			1	15															M3	
2415					1	16	1	2							1	16	1	9			2	28					2	39			M6	
2418							2	6	1	5					1	11	2	65													M3	
2429													1	12	5	160															M3	
2430			1	8																											SN	
2434			1	4																											M6	
2436			1	3																											M6	
2437														1	15																M6	
2439													1	13	1	13										1	8				M6	
2447					1	3					1	9																			M1	
2456			3	10	1	30	1	13			1	18																			M1	
2463							1	5							2	40							1	177			1	25			M6	
2465											2	8																			M1	
2471					1	17								1	17																M2	
2479					2	16					3	25	1	46	1	38															M3	
2482					1	4	1	7			1	2																			M1	
2485											1	19																			M3	
2487			2	4																											SN	
2489			3	12	1	9	4	26	6	50	10	63	1	2	1	10															M3	
2490			14	48	1	2	3	10	1	4	1	13	2	13																	M3	
2499			20	110																												LSAX
2501															1	2																M3
2510					1	4	1	13																								M1
2516							1	8	1	3																						M1
2520															1	19																M3

Archaeological Excavations at Westgate Lane, Lubenham, Leicestershire

Cntxt	E/MS		SN		OL		ST		PM		LY4		LY2		LY1		BR		PB		CC1		CC2		LY6		MP		CW		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
2521											1	3																			M3
2522					1	4			1	5	2	13																		M3	
2524			1	2							2	7																		M1	
2527					1	5																								SN	
2528																	1	3												M3	
2530			1	4																										SN	
2531							1	2																						SN	
2556			1	2									2	3																M2	
2557								1	17			1	5	7	243						1	75								M4	
2576					1	55																								SN	
2577					1	13																								SN	
2584			1	3	1	6																								SN	
2603					6	18			1	2	3	18	2	9	1	24														M3	
2677					1	3			1	10					1	5														M3	
2682																											1	5		M7	
2702											1	12	1	32																M2	
2710			3	37	2	7	3	9	1	5																				M1	
2721			2	28			1	30																						SN	
2722			5	26																	2	53								M4	
2724					1	9					1	5			1	89														M3	
2733			3	8			1	7																						SN	
2734			2	6																										LSAX	
2737											1	2																		M1	
2747			6	23	1	133	2	20																						SN	
2759					1	7																				1	500			M6	
2761					2	60					2	52																		M1	
Total	4	68	133	806	156	2067	64	431	28	469	220	4136	31	447	49	1269	4	77	5	57	6	192	6	278	13	178	14	838	2	37	

Table 4: Pottery occurrence by number and weight (in g) of sherds per context by fabric type, post- medieval contexts

Cntxt	RESID		EA		MY		MP		CW		EA11		EA3		EA7		EA2		SW4		SW5		MOD		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	
2007	8	44	1	6	1	12							1	12											PM4
2019	8	138													2	12	12	315							PM4
2023																	3	117							PM4
2026	2	15	1	9	2	19	6	91	1	4															PM4
2075							1	13	1	21					1	11	4	131							PM4
2110	1	12															1	74							PM4
2137	3	26					2	34									11	251					20	220	MOD
2179	30	232	2	23			2	5									1	1			2	4			PM4
2180																	1	59					6	27	MOD
2188	2	64			1	12	2	65	1	44			1	5											PM4
2189	2	20			3	37	11	336			1	4	4	25	1	53	12	274	3	6					PM4
2242																	1	9							PM4
2263	2	36					1	3						3	44	10	148								PM4
2265																	1	19							PM4
2266							1	16									6	251							PM4
2306	3	20					1	11							1	5									PM3
2328	1	21									1	14			1	21	8	356							PM4
2403					1	30																			PM1
2416							1	13									1	20							PM4
2616	1	5															4	91							PM4
2695							1	9					1	3							1	1			PM4
2696							4	54									3	164							PM4
2704	2	19															1	132							PM4
2713											1	2													PM2
Total	65	652	4	38	8	110	33	650	3	69	3	20	7	45	9	146	80	2412	3	6	3	5	26	247	

Appendix 2: Iron and Roman Pottery and Fired Clay *Nicholas J. Cooper***Introduction**

A small assemblage of Middle-Late Iron Age and Roman pottery was recovered, primarily as residual material within medieval and later contexts, but occasionally in contemporary contexts. In addition two fragments of fired clay came from (2270). The pottery has been analysed by fabric and form according to the Leicestershire Prehistoric and Roman Fabric Series (Marsden 2011; Pollard 1994) and quantified by sherd count and weight.

Middle to Late Iron Age pottery

A total of 13 sherds weighing 28g was recovered from two contexts. The full quantified record is presented below (Table 5)

Table 5: Iron Age pottery

Iron Age Pottery from Lubenham XA53.2017							
Context	Fabric	Form	Part	Sherds	Weight	date	
2102	S1	Jar	body	1	8	M-LIA	Scored
2216	S1	Misc	body	12	20	M-LIA	Scored
Total				13	28		

Although rather fragmentary the pottery from both contexts displays scored decoration demonstrating that it belongs to the East Midland scored ware tradition dating to the 4th century BC to the early to mid-1st century AD (Elsdon 1992).

Roman Pottery

A total of 17 sherds weighing 151g was recovered from 12 contexts four of which also contained medieval or later pottery, as indicated below as residual. The full quantified record is presented below (Table 6)

Table 6: The Roman pottery

Roman Pottery from Lubenham XA53.2017						
Context	Fabric	Form	Part	Sherds	Weight	date
2146	GW3	misc	body	1	14	2nd-4th
2178	CG1	misc	body	1	11	M1st-4th
2179	Samian	misc	body	1	1	2nd RESIDUAL
2179	CG1	misc	body	4	26	M1st-4th RESIDUAL
2195	GW3	jar	base	2	11	2nd-4th RESIDUAL
2262	GW3	misc	body	1	10	2nd-4th
2292	C2NV	flagon	neck	1	35	4th
2295	CG1	misc	body	1	13	M1st-4th RESIDUAL
2349	GT	misc	body	1	5	M1st-2nd

2490	GW3	misc	body	1	3	2nd-4th RESIDUAL
2496	GW3	misc	body	1	5	2nd-4th
2526	BB1	misc	body	1	11	120-350
2716	GW4NV	misc	body	1	6	2nd-L3rd
Total				17	151	

The pottery potentially spans the entire Roman period and given its poor condition and sparse distribution may well represent debris from Roman manuring practice which has been redeposited in later features, or ‘edge of settlement’ Roman activity; the early Roman brooch being the only other artefactual material of that date. The wares represented are typical of this part of the East Midlands, primarily locally produced grey wares (GW3) and shell-tempered wares (CG1), alongside regional imports such as a Lower Nene Valley colour-coated ware flagon (C2NV) and grey ware vessel (GW4NV) and a sherd of south-east Dorset BB1. The sole continental import is a sherd of Central Gaulish samian ware dating to the 2nd century.

Fired clay

Two fragments were recovered and the presence of wattle impressions suggests it represents debris from burnt wattle and daub structure in the vicinity (Table 7).

Table 7: Fired clay

Fired Clay (Burnt daub) from Lubenham XA53.2017			
Context	Frag	Weight	Description
2270	2	35	smoothed surface with thin wattle impression

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Appendix 3: The Small Finds *Nicholas J. Cooper*

Introduction

A total of 63 finds under 38 catalogue entries have been recorded for the report, arranged into functional categories and then by material (copper alloy, lead and iron), and ranging from Roman to Modern in date. In addition, over 50 finds, mainly of modern date, were recovered unstratified by metal detector across the site. Amongst these, a small number of diagnostically medieval and post-medieval finds have been incorporated into the catalogue. The unstratified modern period finds have been scanned for significance but are not considered in detail here and have not been retained in the finds archive. The iron nails from stratified layers have also been sampled, so that the most complete have been retained in the finds archive.

Objects of dress

Roman Brooch

1) (2174). Copper alloy. Colchester derivative with double-pierced lug. Complete bow of circular section, with head comprising double-pierced lug and plain sheet wings which would have secured and protected the multi-coil spring and pin (now missing). Bow tapers to a point from which a solid catch plate extends. Length 40mm.

This is a very simple example of the two-piece Colchester brooch where the separate spring and pin is secured by an iron axis pin running through the lower piercing (trace still *in situ*), whilst the chord is held by the upper piercing (Bayley and Butcher 2004, 82 and 155, fig 127.T92). Such brooches were in use from the decade after the conquest in AD43 until the mid-60s of the 1st century AD and are most common in the eastern counties.

Medieval belt fittings

2) US. Copper alloy (leaded). Complete composite, rigid belt plate with part of integral buckle frame and pin preserved. The buckle frame is cast as one with a forked spacer to which the separate buckle plates are soldered, with a single rivet through the leather strap close to secure the scalloped inside edge. The outside edge of the plate has a recess to accommodate the thin copper alloy pin which is secured around the bar of the incomplete oval frame. Length 42mm. A number of similar examples are known from London, where they occur in contexts dating between Ceramic Phase 10 and 12 (mid-14th to early 15th century) (Egan and Pritchard 1991, 78-82, fig.49.326).

3) US South-west corner. Copper alloy. Belt buckle plate fragment comprising a folded sheet which has been damaged in antiquity and subsequently repaired with two new rivets set centrally close to the pin recess. Trace of yellow metal gilding around one of the new rivets. Very poor condition. Length 32mm.

Not closely datable but probably worn between the mid-14th and the mid-15th century.

Medieval bone skate

4) US. Cattle metapodial employed as a skate, judging by the polish and striations on the flat underside. There are also short transverse indentations on the underside perhaps from subsequent unrelated re-use. Length 208mm. The bone lacks any modification such as strap holes, which are seen in about one third of examples, but these are not a prerequisite as the technique of skating using an iron-shod pole for propulsion, did not require the feet to be lifted

off the ice (MacGregor 1985, 142, fig 76). Such skates are not unusual finds between the 8th and the 13th centuries.

Household objects

5) (2062) M1. Sf6. Lead hanging weight. Circular weight of plano-convex section. Convex upper face recessed to accommodate and iron suspension loop, the base of which is still *in situ*. Weight 218g equivalent to a half pound in the mercantile system using 15 ounces to the pound, as used before AD 1300 (Egan 1998, 302, Table 14).

6) (2179) PM4. Sf9. Copper alloy fragment from flared rim, probably of a ewer, with faint external lip. Diameter 70mm, 15% of rim remaining. Similar rim to example from the Gower Peninsula (Lewis 1987, 3, fig.3).

7) (2180) MOD. SF11. Copper alloy thimble. Complete but flattened. Domed head. Regular, machine impressed indentations. Height 23mm. Probably Dutch Type III or English dated 1730-1800 (Holmes 1987, 4, fig.7c).

8) (2416) PM4. Sf25 Copper alloy twisted wire loop. Diameter 9mm. Examples know from Southampton in deposits dating from 1550-1650, but function uncertain (Harvey 1975, 264, fig.224.1817-1820).

Objects used in animal husbandry

9) (2019) PM4. Sf4. Copper alloy rumbler bell. Made from two separate hemispheres, soldered around the equator, to enclose an iron pea or rumbler. Rectangular suspension loop cast integrally. Both hemispheres decorated with longitudinal lines converging at the poles but very worn. Two holes in the upper hemisphere and two in the lower hemisphere joined by a slot. Diameter 34mm.

10) (2019) PM4. Sf5. Copper alloy rumbler bell. Made from two separate hemispheres, soldered around the equator, to enclose an iron pea or rumbler. Rectangular suspension loop cast integrally with trace of iron chain loop. Both hemispheres decorated with radiating petals from each pole. The pattern is over stamped with a symbol probably the number '4' on one side of the sounding slot. Two holes in the upper hemisphere and two in the lower hemisphere joined by a sounding slot. Diameter 38mm.

These two bells of the same type were used on domesticated animals such as sheep and cattle during the post-medieval period. Similar examples are known, for example at Colchester (Crummy 1988, 84, fig.91.3250). These were found in a context dated between 1680-1800 containing post-medieval earthen wares and a worn farthing of Charles II (see below).

11) (2007) PM4. Iron horseshoe. Complete branch, very worn with single rectangular nail hole. Later medieval in date.

Tools

12) (2157) M3. Iron. Two pronged fork. Circular-section tang, divides into two tapering prongs with rounded shoulders. Length of complete prong 100mm.

13) (2023) PM4. Iron. Fragment of circular-section socket from a tool handle.

Fastenings and fittings

Iron Fittings

14) (2008) M1 (1100-1150) right-angled hinge pintle from which a door hinge would have been hung. Tapered horizontal spike of square section would have been driven into the wall or timber frame, whilst the vertical pivot is of circular section, allowing the hinge to swivel. Length of spike 107mm. Height of pivot 45mm. A number of similar examples from medieval deposits in London (Egan 1998, 43, fig.27.10).

15) (2019) PM4. Chain link. Length 60mm.

16) (2263) PM4. Broken length of iron strip. Width 18mm.

Iron nails

A total of 45 complete or fragmentary handmade carpentry nails with flat, rounded heads and square-sectioned shanks were recovered from 20 contexts. Most commonly nails conformed to an approximately two inch standard with a smaller number of four inch nails.

17) (2007) PM4. 2 inch nail shaft. Context also included a modern padlock.

18) (2019) PM4. A minimum of 16 nails including three 4 inch and ten 2 inch.

19) (2026) PM4. Head and upper shaft of 4 inch nail.

20) (2113) [2112] M1. Sf7 nail shaft.

21) (2124) SN. Nail shaft.

22) (2178) ND. Sf17 Complete 2in nail and Sf12 small iron ring

23) (2179) PM4 Five incomplete 2 inch nails

24) (2189) PM4. Three incomplete 2 inch nails and a small copper alloy ring.

25) (2212) SN. Shaft fragment.

26) (2332) SN. Shaft fragment.

27) (2401) M6. Complete 2 inch nail.

28) (2412) M3. Shaft fragment from 4 inch nail.

29) (2434) SN. Head and upper shaft of 2 inch nail.

30) (2482) M1. Four nail heads and upper shafts from 2 inch nails.

31) (2524) M1. Shaft fragment.

32) (2536) ND. Shaft fragment from 4 inch nail.

33) (2558) ND. Shaft fragment and curved iron strip

34) (2577) SN. Two 2 inch nails.

35) (2696) M6. Two 2 inch nails.

36) (2729) [2730] ND. Sf24 head and upper shaft of 4 inch nail.

Coins

37) US Copper alloy. Ae As. Antoninus Pius. AD 138-61. Very worn. Almost illegible. Diameter 25mm.

38) (2019) PM4. Sf3. Copper. Charles II farthing 1672-3. Very worn. Obv: head facing left. CAROLO. Rev: Britannia.

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Appendix 4: The Animal Bone *Emily Banfield*

Introduction and methods

This report details the analysis of stratified, hand collected animal bone recovered during excavation at Lubenham, Market Harborough, Leicestershire in 2017. The site represents 15 main phases of activity, spanning the early/middle Anglo-Saxon period (5th-9th centuries) to the modern (1800 BCE to present), to which Romano-British may also be added, being represented by a small quantity of material.

Animal bone was subject to macroscopic examination and identification determined using the skeletal reference collection at the School of Archaeology and Ancient History, University of Leicester. Identification was made to element, side and taxon; where full identification could not be made due to the absence of diagnostic morphological markers, material was assigned to broader categories on the basis of element, size and class. Distinction between sheep and goat remains was attempted using standards published by Boessneck (1969). Elements were recoded using the zoning system detailed by Serjeantson (1996). Age at death ranges were assigned according to the degree of epiphyseal fusion, using criteria published by Reitz and Wing (2008: 72, Table 3.5) and Silver (1963) for equids, through analysis of wear on mandibular dentition and tooth height for horses, and through analysis of horn core following guidance published by Armitage (1982). Tooth wear in cattle was recorded using the Grant system (1982) and an age range was assigned using Halstead's age stage descriptors (1985); tooth wear in sheep/goat was documented using Grant (1982) and relative age was established using Payne age stages (1987); tooth wear in pig specimens was detailed following the Grant method (1982) and age range determined using stages developed by Hambleton (1999: 64-65) and Halstead (1985). Tooth height in horses was measured in accordance with standards published by Levine (1982). Measurements of bone specimens were taken following standards established by von den Driesch (1976). The anatomical location and character of burning, butchery and gnawing was described. Surface preservation was graded using the scale recommended by Harland *et al.* (2003). All fragments were documented; joining fragments were recorded as a single specimen to determine the number of specimens (NSP).

Preservation and taphonomy

The bone assemblage comprises a total number of 2033 fragments, with an NSP total of 1954. A range of domestic fauna are represented: horse; cattle; pig; sheep/goat; dog; cat; chicken. Also present are remains of goose/gander, duck, red deer, fox, pheasant, frog/toad and oyster. MNI calculations suggest low numbers of individuals for each phase (Table 8), with peaks in the Saxo-Norman and early medieval phases (1100-1250 BCE), and the later post-medieval period (1680-1800 BCE). Assessment of preservation reveals that the falls mainly within 'fair' and 'poor' categories (Table 9), following standards published by Harland *et al.* (2003), with just 16% rated 'good' and a fraction of one percent falling within the 'excellent' descriptor. There is some variation between phases; the early/middle Saxon (E/MSAX), medieval phase 7 (M7), and post-medieval phase 3 (PM3) show markedly poor preservation in comparison the site level distribution, and unsurprisingly, the modern assemblage (MOD) is proportionately best preserved, although material dated to the post-medieval phase 1 (PM1 – 1550-1600 BCE) also displays good preservation. In each of these cases, this is likely influenced by the small size of the assemblages from these periods.

Fragmentation across the assemblage was high with just two percent of elements (excluding loose teeth) complete (Table 11), a pattern that is broadly consistent across all phases (Table

12). Despite this, it was possible to identify 26% of specimens to taxon and 61% to taxon plus broad size class.

Table 8: MNI count by phase (NSP)

Phase/ Taxon	Horse	Cattle	Pig	Sheep/ goat	Dog	Cat	Goose/ gander	Chicke n	Duck	Red deer	Fox	Pheasa nt	Frog/ toad	Oyster	Total
E/MSAX		1													1
LSAX		1	1	1											3
SN	2	1	1	3	1		1	1				1			11
M1	1	2	1	2	1			1	1						9
M2	1	1	2	1				1							6
M3	1	2	1	3	1	1		1							10
M4		1													1
M5	1	2	1	1							1			1	7
M6	2	1	1	1			1								6
PM1	1			1											2
PM3		1													1
PM4	1	2	1	4	1	1				1					11
MOD		1		1											2
Undated													1		1
Total	10	16	9	18	4	2	2	4	1	1	1	1	1	1	71

Table 9: Condition of site level assemblage (% NSP) following scale published by Harland et al. (2003). * denotes fraction of one percent.

Excellent	Good	Fair	Poor
*	16	46	38

Table 10: Condition of assemblage by phase (% NSP) following scale published by Harland et al. (2003).

Phase/Condition	Excellent	Good	Fair	Poor
RB			50	50
E/MSAX		14	29	57
LSAX		8	67	25
SN	1	30	48	21
M1		16	46	38
M2		10	75	15
M3		11	59	30
M4		50		50
M5		16	46	38
M6		15	47	39
M7			20	80
PM1		66	34	
PM3		5	21	74
PM4		18	46	36
MOD		75	25	
Undated		13	42	45
U/S		21	68	11

Table 11: Completeness of site level assemblage (% NSP)

100%	99-70	69-10	< 10
2	4	18	76

Table 12: Completeness of assemblage by phase (% NSP)

Phase/Completeness	100%	99-70	69-10	< 10
RB				100
E/MSAX		14	14	72
LSAX			18	82
SN	1	11	26	62
M1	3	6	24	67
M2	2	2	16	80
M3	5	5	22	68
M4		50	50	
M5	4	1	18	77
M6		52	48	
M7				100
PM1			100	
PM3			32	68
PM4	2	3	24	71
MOD	34		66	
Undated	2	3	8	87
U/S	5	11	26	58

Burning affects just one percent of the assemblage and is present in the Saxo-Norman (SN) phase, medieval phases M1, M2 and M5, post-medieval phase 4 (PM4) and undated contexts. The degree of burning observed, together with the presence of butchery and gnawing evidence in some specimens suggests that this material represents residues of domestic cooking and consumption (Table 13). This is further supported by the gnawing data. Gnawing is evidenced in seven percent of the total assemblage, and appears solely the work of carnivores (Table 14). It is especially visible in the Saxo-Norman phase, medieval phases 3 and 6 (M3 and M6 respectively), and post-medieval phases 3 and 4 (Table 15).

Table 13: Burning evidence

Date	Context	No. of specimens	Taxon	Bone	Burn	Butch	Gnaw
SN							
	2332	1	Indeterminate	Indeterminate	Charred		
	2287	1	Horse	Ulna	Charred inner centrum	Chops	Carnivore
	2287	1	Horse	Radius	Charred inner centrum	Cuts	Carnivore
	2434	1	Horse	Tarsal	Charred inner centrum		
M1							
	2113	2	Indeterminate	Indeterminate	Charred inner centrum		
	2485	1	Large mml	Indeterminate	Charred with small patch of calcination		
M2							
	2490	1	Large mml	Indeterminate	Charred inner centrum		
M5							
	2018	1	Cattle	Mandible	Charred inner centrum	Chops	
	2390	2	Medium mml	Cervical vertebra	Charred inner centrum		
	2390	1	Medium mml	Cervical vertebra	Charred inner centrum		
	2390	1	Medium mml	Vertebra	Charred inner centrum		
PM4							
	2075	1	Large mml	Indeterminate	Charred inner centrum		
	2075	1	Large mml	Radius	Charred inner centrum		
	2075	1	Large mml	Indeterminate	Charred inner cortical bone		
Undated							
	2290	2	Indeterminate	Indeterminate	Burned black/blue		
	2262	1	Horse	Tooth	Calcined		
	2290	1	Indeterminate	Indeterminate	Calcined		
	2767	1	Indeterminate	Indeterminate	Charred		
	2120	1	Medium mml	Astragalus	Charred inner centrum		Partially digested
	2320	1	Large mml	Rib	Patches of charring and calcination		

Table 14: Gnawing evidence

Date	Context	No. of specimens	Taxon	Bone	Burn	Butch	Gnaw
LSAX?							
	2734	1	Cattle	Scapula			Carnivore
SN							
	2434	1	Horse	Humerus		Cut	Carnivore
	2510	1	Horse	Humerus			Carnivore
	2287	1	Horse	Radius	Charred inner centrum	Cuts	Carnivore
	2287	1	Horse	Ulna	Charred inner centrum	Chops	Carnivore
	2434	1	Horse	Phalanx 1		Cut	Carnivore
	2208	1	Horse	Metapodial		Chops	Carnivore
	2733	1	Horse	Metapodial			Carnivore
	2212	1	Equid	Metacarpal			Carnivore
	2126	1	Cattle	Scapula		Cuts	Carnivore
	2434	1	Cattle	Radius		Cuts	Carnivore
	2434	1	Cattle	Radius		Cuts	Carnivore
	2510	1	Cattle	Ulna			Carnivore
	2093	1	Cattle	Tibia		Cuts	Carnivore
	2195	1	Cattle	Tibia			Carnivore
	2434	1	Cattle	Calcaneum		Cuts	Carnivore
	2434	1	Sheep/goat	Radius		Cuts	Carnivore
	2434	1	Sheep/goat	Radius		Cuts, chop	Carnivore
	2434	1	Sheep/goat	Tibia			Carnivore
	2434	1	Sheep/goat	Tibia		Cuts	Carnivore
	2434	1	Sheep/goat	Tibia		Cuts	Carnivore
	2212	1	Pheasant	Tibiotarsus			Carnivore
	2434	1	Large mml	Tibia		Cuts	Carnivore
	2733	1	Medium mml	Humerus			Carnivore
	2527	1	Medium mml	Tibia			Carnivore
	2093	1	Medium mml	Shaft fragment			Carnivore
M1							
	2465	1	Horse	Pelvis			Carnivore
	2319	1	Horse	Humerus		Chops, cuts	Carnivore
	2284	1	Horse	Ulna		Cuts	Carnivore
	2295	1	Cattle	Femur			Carnivore
	2382	1	Cattle	Tibia			Carnivore
	2307	1	Cattle	Calcaneum			Carnivore
	2077	1	Sheep/goat	Radius			Carnivore
	2285	1	Sheep/goat	Tibia			Carnivore
	2077	1	Sheep/goat	Metatarsal			Carnivore
	2159	1	Dog	Tibia			Carnivore
	2516	1	Large mml	Rib			Carnivore
	2295	1	Large mml	Tarsal			Carnivore
	2077	1	Medium mml	Rib			Carnivore
	2516	1	Medium mml	Radius			Carnivore
	2285	1	Medium mml	Metacarpal			Carnivore
	2295	1	Medium mml	Metapodial			Carnivore
	2319	1	Medium mml	Shaft fragment			Carnivore
M2							
	2383	1	Cattle	Calcaneum			Carnivore
	2348	1	Sheep/goat	Metapodial			Carnivore
	2348	1	Large mml	Rib			Carnivore
M3							
	2318	1	Horse	Ulna			Carnivore
	2318	1	Horse	Metacarpal		Cut	Carnivore
	2412	1	Cattle	Scapula		Chop	Carnivore
	2157	1	Cattle	Humerus		Cuts	Carnivore
	2318	1	Cattle	Humerus			Carnivore
	2157	1	Cattle	Metacarpal			Carnivore
	2311	1	Cattle	Tibia			Carnivore
	2412	1	Cattle	Tibia			Carnivore
	2091	1	Cattle	Metatarsal			Carnivore
	2167	1	Cattle	Astragalus			Carnivore
	2009	1	Sheep/goat	Radius			Carnivore
	2528	1	Sheep/goat	Metatarsal			Carnivore
	2167	1	Large mml	Rib			Carnivore
	2318	1	Large mml	Tibia			Carnivore
	2144	1	Large mml	Tarsal			Carnivore

	2528	1	Medium mml	Scapula		Cuts	Carnivore
	2318	1	Medium mml	Pelvis			Carnivore
	2009	1	Medium mml	Shaft fragment			Carnivore
	2091	1	Indeterminate	Cranium			Carnivore
M5							
	2390	1	Horse	Pelvis			Carnivore
	2390	1	Cattle	Humerus			Carnivore
	2390	1	Pig	Humerus		Chops, cuts	Carnivore
	2390	1	Pig	Radius			Carnivore
	2018	1	Large mml	Femur			Carnivore
	2390	1	Medium mml	Mandible			Carnivore
M6							
	2463	1	Horse	Scapula			Carnivore
	2415	1	Cattle	Humerus			Carnivore
	2463	1	Cattle	Tibia		Chop	Carnivore
	2463	1	Large mml	Scapula			Carnivore
	2006	1	Medium mml	Radius			Carnivore
	2415	1	Medium mml	Shaft fragment			Carnivore
PM3							
	2306	1	Cattle	Tibia			Carnivore
	2306	1	Large mml	Femur		Chops, cuts	Carnivore
	2306	1	Large mml	Femur			Carnivore
	2306	2	Large mml	Indeterminate			Carnivore
PM4							
	2019	1	Horse	Tibia			Carnivore
	2026	1	Cattle	Mandible			Carnivore
	2179	1	Cattle	Scapula		Cuts	Carnivore
	2179	1	Cattle	Pelvis		Chop	Carnivore
	2179	1	Cattle	Metatarsal			Carnivore
	2075	1	Cattle	Metapodial		Slice	Carnivore
	2179	1	Cattle	Astragalus		Chops	Carnivore
	2179	1	Cattle	Astragalus			Carnivore
	2179	1	Cattle	Phalanx 2			Carnivore
	2019	1	Pig	Astragalus			Carnivore
	2179	1	Sheep/goat	Mandible			Carnivore
	2019	1	Sheep/goat	Scapula			Carnivore
	2019	1	Sheep/goat	Radius			Carnivore
	2179	1	Sheep/goat	Radius		Cuts	Carnivore
	2179	1	Sheep/goat	Radius		Cuts	Carnivore
	2179	1	Sheep/goat	Tibia			Carnivore
	2179	1	Sheep/goat	Metatarsal		Cuts	Carnivore
	2179	1	Sheep/goat	Metatarsal			Carnivore
	2189	1	Sheep/goat	Metatarsal			Carnivore
	2263	1	Large mml	Scapula			Carnivore
	2179	1	Large mml	Rib			Carnivore
	2179	1	Large mml	Pelvis			Carnivore
	2019	1	Large mml	Shaft fragment			Carnivore
	2189	1	Large mml	Shaft fragment			Carnivore
	2179	3	Large mml	Shaft fragments			Carnivore
	2179	1	Large mml	Indeterminate			Carnivore
	2263	1	Medium mml	Femur			Carnivore
	2007	1	Medium mml	Metapodial			Carnivore
	2179	1	Medium mml	Shaft fragment			Carnivore
	2179	1	Medium mml	Shaft fragment			Carnivore
	2189	1	Medium mml	Shaft fragment			Carnivore
Undated							
	2458	1	Cattle	Pelvis		Cut	Carnivore
	2552	1	Cattle	Pelvis		Cuts	Carnivore
	2107	1	Cattle	Humerus		Chop	Carnivore
	2508	1	Cattle	Radius			Carnivore
	2496	1	Cattle	Tibia			Carnivore
	2084	1	Cattle	Astragalus		Chop	Carnivore
	2056	1	Cattle	Phalanx 1			Carnivore
	2508	1	Sheep/goat	Humerus			Carnivore

	2346	1	Sheep/goat	Radius			Carnivore
	2749	1	Large mml	Rib			Carnivore
	2320	1	Large mml	Shaft fragment			Carnivore
	2290	1	Medium mml	Metapodial			Carnivore
	2120	1	Medium mml	Astragalus	Charred inner centrum		Partially digested
U/S							
	u/s	1	Dog	Ulna			Carnivore

Table 15: Percentage of each assemblage evidencing gnawing per phase

Phase	%
RB	0
E/MSAX	0
LSAX	8
SN	17
M1	5
M2	6
M3	12
M4	0
M5	3
M6	23
M7	0
PM1	0
PM3	26
PM4	12
MOD	0
Undated	2
U/S	5

Taxa and body part representation

Domestic taxa are represented by: horse; cattle; pig; sheep/goat; dog; cat; chicken, in addition to remains of goose/gander, duck, red deer, fox, pheasant, frog/toad and oyster (Table 16). Cattle remains are dominant at site level, and appear in all but three phases, followed by sheep/goat, which dominate specimen counts for the Saxo-Norman and medieval phase 5 (M5) assemblages. Changes in body part representation of the domestic taxa in particular are evident through time (Table 17). Horse is represented by the bones of the head and limb in the Saxo-Norman and medieval phase 1, but only bones of the limb in medieval phases 3, 5, and 6, and post-medieval phases 1 and 4. Cattle remains from all zones of the body are identified in the Saxo-Norman and medieval phases 1 and 3, and post-medieval phase 4, by bones of the head and limb in medieval phase 5, just the limb in medieval phase 6 and post-medieval phase 3, and just the head in the early/middle Saxon phase. Pig is represented solely by bones from the head until medieval phase 5, whereupon both head and limb bones are present. This continues into medieval phase 6, and in post-medieval phase 4 all zones of the body are present. Like horse, sheep/goat is represented by the bones of the head and limb in the Saxo-Norman and medieval phase 1 as well as medieval phase 5. It is represented by all skeletal zones in medieval phase 3 and post-medieval phase 4. This evidence suggests that horse, cattle and sheep/goat carcasses were processed on site broadly across all periods, with pig remains showing most variance. It is not until medieval phase 5 that pig specimens are represented in significant numbers and outstrip cattle in quantity, indicating a change in the focus of exploitation. Butchery remains (discussed further below) support the emerging picture of small scale domestic livestock husbandry. Domestic and wild fowl are represented by limb bones only, chicken present in the Saxo-Norman and medieval phase 1, the latter also providing evidence for duck and pheasant. Additionally, goose/gander appears in medieval phase 6, and an oyster shell fragment was noted from medieval phase 5. Dog remains are present in low numbers in the Saxo-Norman, medieval phases 1 and 3 and post-medieval phase 4, with cat represented in the latter two.

Table 16: Taxa representation by phase (NSP)

Phase/ Taxon	Horse	Equid	Cattle	Pig	Sheep/ goat	Dog	Cat	Goose/g ander	Chicke n	Duck	Red deer	Fox	Pheasa nt	Frog/to ad	Oyster	Large mml	Mediu m mml	Small mml	Large bird	Mediu m bird	Small bird	Bird	Total
RB																	1						1
E/MSA X			2													1	4						7
LSAX			1	1	2												3						7
SN	12	1	16	2	23	2		1	1				1			29	15						103
M1	7		57	1	17	6			1	1						101	40				1		232
M2	2		1	4	1				1							10	13			1			33
M3	7		24	3	15	3	2		2							34	16						106
M4			2																				2
M5	5		8	15	19							1			1	26	45			1			121
M6	2		4	5	1			1								6	4						23
M7																1	1						2
PM1	2				1																		3
PM3			2													12	5						19
PM4	5		27	7	29	7	3				1					70	50	4				1	204
MOD			1		2												1						4
Undate d	8		71	5	25	1			13					1		120	59	2	3	1			309
U/S	2		2		2	1										7	3					2	19
Total	52	1	218	43	137	20	5	2	18	1	1	1	1	1	1	417	260	6	3	3	1	3	1195

Table 17: Body part representation by phase

Body part/ Taxon	Hors e	Equi d	Cattl e	Pig	Sheep/goat	Dog	Cat	Goose/gande r	Chicke n	Duck	Red deer	Fox	Pheasan t	Frog/ toad	Oyste r	Larg e mml	Mediu m mml	Small mml	Larg e bird	Mediu m bird	Small bird	Bird	Indeterminat e	Total
RB																								
Head																								
Mandible																	1							1
E/MSAX																								
Head																								
Mandible			1																					1
Rib															1									1
Hind limb																								
Calcaneum			1																					1
Shaft fragment																4								4
LSAX																								
Head																								
Cranium					1												2							3
Mandible																								
Tooth				1																				1
Forelimb																								
Scapula			1																					1
SN																								
Head																								
Horn core			2																					2
Cranium																2	2							4
Mandible			2		3		1										6							12
Tooth	1		2	2	7																	3		15
Spine																								
Lumbar vertebra			1																					1
Scapula			2		1											1								4
Rib																2								2
Pelvis																2								2
Forelimb																								
Humerus	2		1			1											1							5
Radius	2		2		3											1								8
Ulna	1		1		1																			3
Metacarpal		1																						1
Coracoid									1															1
Carpometacarpus								1																1

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Femur					1				1													2		
Tibia	1		2		1																	3	7	
Metatarsal			3		1																		4	
Tibiotarsus																						1	1	
Feet																								
Calcaneum	1		1																				2	
Astragalus			1																				1	
Tarsal	1																						1	
Phalanx 2	1																						1	
Phalanx 3			1																				1	
Shaft fragment																						2	5	7
M4																								
Head																								
Mandible			1																				1	
Feet																								
Phalanx 1			1																				1	
M5																								
Head																								
Cranium																						11	11	
Mandible			2																			1	3	
Tooth			1	1	11																	1	14	
Spine																								
Cervical vertebra																						3	3	
Thoracic vertebra																						1	2	
Lumbar vertebra																							6	
Vertebra																						1	5	
Rib																						9	16	
Pelvis	2																						2	
Forelimb																								
Humerus	1		3		1	2																1	8	
Radius			1		1	2																	4	
Metacarpal	1		1																				2	
Hind limb																								
Femur					5	1																2	9	
Tibia	1				2	1																	4	
Metatarsal					1																		1	
Metapodial																						1	1	
Feet																								
Astragalus					1																		1	
Tarsal					3																		3	

Mortality profile

Degree of epiphyseal fusion was evident in 109 specimens, although totals for each phase are too low to permit interpretation of husbandry practices beyond that regarding age at death of the individuals represented (Figures 1a-g, Table 18). Evidence from the Saxo-Norman phase confirms the presence of adult cattle, adult-sized horse and both young and adult sheep, suggesting that sheep/goat may have been bred on site, and in addition to the cattle, were kept for their secondary products (Figure 1a; Table 11) (Reitz and Wing 2008: 72, Table 3.5; Silver 1963). This profile for sheep/goat is supported by tooth wear data (Table 12), and by analysis of cattle horn core fragments, which indicate the presence of an animal/animals aged 7-10 years (Armitage 1982). Fusion data indicate that the trend for older/adult animals is maintained through medieval phases 1 and 2 (Figures 47b; 1c; Table 18) with greater variance in phase M3 with horse remains pertaining to an individual/individuals over nine months and under four years, and young and adult sheep in addition to adult cattle and chicken (Figure 47d, Table 18) (Reitz and Wing 2008: 72, Table 3.5; Silver 1963). However, tooth wear data develops and augments this profile, confirming the presence of sheep/goat ranging from 2-12 months to 3-4 years in phase M1, two young pigs aged 2-7 months and 21-27 months from phase M2, and pig aged over 2-7 months and 7-14 months and a sheep aged between 8-10 years from phase M3 (Table 19) (Grant 1982; Payne 1987). Older animals are again represented in phase M5, with fused epiphyses confirming adult-sized horse, adult cattle and sheep/goat, inferring the importance of secondary products, whilst pig that offers no secondary products is evidenced by remains pertaining to animals aged under 4 year at death (Figure 47e, Table 18) (Reitz and Wing 2008: 72, Table 3.5; Silver 1963). Tooth wear additionally confirms the presence of an individual aged 1-2 years (Grant 1982; Payne 1987). This pattern is broadly repeated in medieval phase 6, although sheep/goat is represented by a single specimen that does not provide fusion evidence and adult goose/gander joins the assemblage. However, tooth wear confirms the presence of a sheep/goat animal aged 3-4 years. An unfused distal tibia confirms the presence of a pig aged under two years (Figure 47f, Table 18) (Reitz and Wing 2008: 72, Table 3.5). A horse tooth from an animal aged 14-15 years at death represents the only ageable specimen from phase PM1 (Levine 1982) , and the fused, and therefore adult, remains of cattle provide the only such evidence for post-medieval phase 3 (Figure 47g, Table 18) (Reitz and Wing 2008: 72). A more mixed mortality profile emerges in post-medieval phase 4 with the presence of adult horse aged over five years, adult sized cattle, with a minimum of one individual aged under four years, pig over one year old, and adult sized sheep (Figure 47h, Table 18), the latter comprising the only group for whom fusion data are available for the modern assemblage (Figure 47i, Table 18) (Reitz and Wing 2008: 72, Table 3.5; Silver 1963). Tooth wear develops this profile, with sheep/goat aged from 6-12 months to 4-6 years comprising the PM4 phase assemblage (Grant 1982; Payne 1987)

The mortality profile for the main domesticates remains remarkably stable over the time period represented, with predominantly adult or adult sized horse and cattle, young pig and a mixed demographic for sheep/goat. This pattern suggests that horses and cattle were kept primarily for their secondary products – for traction and also dairying for cattle, whilst pigs were kept for meat. Sheep/goat remains indicate that animals were kept and bred on site for both meat and secondary products that likely includes fibre production and could also include dairying.

Figure 47a: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, SN

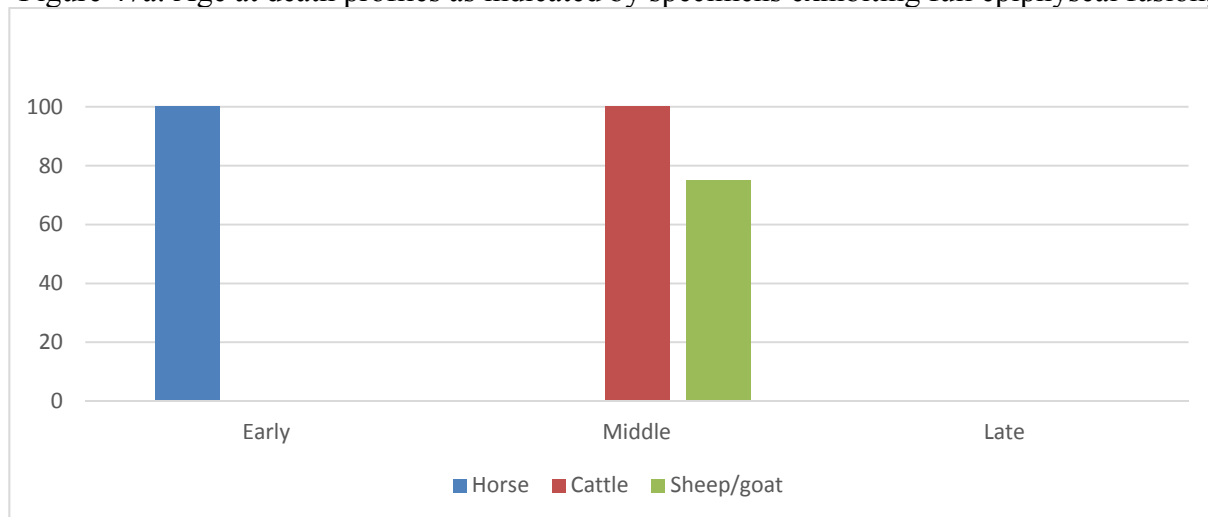


Figure 48b: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, M1

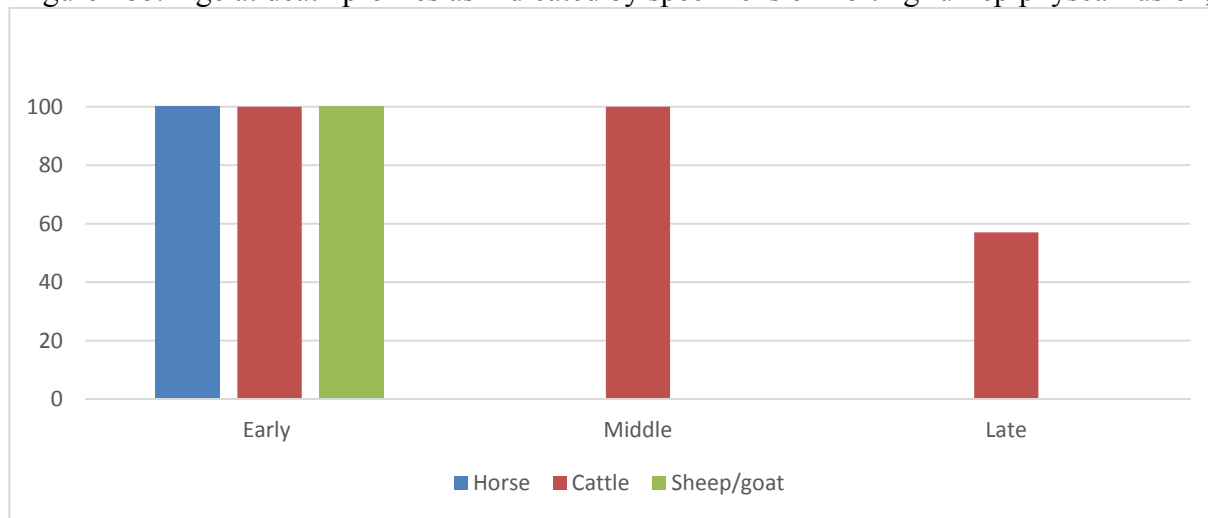


Figure 49c: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, M2.
Horse only represented in this phase

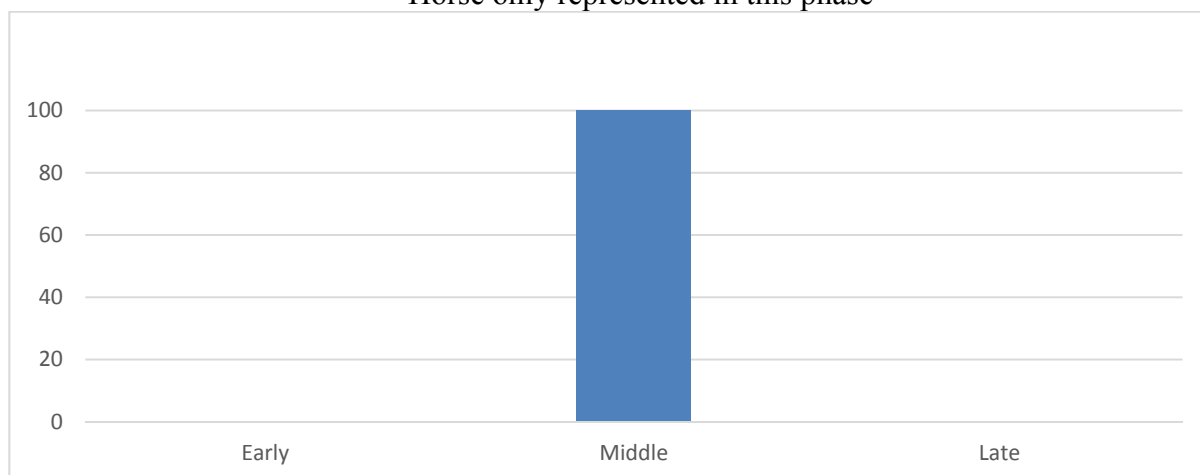


Figure 50d: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, M3

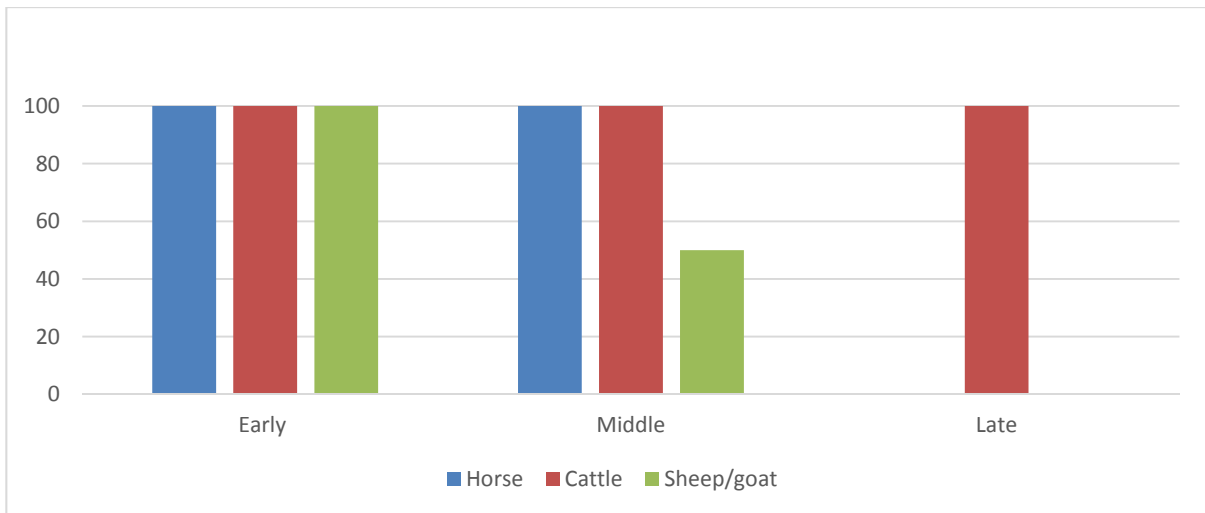


Figure 51e: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, M5

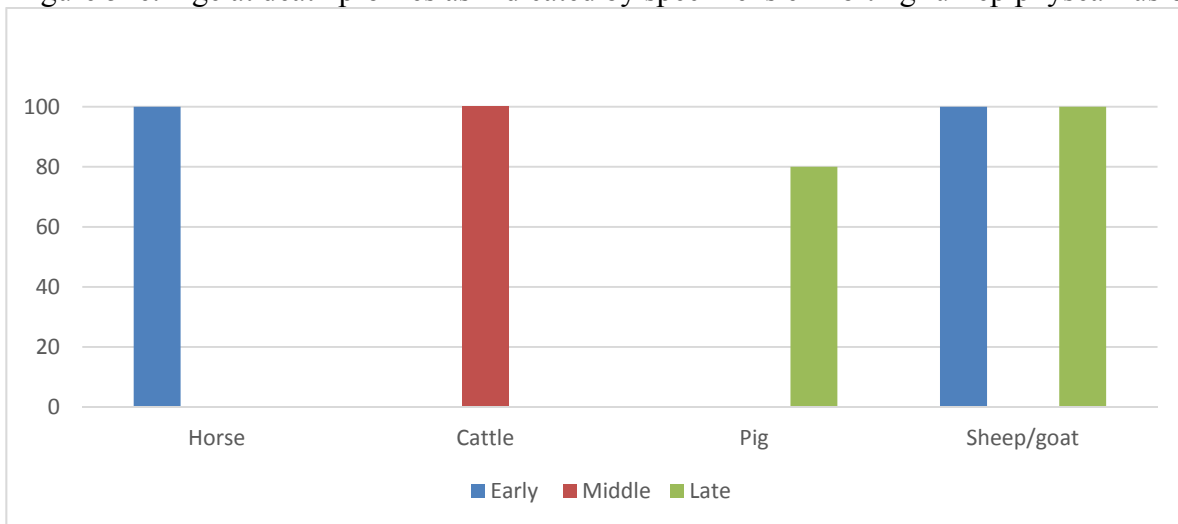


Figure 52f: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, M6

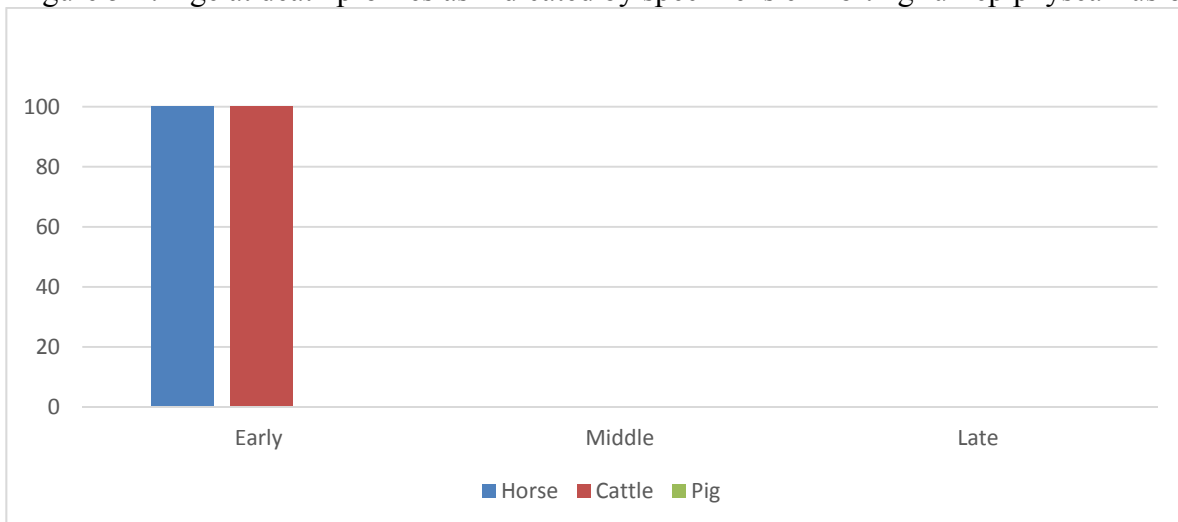


Figure 53g: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, PM3. Cattle only represented in this phase



Figure 54h: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, PM4

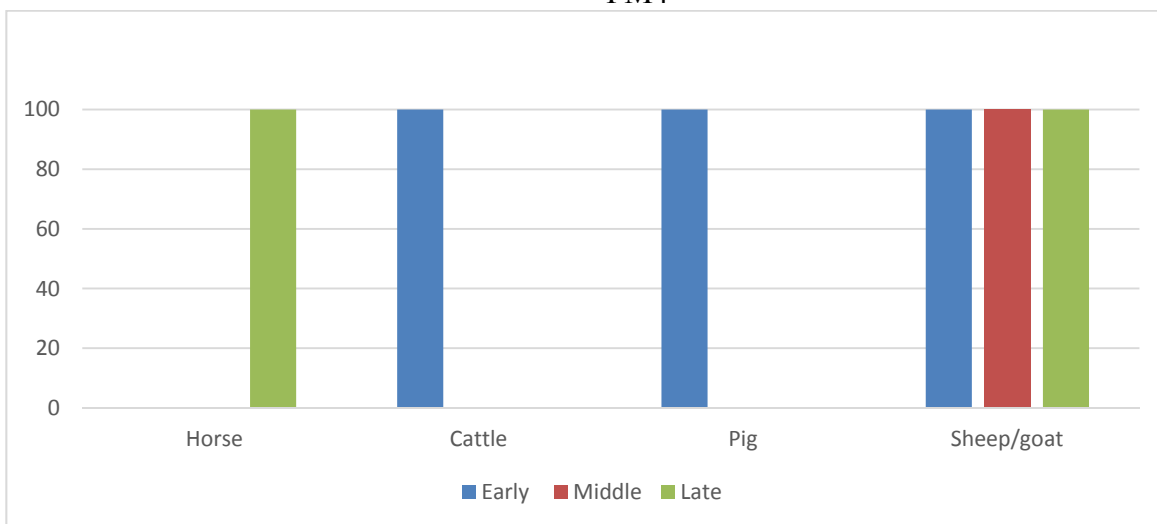


Figure 55i: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion, MOD. Sheep/goat only represented in this phase

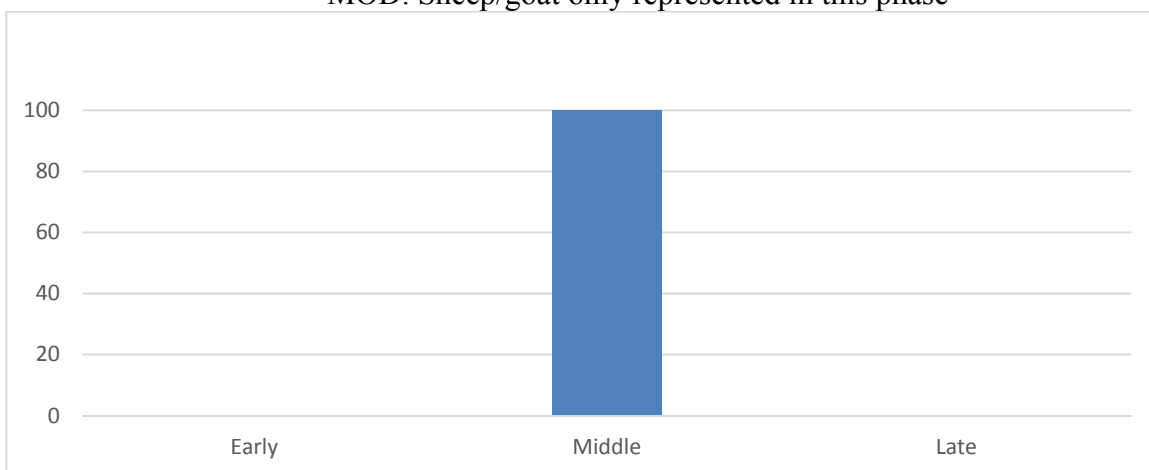


Table 18: Age at death profiles as indicated by specimens exhibiting full epiphyseal fusion

Date	Context	No. specimens	Taxon	Bone	Prox	Dist	Age
SN							
	2434	1	Horse	Humerus		Fused	≥ 15-18 months
	2053	1	Horse	Metatarsal		Fused	≥ 15-18 months

	2733	1	Horse	Metapodial		Fused	≥ 15-18 months
	2195	1	Cattle	Tibia		Fused	≥ 24-30 months
	2434	1	Sheep/goat	Tibia		Unfused	< 15-24 months
	2510	1	Sheep/goat	Tibia		Fused	< 15-24 months
	2053	1	Sheep/goat	Tibia		Fused	≥ 15-24 months
	2510	1	Sheep/goat	Calcaneum	Fused		≥ 23-60 months
	2053	1	Dog	Humerus		Fused	≥ 8-9 months
M1							
	2319	1	Horse	Humerus		Fused	≥ 15-18 months
	2062	1	Cattle	Thoracic vertebra	Fused	Fused	≥ 84-108 months
	2062	1	Cattle	Thoracic vertebra	Fused	Fused	≥ 84-108 months
	2062	1	Cattle	Lumbar vertebra	Unfused		< 84-108 months
	2062	1	Cattle	Lumbar vertebra	Unfused		< 84-108 months
	2062	1	Cattle	Lumbar vertebra	Unfused		< 84-108 months
	2382	1	Cattle	Radius	Fused		≥ 12-18 months
	2062	1	Cattle	Femur	Fused	Fused	≥ 42-48 months
	2062	1	Cattle	Tibia	Fused	Fused	≥ 42-48 months
	2295	1	Cattle	Metatarsal		Fused	≥ 24-36 months
	2447	1	Cattle	Metapodial		Fused	≥ 24-36 months
	2307	1	Cattle	Phalanx 1	Fused		≥ 18-24 months
	2295	1	Sheep/goat	Scapula		Fused	≥ 6-13 months
	2113	1	Chicken	Femur	Fused	Fused	Adult
M2							
	2437	1	Horse	Tibia		Fused	≥ 20-24 months
	2490	1	Chicken	Ulna	Fused	Fused	Adult
M3							
	2318	1	Horse	Ulna	Unfused		< 42 months
	2318	1	Horse	Metacarpal		Fused	≥ 15-18 months
	2318	1	Horse	Phalanx 2	Fused	Fused	≥ 9-12 months
	2318	1	Horse	Calcaneum	Fused		≥ 36 months
	2157	1	Cattle	Cervical vertebra	Fused	Fused	≥ 84-108 months
	2318	1	Cattle	Scapula		Fused	≥ 7-10 months
	2412	1	Cattle	Scapula		Fused	≥ 7-10 months
	2157	1	Cattle	Humerus		Fused	≥ 12-18 months
	2318	1	Cattle	Humerus		Fused	≥ 12-18 months
	2311	1	Cattle	Tibia		Fused	≥ 24-30 months
	2157	1	Cattle	Metatarsal		Fused	≥ 24-36 months
	2157	1	Sheep/goat	Humerus		Fused	≥ 3-13 months
	2157	1	Sheep/goat	Metacarpal		Fused	≥ 18-36 months
	2528	1	Sheep/goat	Metatarsal		Unfused	< 18-36 months
	2157	1	Dog	Femur		Fused	≥ 18 months
	2412	1	Cat	Tibia	Fused		Adult
	2528	1	Chicken	Femur	Fused	Fused	Adult
	2528	1	Chicken	Tibiotarsus	Fused	Fused	Adult
M5							
	2390	1	Horse	Metacarpal		Fused	≥ 15-18 months
	2390	1	Cattle	Metacarpal		Fused	≥ 24-36 months
	2018	1	Pig	Phalanx 2	Fused		< 42 months
	2018	1	Pig	Femur	Unfused		< 42 months
	2018	1	Pig	Femur		Unfused	< 42 months
	2018	1	Pig	Femur		Unfused	< 42 months
	2390	1	Sheep/goat	Humerus		Fused	≥ 3-13 months
	2018	1	Sheep/goat	Radius		Fused	≥ 33-84 months
	2018	1	Sheep/goat	Phalanx 1	Fused		≥ 6-16 months
M6							
	2006	1	Horse	Scapula		Fused	≥ 20 months
	2415	1	Cattle	Humerus		Fused	≥ 12-18 months
	2415	1	Pig	Tibia		Unfused	< 24 months
	2415	1	Goose/gander	Tibiotarsus		Fused	Adult
PM3							
	2306	1	Cattle	Scapula		Fused	≥ 7-10 months
	2306	1	Cattle	Tibia	Fused		≥ 42-48 months
PM4							
	2179	1	Horse	Thoracic vertebra	Fused	Fused	≥ 60 months

	2189	1	Cattle	Cervical vertebra	Unfused	Unfused	< 84-108 months
	2179	1	Cattle	Scapula		Fused	≥ 7-10 months
	2189	1	Cattle	Scapula		Fused	≥ 7-10 months
	2189	1	Cattle	Scapula		Fused	≥ 7-10 months
	2189	1	Cattle	Radius		Unfused	< 42-48 months
	2075	1	Cattle	Radius	Fused		≥ 12 - 18 months
	2189	1	Cattle	Radius	Fused		≥ 12-18 months
	2179	1	Cattle	Phalanx 1	Fused		≥ 18-24 months
	2179	1	Cattle	Phalanx 2	Fused		≥ 18-24 months
	2179	1	Cattle	Pelvis	Fused	Fused	≥ 6-10 months
	2189	1	Pig	Pelvis	Fused	Fused	≥ 12 months
	2189	1	Sheep/goat	Humerus	Fused		≥ 23-84 months
	2189	1	Sheep/goat	Humerus	Fused	Fused	3-84 months
	2179	1	Sheep/goat	Radius	Fused		≥ 3-10 months
	2179	1	Sheep/goat	Tibia		Fused	≥ 15-24 months
	2189	1	Dog	Scapula		Fused	≥ 6-7 months
	2189	1	Dog	Humerus	Fusing		15 months
	2189	1	Dog	Metapodial	Unfused		Foetal
	2019	1	Cat	Humerus		Fused	Adult
	2189	1	Cat	Femur		Fused	Adult
MOD							
	2180	1	Sheep/goat	Calcaneum	Fused		≥ 23-60 months
Undated							
	2230	1	Horse	Cervical vertebra	Fused		≥ 60 months
	2230	1	Horse	Pelvis	Fused	Fused	≥ 54-60 months
	2459	1	Horse	Pelvis	Fused	Fused	≥ 54-60 months
	2120	1	Cattle	Scapula		Fused	≥ 12-18 months
	2458	1	Cattle	Scapula		Fused	≥ 7-10 months
	2537	1	Cattle	Scapula		Fused	≥ 7-10 months
	2146	1	Cattle	Humerus		Unfused	< 12-18 months
	2010	1	Cattle	Humerus	Unfused		< 42-48 months
	2120	1	Cattle	Humerus	Unfused		< 42-48 months
	2120	1	Cattle	Radius		Unfused	< 42-48 months
	2120	1	Cattle	Radius	Fused	Unfused	12-48 months
	2120	1	Cattle	Ulna	Unfused		< 42-48 months
	3307	1	Cattle	Phalanx 2	Fused		≥ 18-24 months
	2341	1	Cattle	Femur	Unfused		< 42 months
	2120	1	Cattle	Femur		Unfused	< 42-48 months
	2120	1	Cattle	Femur		Unfused	< 42-48 months
	2120	1	Cattle	Tibia	Unfused		< 42-48 months
	2120	1	Cattle	Tibia	Unfused		< 42-48 months
	2515	1	Cattle	Metatarsal		Unfused	< 24- 36 months
	2088	1	Cattle	Metatarsal		Unfused	< 24-36 months
	3307	1	Sheep/goat	Cervical vertebra	Fused	Fused	≥ 48-60 months
	2537	1	Sheep/goat	Humerus		Fused	≥ 3-13 months
	2146	1	Sheep/goat	Radius	Fused		≥ 3-10 months
	2146	1	Sheep/goat	Radius		Fused	≥ 33-84 months
	2262	1	Sheep/goat	Metacarpal		Unfused	< 18-36 months
	2120	1	Large mml	Tibia	Unfused		< 42-48 months
U/S							
	u/s	1	Horse	Metacarpal		Fused	15-18 months
	u/s	1	Sheep/goat	Thoracic vertebra	Fusing	Unfused	48-60 months

Table 19: Age at death profiles as indicated by tooth wear

Date	Context	No. of specimens	Taxon	Bone	Side	dP4	P4	M1	M1/M2	M2	M3	H (mm)	Age
E/MSAX													
	2002	1	Cattle	Mandible	Right	j		f					> 8-18 months
LSAX?													
	2734	1	Sheep/goat	Mandible	Left	f		d					≥ 6-12 months
SN													
	2721	1	Sheep/goat	Tooth	Left				e				1-2 years
	2434	1	Sheep/goat	Tooth	Right				g				> 6-12 months
	2089	1	Sheep/goat	Mandible	Right	e							> 2-6 months
	2089	1	Sheep/goat	Mandible	Left					l	m		≥ 8-10 years
M1													
	2307	1	Horse	Tooth	Right							30.7	9-10 years

	2285	1	Cattle	Tooth	Right				c				≥ 8-30 months
	2077	1	Pig	Tooth		j							> 2-7 months
	2319	1	Sheep/goat	Tooth					a				2-12 months
	2307	1	Sheep/goat	Tooth	Right						f		3-4 years
	2319	1	Sheep/goat	Tooth					c				6 months - 2 years
	2285	1	Sheep/goat	Mandible	Right		g	g					≥ 6-12 months
	2285	1	Sheep/goat	Mandible	Left		e	g		e	b		2-3 years
M2													
	2437	1	Pig	Tooth	Left		b						2-7 months
	2437	1	Pig	Mandible	Left					e	d		21-27 months
M3													
	2144	1	Cattle	Tooth	Left				k				> 8-18 months
	2144	1	Cattle	Tooth	Left	m							> 1-8 months
	2021	1	Pig	Tooth	Right	j							> 2-7 months
	2157	1	Pig	Mandible	Left		e	m					> 7-14 months
	2724	1	Sheep/goat	Mandible	Left		k	j		g	h		8-10 years
M5													
	2390	1	Sheep/goat	Tooth	Left					f			> 1-2 years
M6													
	2696	1	Pig	Mandible	Left		a	f		c			> 14-21 months
	2463	1	Sheep/goat	Mandible	Left		g	f		f	f		3-4 years
PM1													
	2403	1	Horse	Tooth	Right							14	14-15 years
PM4													
	2019	1	Cattle	Tooth					g				> 8-18 months
	2189	1	Sheep/goat	Tooth	Left				e				> 1-2 years
	2019	1	Sheep/goat	Tooth					f				> 6-12 months
	2007	1	Sheep/goat	Tooth	Left						c		2-3 years
	2075	1	Sheep/goat	Tooth	Left						e		3-4 years
	2242	1	Sheep/goat	Tooth	Left						g		4-6 years
	2189	1	Sheep/goat	Mandible	Right					f	c		2-3 years
	2189	1	Sheep/goat	Mandible	Right			a					2-6 months
Undated													
	2120	1	Cattle	Tooth	Right		c						> 1-8 months
	2107	1	Cattle	Mandible	Left			f		g	c		30-36 months
	2120	1	Cattle	Mandible	Right		b	k		g	c		30-36 months
	2120	1	Cattle	Mandible	Left			k		g	c		30-36 months
	2100	1	Cattle	Mandible	Left					h	g		Old adult
	2290	1	Pig	Tooth	Right	g							> 2-7 months
	2290	1	Pig	Tooth	Right			e					> 7-14 months
	2056	1	Pig	Mandible	Left			j		e			> 14-21 months
	2537	1	Sheep/goat	Tooth	Left		j						> 2-6 months
	2102	1	Sheep/goat	Tooth					c				> 6-12 months
	2102	1	Sheep/goat	Tooth					d				> 6-12 months
	2450	1	Sheep/goat	Tooth	Left						f		3-4 years
	2244	1	Sheep/goat	Mandible	Left			b					6-12 months

Sex

Four pig canines, one from the Saxo-Norman phase, one from medieval phase 6, and two from post-medieval phase 4 pertain to male animals.

Butchery

Nine percent of the total assemblage evidences butchery, with variance at phase scale (Table 20). Peaks in evidence are evident in the early/middle Saxon, Saxo-Norman, medieval phases 1 and 6, post-medieval phases 3 and 4 and the modern assemblages. The nature of evidence supports assertions posited above that the assemblages in all phases represent domestic butchery characterised by division of carcasses and filleting for consumption (Table 21). Of note is the presence of a dog femur from medieval phase 4 showing a cut mark, which is suggestive of skinning.

Table 20: Percentage of each assemblage evidencing butchery per phase

Phase	%
RB	0
E/MSAX	14
LSAX	0

SN	20
M1	15
M2	2
M3	9
M4	0
M5	6
M6	15
M7	0
PM1	0
PM3	11
PM4	12
MOD	25
Undated	4
U/S	21

Table 21: Butchery evidence

Date	Context	No. of specimens	Taxon	Bone	Prox	Dist	Condition	Butchery	Gnaw	Age
E/MSAX										
	2002	1	Cattle	Calcanium	Unfused		3	Cuts, chops		
SN										
	2434	1	Horse	Humerus		Fused	2	Cut	Carnivore	≥ 15-18 months
	2287	1	Horse	Radius			3	Cuts	Carnivore	
	2287	1	Horse	Radius			4	Cuts, chops		
	2287	1	Horse	Ulna			3	Chops	Carnivore	
	2434	1	Horse	Phalanx 1		Fused	3	Cut	Carnivore	
	2053	1	Horse	Metatarsal		Fused	3	Chops		≥ 15-18 months
	2208	1	Horse	Metapodial			2	Chops	Carnivore	
	2127	1	Cattle	Mandible			3	Chops		
	2434	1	Cattle	Lumbar vertebra			3	Chop		
	2126	1	Cattle	Scapula			4	Cuts	Carnivore	
	2126	1	Cattle	Scapula			3	Cuts		
	2434	1	Cattle	Humerus			3	Cuts		
	2434	1	Cattle	Radius			2	Cuts	Carnivore	
	2434	1	Cattle	Radius			3	Cuts	Carnivore	
	2093	1	Cattle	Tibia			3	Cuts	Carnivore	
	2434	1	Cattle	Calcanium			3	Cuts	Carnivore	
	2287	1	Cattle	Horn core			4	Chops		7-10 years
	2434	1	Sheep/goat	Radius			3	Cuts	Carnivore	
	2434	1	Sheep/goat	Radius			3	Cuts, chop	Carnivore	
	2053	1	Sheep/goat	Tibia		Fused	2	Chop		≥ 15-24 months
	2053	1	Sheep/goat	Tibia			3	Chops		
	2434	1	Sheep/goat	Tibia		Unfused	3	Cuts	Carnivore	< 15-24 months
	2434	1	Sheep/goat	Tibia			2	Cuts	Carnivore	
	2510	1	Sheep/goat	Tibia		Fused	2	Slice		< 15-24 months
	2195	1	Large mml	Pelvis			3	Chop		
	2212	1	Large mml	Radius			3	Chop		
	2527	1	Large mml	Femur			4	Cuts		
	2434	1	Large mml	Tibia			4	Cuts	Carnivore	
	2097	1	Large mml	Shaft fragment			3	Cuts		
M1										
	2319	1	Horse	Humerus		Fused	2	Chops, cuts	Carnivore	≥ 15-18 months
	2284	1	Horse	Ulna			4	Cuts	Carnivore	

	2062	1	Horse	Rib			2	Chops and cuts		
	2465	1	Horse	Pelvis			3	Cuts		
	2062	1	Cattle	Lumbar vertebra	Unfused		2	Chop		< 84-108 months
	2062	1	Cattle	Lumbar vertebra			3	Chops		
	2062	1	Cattle	Lumbar vertebra	Unfused		2	Chops		< 84-108 months
	2062	1	Cattle	Lumbar vertebra	Unfused		2	Cuts, chop		< 84-108 months
	2062	1	Cattle	Rib	Fused		2	Chop		
	2062	1	Cattle	Rib			3	Chop		
	2062	1	Cattle	Rib	Fused		2	Chop		
	2062	1	Cattle	Rib	Fused		3	Chop		
	2062	1	Cattle	Rib			3	Chop and cut		
	2062	1	Cattle	Rib			3	Chop and cut		
	2062	1	Cattle	Rib	Fused		2	Chops		
	2062	1	Cattle	Rib			3	Chops and cut		
	2062	1	Cattle	Rib	Fused		3	Cut		
	2062	1	Cattle	Rib	Fused		3	Cuts		
	2062	1	Cattle	Pelvis			3	Saw		
	2062	1	Cattle	Pelvis			2	Saw		
	2382	1	Cattle	Radius	Fused		3	Cuts, chop		≥ 12-18 months
	2380	1	Cattle	Ulna			3	Cuts		
	2447	1	Cattle	Metapodial		Fused	4	Chop		≥ 24-36 months
	2307	1	Cattle	Phalanx 1	Fused		3	Cuts		≥ 18-24 months
	2062	1	Large mml	Vertebra			3	Chop		
	2062	1	Large mml	Vertebra			3	Chop		
	2062	1	Large mml	Sternum			3	Chop		
	2062	1	Large mml	Sternum			3	Chop		
	2062	1	Large mml	Sternum			3	Chop		
	2062	2	Large mml	Sternum			3	Chop		
	2062	1	Large mml	Rib			3	Chop, cuts		
	2285	1	Large mml	Rib			3	Chops		
	2062	1	Large mml	Rib			3	Cut		
	2062	1	Large mml	Rib			3	Cut		
	2062	1	Large mml	Rib			4	Cut		
	2062	1	Large mml	Rib	Fused		3	Cuts		
	2062	1	Large mml	Rib			3	Cuts		
	2380	1	Large mml	Tibia			2	Cuts		
	2062	1	Large mml	Indeterminate			3	Chop		
	2062	1	Large mml	Indeterminate			4	Chop		
	2062	1	Large mml	Indeterminate			3	Chop		
	2062	1	Large mml	Indeterminate			3	Chop		
	2062	1	Large mml	Indeterminate			4	Chops		
	2285	1	Large mml	Indeterminate			3	Cuts		

	2295	1	Medium mml	Humerus			4	Cuts		
	2380	1	Medium mml	Shaft fragment			2	Cut		
M2										
	2383	1	Horse	Pelvis			2	Cut		
M3										
	2318	1	Horse	Metacarpal		Fused	3	Cut	Carnivore	≥ 15-18 months
	2724	1	Horse	Tibia			4	Cuts		
	2318	1	Horse	Calcaneum	Fused		3	Chop		≥ 36 months
	2412	1	Cattle	Scapula		Fused	3	Chop	Carnivore	≥ 7-10 months
	2318	1	Cattle	Humerus		Fused	2	Chop, cuts		≥ 12-18 months
	2157	1	Cattle	Humerus		Fused	3	Cuts	Carnivore	≥ 12-18 months
	2144	1	Cattle	Metatarsal			3	Chops		
	2724	1	Sheep/goat	Mandible			3	Cuts		8-10 years
	2157	1	Dog	Femur		Fused	3	Cut		≥ 18 months
	2412	1	Large mml	Thoracic vertebra			3	Chop		
	2091	1	Large mml	Tibia			3	Chop		
	2318	1	Large mml	Shaft fragment			3	Chops		
	2528	1	Medium mml	Scapula			4	Cuts	Carnivore	
	2021	1	Medium mml	Shaft fragment			2	Cuts		
M5										
	2390	1	Horse	Metacarpal		Fused	3	Chops, cuts		≥ 15-18 months
	2018	1	Cattle	Mandible			3	Chops		
	2018	1	Cattle	Humerus			3	Chop		
	2018	1	Cattle	Radius			3	Cuts		
	2390	1	Cattle	Metacarpal		Fused	3	Chops		≥ 24-36 months
	2390	1	Pig	Humerus			3	Chops, cuts	Carnivore	
	2018	1	Pig	Femur			3	Cuts, chop		
	2390	1	Sheep/goat	Humerus			3	Cut		
	2018	1	Large mml	Vertebra		Unfused	3	Chop		
	2018	2	Large mml	Shaft fragments			3	Chops		
M6										
	2401	1	Cattle	Scapula			4	Cuts		
	2463	1	Cattle	Tibia			4	Chop	Carnivore	
	2415	1	Large mml	Rib			3	Cuts		
	2006	1	Large mml	Radius			4	Chops		
PM3										
	2306	1	Large mml	Vertebra			3	Chop		
	2306	1	Large mml	Femur			4	Chops, cuts	Carnivore	
PM4										
	2019	1	Horse	Metatarsal 4			3	Cuts		
	2179	1	Cattle	Scapula			3	Cuts	Carnivore	
	2179	1	Cattle	Scapula		Fused	3	Cuts		≥ 7-10 months
	2189	1	Cattle	Scapula		Fused	3	Saw		≥ 7-10 months

	2189	1	Cattle	Scapula		Fused	3	Saw		≥ 7-10 months
	2179	1	Cattle	Pelvis	Fused	Fused	3	Chop	Carnivore	≥ 6-10 months
	2189	1	Cattle	Humerus			2	Chop		
	2189	1	Cattle	Radius		Unfused	2	Chop		< 42-48 months
	2189	1	Cattle	Radius	Fused		2	Chops		≥ 12-18 months
	2179	1	Cattle	Phalanx 1	Fused		4	Slices		≥ 18-24 months
	2075	1	Cattle	Tibia			3	Cuts		
	2075	1	Cattle	Metapodial			3	Slice	Carnivore	
	2179	1	Cattle	Astragalus			4	Chops	Carnivore	
	2328	1	Cattle	Astragalus			2	Cuts		
	2265	1	Pig	Ulna			3	Chop		
	2189	1	Sheep/goat	Mandible			2	Cut		2-3 years
	2189	1	Sheep/goat	Humerus	Fused	Fused	2	Cuts		3-84 months
	2179	1	Sheep/goat	Radius			3	Cuts	Carnivore	
	2179	1	Sheep/goat	Radius	Fused		3	Cuts	Carnivore	≥ 3-10 months
	2179	1	Sheep/goat	Tibia			2	Cuts		
	2179	1	Sheep/goat	Tibia		Fused	2	Cuts		≥ 15-24 months
	2179	1	Sheep/goat	Metatarsal			2	Cuts	Carnivore	
	2704	1	Large mml	Rib			3	Cuts		
	2189	1	Large mml	Rib			3	Slice		
	2189	1	Large mml	Humerus			3	Chop		
	2179	1	Large mml	Radius			3	Cuts		
	2189	1	Large mml	Ulna			3	Chop		
	2189	1	Large mml	Indeterminate			3	Chops		
	2179	1	Large mml	Shaft fragments			3	Cuts		
	2189	1	Medium mml	Scapula			3	Cut		
	2189	1	Medium mml	Radius			3	Cuts and chops		
	2189	1	Medium mml	Shaft fragment			4	Cut		
MOD										
	2180	1	Medium mml	Femur			3	Cuts		
Undated										
	2459	1	Horse	Pelvis	Fused	Fused	3	Cuts		≥ 54-60 months
	2458	1	Horse	Radius			3	Cut		
	2120	1	Cattle	Mandible			3	Chops		
	2107	1	Cattle	Mandible			4	Cuts		30-36 months
	2100	1	Cattle	Mandible			3	Cuts, chops		Old adult
	2537	1	Cattle	Scapula		Fused	3	Chops		≥ 7-10 months
	2120	1	Cattle	Scapula			3	Cuts		
	2458	1	Cattle	Pelvis			3	Cut	Carnivore	
	2552	1	Cattle	Pelvis			2	Cuts	Carnivore	
	2213	1	Cattle	Pelvis			3	Chop		
	2107	1	Cattle	Humerus			3	Chop	Carnivore	

	2120	1	Cattle	Humerus	Unfused		3	Chop		< 42-48 months
	2120	1	Cattle	Humerus			3	Chops		
	2146	1	Cattle	Humerus		Unfused	3	Cut		< 12-18 months
	2010	1	Cattle	Humerus	Unfused		3	Cuts		< 42-48 months
	2120	1	Cattle	Ulna			4	Cuts		
	2010	1	Cattle	Femur			3	Cuts		
	2341	1	Cattle	Femur	Unfused		2	Cuts, slice		< 42 months
	2515	1	Cattle	Metatarsal		Unfused	3	Cuts		< 24- 36 months
	2084	1	Cattle	Astragalus			4	Chop	Carnivore	
	2341	1	Cattle	Astragalus			4	Cuts, chop		
	2146	1	Sheep/goat	Radius		Fused	3	Cuts		≥ 33-84 months
	2262	1	Sheep/goat	Metacarpal		Unfused	2	Cut		< 18-36 months
	2120	1	Large mml	Cranium			3	Cut		
	2729	1	Large mml	Vertebra	Fused	Unfused	2	Chop		
	2334	1	Large mml	Rib			3	Chops		
	2540	1	Large mml	Rib			3	Cuts		
	2341	1	Large mml	Indeterminate			2	Cut		
U/S										
	u/s	1	Horse	Metacarpal		Fused	4	Chops		15-18 months
	u/s	1	Cattle	Mandible			3	Cuts		
	u/s	1	Cattle	Rib	Unfused		2	Chops		
	u/s	1	Large mml	Vertebra			3	Cut		

Bone working

Chops to the base of a horn core fragment from the Saxo-Norman phase suggest that horn working could have been taking place on site. A horse metacarpal from an unstratified context has been planed and shows polish consistent with use as an ice-skate (MacGregor 1985: 141-143)

Pathologies

Three specimens provided evidence for pathological conditions: a cattle scapula from phase PM4 shows a crease in the glenoid fossa; a cattle rib from phase M1 has a healed fracture; and a horse radius from an undated context evidences an ossified haematoma the proximal shaft.

Measurements

Measurements of specimens was undertaken where preservation permitted (Appendix 1).

Conclusions

This assemblage represents activity at a site spanning the Saxon, Saxo-Norman, medieval, post-medieval and modern periods. The expected suite of domestic taxa dominate all phases, with cattle and sheep/goat remains the most abundant in the majority, with the notable exception of M2, M5 and M6, in which numbers of pig increase. Horse is an important presence, emerging in phases from the Saxo-Norman through to the latest post-medieval. Also represented are dog, cat, chicken, goose/gander and duck along with low numbers of specimens representing wild species. The proportional taxonomic distribution across phases is typical of the site type, comparing with assemblages recovered from, for example, West Farm, Seaton, Rutland (Browning 2005) and The Grange, Rothley, Leicestershire (Upson-Smith 2008). Body part representation, mortality data and butchery evidence combine to suggest that activity at each phase was domestic in nature and although interpretation of husbandry regimes must be tempered by recognition of low sample sizes

at each phase, it is tentatively suggested that assemblages represent small-scale stock keeping, with horse and cattle kept primarily for secondary products, pig as a source of meat, which becomes more important as a component of diet over time, and sheep/goat raised for both meat and secondary products – likely fibre production, but also possibly dairying.

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Appendix 5: The Plant Remains

Adam Santer and Rachel Small

Introduction

During an archaeological excavation at this site ten soil samples were taken and processed for the analysis of ancient plant remains. All of the samples dated to the Saxo-Norman/early medieval transition, *c.* 900 and 1400 AD. The samples were taken from a variety of features including post-holes, pits, ditches, a gully and a watering-hole which were situated in rear property plots. Sample 8, which was taken from the fill (2262) of a watering hole [2261], was waterlogged whilst the rest of the samples were dry bulks. The analysis of the ancient plant remains recovered from these samples is presented here, together with a discussion of what this can potentially tell us about past diet, crop husbandry strategies and environment at the site. Little environmental work has been carried out on rural settlements in the east midlands dating to this period and therefore gaining further insight is of great interest (Monckton 2003b).

Methodology

The samples were a clayey silt, generally dark brown in colour. The 'dry' bulk samples were processed in a York tank using a 0.5mm mesh with flotation into a 0.3mm sieve. The flotation fractions (flots) were sorted for plant remains and other artefacts under an x10-40 stereo microscope. Due to the high quantity of remains only 12.5 percent of the flot from sample 2 was sorted, the other flots were sorted in their entirety. The residues were air dried and the fractions over 4mm were sorted in their entirety whilst the fractions under 4mm were only scanned for remains. Non-plant remains artefacts, such as animal bones and industrial residues, are commented on in their respective specialist reports.

Sample 8, which was waterlogged, was processed using the wash-over method. A small amount of soil was put into a bucket, a stream of water applied, and the bucket then swirled. The water was then drained off into a 0.3mm sieve to catch the floating organic material and the process continued until nothing further was carried off. The flot and residue were kept wet and scanned under an x10-40 stereo microscope for plant remains and other finds. Specimens were extracted, put into test tubes, and preserved in an alcohol/water solution.

Plant remains were identified by comparison to reference material available at ULAS. Names and habitat information follows Stace (1991) and Hill *et al.* (1999). The plant remains were quantified as follows: each whole grain or those representing over 60% were counted as one; for chaff, each rachis internode and culm node was counted as one; and for seeds and nut shells each fragment was counted as one, except legumes where each cotyledon was counted as 0.5.

Results

All samples contained ancient plant remains (see Table 22): three of the samples had low densities (under 5 items per litre); five had moderate densities (5 to 50 items per litre); and, two had high densities (over 50 items per litre). The highest density of remains found was in sample 2, which was a fill (2099) of pit [2098], which contained 1057 items per litre. Preservation of the specimens was generally good as seed coats tended to be intact and there was little distortion. However, fragmentation levels were high. Artefacts associated with bioturbation, such as rootlets and insects, were largely absent suggesting the effects of this process were minimal and the contexts were secure. The plant remains will be discussed in more detail firstly by type and then by feature.

Grains

Cereal grains were the most abundant category of plant remain identified in the deposits except for sample 8 which was waterlogged and only contained wild seeds (see figure 1). Cereal grains represented 68.9 percent of the total assemblage. Free-threshing wheat (*Triticum* spp.) dominated, representing 98.1 percent of the cereal grains identified to species. Other species of grain present included barley (*Hordeum vulgare* L.) and these were of the hulled variety but none could be formally identified as straight or twisted, the latter of which is indicative of six-row. It was possible to identify two cultivated oat grains (*Avena sativa* L.) due to the presence of the floret bases which were still attached. Three rye (*Secale cereale* L.) grains were also present. There were no signs of germination on any of the grains.

Chaff

Free-threshing wheat rachis internodes were present in five of the samples in low (1 item) to high densities (82 items). The ratio of rachis internodes to grains in the cereal plant is 1:3 (Van der Veen 1992, 82); taking this into consideration, there was still proportionally less chaff than cereal grains in these samples. Chaff never exceeded 11 percent of a sample's assemblage. This could, however, be an issue of preservation as rachis internodes have been proven to be one of the first elements of the cereal plant (along with straw) to be destroyed during burning (Boardman and Jones 1990).

The free-threshing wheat rachis internodes were very fragmented and therefore it was difficult to determine whether they represented bread wheat (*Triticum aestivum* L.) or rivet wheat (*Triticum turgidum* L.). It was only possible for three pieces (two percent) and these were securely identified as bread wheat. Two barley rachis internodes were also present in sample 9, however, it was not possible to determine whether they represented six-row or two-row, or hulled or naked forms, due to their fragmentary nature. A straw culm node was also present in this sample.

Nuts/legumes

A small number of legumes were identified which only represented 0.1 percent of the total assemblage. It was possible to identify one bean/pea (*Vicia/Pisum/Lathyrus*) in samples 2 and 9 and one likely broad bean (cf. *Vicia faba* L.) in sample 6. One fragment of hazelnut shell (*Corylus avellana* L.) was present in sample 9. The nut was likely collected from surrounding woodland/shrubbery and consumed.

Wild seeds

Wild seeds represented 25.6 percent of the total assemblage. A diverse range of seeds was identified which grew in the following habitats: cereal fields, wastelands, grasslands, and, forest/shrubbery. Large grass (Poaceae) seeds were most dominant and some of these could represent poorly preserved oats which could be wild or cultivated (*Avena* spp.). Stinking chamomile (*Anthemis cotula* L.) was the second most common in the assemblage and it is associated with heavy clay soils which are typical of the Leicestershire countryside. Its presence is suggestive of 'deep cultivation' using heavy ploughs (Jones 2009). Vetch (*Vicia* spp.) seeds were the third most frequent and it is possible these may represent cultivated varieties that were used as fodder, however, identification was not possible. A small number of cabbage family seeds (Brassicaceae) were also present and it is possible that these were also cultivated, or the leaves collected from the wild and utilised. Other wild seeds that were present and worthy of note include sedges (*Carex* spp.), as these are associated with damp environments suggesting the cereal fields had poor drainage.

Table 22: Ancient plant remains present in the samples. Key: C = weeds of cereal fields; F = forest vegetation; G = grassland vegetation; R = ruderal vegetation, S = shrubs; V = variable habitats; W = waterlogged.

Sample	1	2	3	4	5	6	7	8	9	10	
Context	2094	2099	2124	2125	2148	2225	2227	2262	2490	2537	
Cut	2092	2098	2128	2128	2147	2226	2228	2261	2488	2535	
Feature type	Ditch	Pit	Pit	Pit	Post-hole	Post-hole	Post-hole	Watering hole/ditch	Pit	Gully	
Grain											
<i>Avena sativa</i> L.									2	1	Cultivated oat
<i>Hordeum vulgare</i> L.	1	2		1	2	2			2	15	Barley
<i>Secale cereale</i> L.									2	1	Rye
<i>Triticum</i> sp. free-threshing	671	653	42	35	8	9	2		135	78	Free threshing wheat
Cereal	56	108	13	10	3	6			78	68	Cereal
Chaff											
<i>Hordeum vulgare</i> L. rachis internode									2		Barley rachis internode
<i>Triticum</i> sp. rachis internode	38	80				1			3	26	Free threshing wheat rachis internode
<i>Triticum aestivum</i> L. rachis internode		2							1		Bread wheat rachis internode
Straw culm node									1		Straw culm node
Nuts											
<i>Corylus avellana</i> L. nut shell fragments									1		Hazel nut shell fragments
Legumes											
<i>Vicia/Pisum/Lathyrus</i>		1							1		Bean/Peas
cf. <i>Vicia faba</i> L.						1					Broad bean
Wild seeds											
<i>Anthemis cotula</i> L.	90	70	5			1			50	9	Stinking chamomile (C)
Asteraceae		1									Daisy family (V)
Brassicaceae	1					4					Cabbage family (V)
<i>Carex</i> sp.	3		1	1					18		Sedge (V)
<i>Chenopodium</i> sp.	1	7							32		Goosefoot (C/R)
<i>Galium aparine</i> L.		1									Cleaver (R)
<i>Plantago lanceolata</i> L.									1		Ribwort plantain (G)
Poaceae (large)	106	92	4	8	5		1		72	31	Large grass (V)
Poaceae (small)	7	5							2	3	Small grass (V)
<i>Polygonum aviculare</i> L.									7		Knotgrass (V)
<i>Polygonum convolvulus</i> (L.) A. Love		3									Black-bindweed (V)
<i>Polygonum</i> sp.	1									1	Knotweed (V)
<i>Ranunculus</i> sp.		1									Buttercup (V)
<i>Rumex</i> sp.	3	5	1		1				7		Dock (V)
<i>Rumex</i> sp. (W)								2			Dock (V)
<i>Sambucus nigra</i> L.	2										Elder (F/S)
<i>Trifolium</i> sp.									1		Clover (G)
<i>Tripleurospermum inodorum</i> (L.) Schultz-Bip.		8							1		Scentless mayweed (C)
<i>Vicia</i> sp.	20	17				2			1	3	Vetch (V)
Indeterminate seed		1		2	1	1			10	2	Indeterminate seed (V)
Indeterminate seed (W)								10			Indeterminate seed (V)
Total	1000	1057	66	57	20	27	3	12	430	238	
Sample volume (L)	9	8	8	9	10	7	2	0.25	9	5	
% Analysed	100	12.5	100	100	100	100	100	100	100	100	
Items per litre	111.1	1057	8.25	6.3	2	3.9	1.5	48	47.8	47.6	

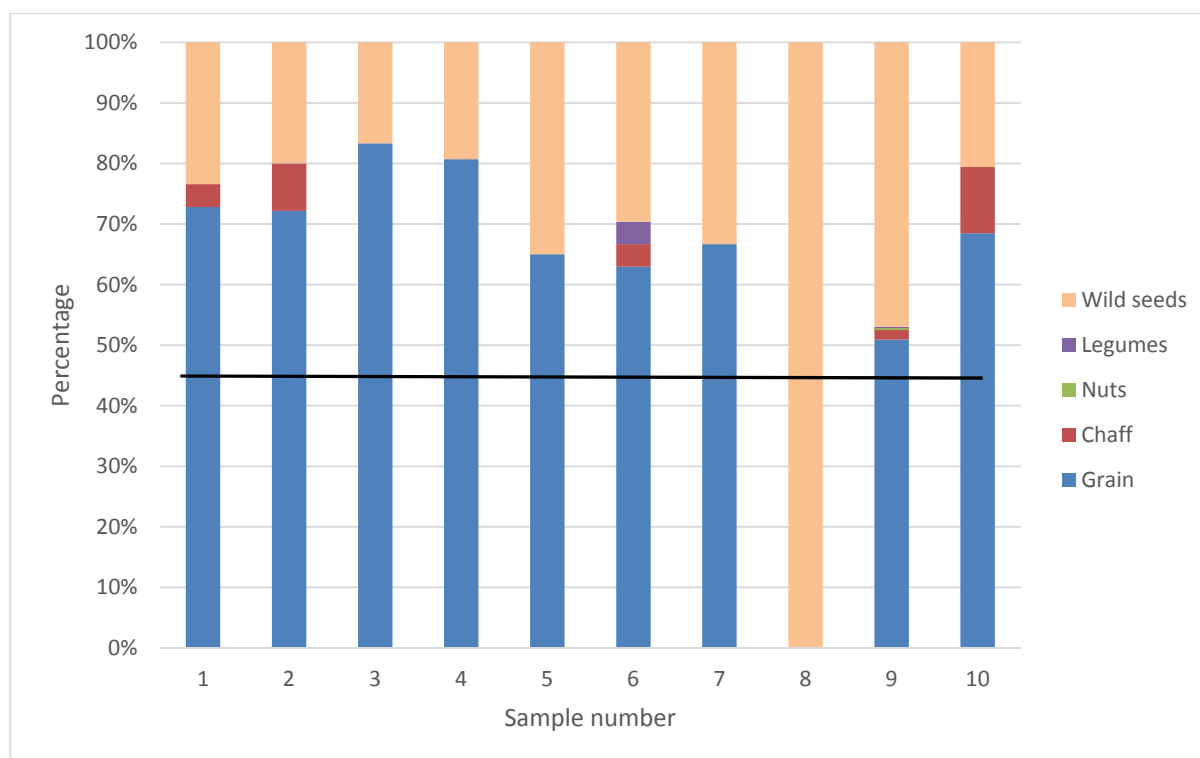


Figure 56: Bar graph showing the proportions of grain, chaff, nuts, legumes and wild seeds in each sample.

Post-holes

Samples 6 and 7 were from the fills (2225) and (2227) of post-holes [2226] and [2228] respectively. These two post-holes were associated, being next to each other and probably formed part of the same structure. Sample 5 was from the fill (2148) of posthole [2147], this was a distance away from the others but still in the northern area of the excavation. All three of the samples had a low density of remains under five items per litre. The deposits contained more cereal grains (*circa* 60%) than wild seeds (*circa* 30%) and as stated previously this is typical of the assemblage. It was possible to identify most of the cereal grains as free-threshing wheat, but barley was also present in smaller numbers. One free-threshing rachis internode was present in sample 6 and a possible broad bean. Wild seeds included large grass, dock (*Rumex* spp.), stinking chamomile, cabbage family, and vetch.

Watering hole/ditch

Sample 8 was waterlogged and was taken from fill (2262) of watering hole/ditch [2261]. The soil contained solely wild seeds from the surrounding environment that had entered the water, twelve in total, equating to 48 items per litre. However, only two were identifiable and these were both dock, a plant which thrives in various habitats. The indeterminate seeds were represented by very fragmentary seed casing. A water flea egg was also present (*Daphnia* spp.) and these are normally present in features where the water has seasonally dried up (Parmentier and van Egmond 1999). Rootlets, bark and leaf waste were also common.

Pit fills

Samples 2, 3, 4 and 9 were taken from pit fills: sample 2 was taken from the fill (2099) of pit [2098]; samples 3 and 4 were taken from the fills (2124) and (2125) of pit [2128]; and, sample 9 was taken from the fill (2490) of pit [2488]. The first two features were in the northern area of the excavation and pit [2488] was in the southern area. The samples were of slightly different compositions and are therefore discussed separately.

Samples 3 and 4 from pit [2128] contained a medium density of remains 8.25 and 6.3 items per litre respectively. They were similar in composition and were both dominated by grain. Specimens which could be identified to species were all free-threshing type except for one barley grain. No chaff, including rachis internodes and straw, was present. A smaller number of wild seeds were present including stinking chamomile, sedge, dock and large grass.

Sample 9 from pit [2488] contained more items per litre than samples 3 and 4 but was still classed as moderate in density at 47.8 items per litre. This sample had a greater variety of remains present. Grains were *just* the most abundant type of plant remain in the sample representing 51 percent. Free-threshing type grains dominated but specimens of barley, rye and cultivated oat were also identified. A small number of chaff fragments were present including two pieces of barley rachis, four free-threshing wheat rachis internodes, of which it was possible to identify one as bread wheat, and a straw culm node. A fragment of hazelnut shell and a bean/pea were also identified. Wild seeds represented 47 percent (this does not count as an outlier, as the upper limit is 57.5% if sample 8 is excluded). Large grass seeds were numerous (72 items), these potentially represent poorly preserved oats. Concentrations of goosefoot, stinking mayweed and sedge were notable. Smaller numbers of other wild seeds were also present, including grassland species such as clover (*Trifolium* spp.) and ribwort plantain (*Plantago lanceolata* L.).

Sample 2 from pit [2098] contained the highest density of remains at 1057 items per litre. The sample was grain dominant, and it was possible to identify the majority as free-threshing wheat type, two grains were tentatively identified as barley. Free-threshing rachis internodes were also found in high numbers, it was not possible to identify the majority to species and only two pieces were bread wheat. Wild seeds were also numerous, large grass seeds and stinking chamomile dominated but vetches were also common. Other wild seeds included the daisy family (Asteraceae), goosefoots, cleavers (*Galium aparine* L.), black-bindweed (*Polygonum convolvulus* (L.) A. Love.), buttercup (*Ranunculus* spp.), dock and stinking mayweed (*Tripleurospermum inodorum* (L.) Schultz-Bip.). A bean/pea fragment was also present.

Ditch fills

Sample 1 was from the fill (2094) of ditch [2092] that was in very close proximity to pit [2098]. It was of very similar composition to sample 2, being grain dominant (primarily free-threshing), but still with high numbers of rachis and wild seeds. However, the concentration of remains was slightly lower at 111.1 items per litre.

Gully

Sample 10 was the fill (2537) from gully [2535]. Again, grain was dominant and free-threshing type was the most commonly identified species. However, compared to the other samples it proportionally had more barley grains. A rye and cultivated oat grain were also identified. Free-threshing wheat rachis internodes were common in the sample. Numerous large grass seeds were

present (31) which possibly represent poorly preserved oat grains. A smaller number of wild seeds were also present including stinking chamomile, knotgrass (*Polygonum* spp.) and vetch.

Discussion

Charred plant remains were present in all ten samples in low to high densities. The highest density sample was sample 2 which was the fill (2099) of pit [2098] at 1057 items per litre. Except for waterlogged sample 8, which solely contained wild seeds, grains dominated all the samples, with chaff, nuts, legumes and wild seeds being present in smaller numbers. The remains likely represent waste from food preparation and consumption.

Free-threshing wheat was the dominant crop at the site. The grain is not diagnostic of the species only the chaff. Many rachis internodes were extracted but due to their fragmentary nature it was only possible to identify two percent to species and these were all bread wheat. It is therefore possible that bread wheat was the dominant crop at the site but due to the very small sample size this is tentative and the possibility that rivet wheat was also grown together with bread wheat as a Maslin crop cannot be excluded. This is because rivet wheat has been found from an increasing number of sites in Leicestershire dating from the 11th century onwards (Monckton 2003b). In the past, each species was favoured for different things, bread wheat for bread flour and rivet wheat for biscuits and pottage (Campbell 1994). The straw also has different uses, bread wheat straw was more suitable for fodder and rivet wheat for thatching (*ibid.*). Perhaps bread wheat was preferred at this site for the latter reasons.

Other cereal crops present included barley, rye and cultivated oat. These may represent contaminants of the free-threshing cereal crop; they could have been grown in the fields in previous years and a small proportion remained as a 'weed'. They may however have been intentionally cultivated (barley and oat potentially together as dredge and wheat and rye together as Maslin) and represent a smaller proportion of the diet of the inhabitants. These cereal crops were considered lower in status than bread wheat and were commonly used as fodder for the animals (Monckton 2003b). Other potential human/animal food items were legumes, including bean/pea and vetch, cruciferous vegetables and hazelnuts. The latter two may have been collected from the wild or cultivated perhaps in a garden setting. Legumes were likely grown in a field forming part of a crop rotation system as their root nodules fix nitrogen in the soil which improves fertility.

Further information about crop husbandry practises was gained from the wild seeds. Stinking chamomile was indicative of the cultivation of heavy clay soils using improved equipment and sedge is indicative of damp soils.

The cereal crop at the site appears to have been partially cleaned as wild seeds and chaff were still present. These may have been eaten as contaminants of the crop but it is also likely that the later stages of processing the crop for consumption (coarse and fine sieving and hand picking) were carried out at the site. When free-threshing wheat is processed for consumption, the grain is firstly separated from the ear by threshing and then winnowing to remove small light weed seeds and chaff (Hillman 1981, Jones 1990). The grain is coarse sieved to remove the larger chaff fragments and then fine sieved to remove small weed seeds (*ibid.*). Final contaminants that are similar in size to the grain are then removed by hand (*ibid.*). Waste from each stage was either given to animals as fodder or burnt on fire as tinder.

The cereal grains (and other food items such as legumes) may have been burnt for the following reasons. Firstly, accidentally during cooking as food spillage. Secondly, during heating in an oven or similar structure to improve storage life and make the grain easier to mill (see Monckton 2003a). The latter seems more likely due to the dense concentrations of charred plant remains in some samples. Heating to aid malting, a stage in the brewing process, seems unlikely as none of the grains showed signs of germination. Deliberately burning due to grains spoiling also seems unlikely as there were no signs of insect infestation or other forms of decay. The burnt grains would have been swept up along with other burnt material from ovens/hearths and been formally deposited in features such as pits, ditches and gullies at the site. They also would have formed a general spread across the site accumulating in open/semi-open features such as post-holes.

This interpretation is consistent with the domestic nature of the site, representing medieval backyard plots. These activities would have been undertaken on a day-to-day basis by families in their households. Parallel assemblages have been found at other medieval rural sites in the East Midlands, for example, Church Lane in South Witham, Lincolnshire. At this site the highest density of plant remains was found in a Late Saxon hearth, totalling 1658 items per-litre (Monckton 2003a). The assemblage was like Lubenham in that it was grain dominant (primarily free-threshing wheat), with smaller numbers of chaff (bread wheat rachis was identified) and wild seeds including stinking chamomile and large grass seeds (*ibid.*). Similar interpretations were drawn, the assemblage represented partially cleaned grain that was accidentally burnt in a domestic context.

Conclusion

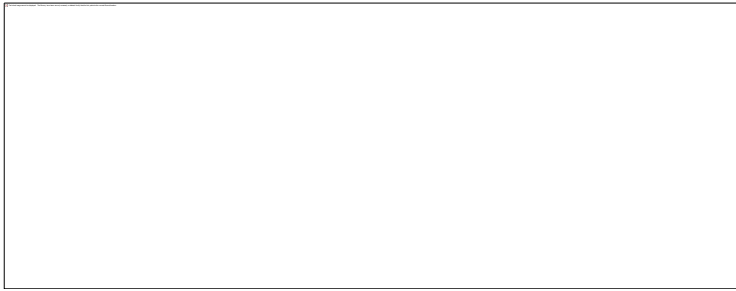
Ten bulk soil samples were taken from a range of features (including post holes, pits, a ditch gully and waterhole) during excavation of medieval (AD 900 – 1400) backyard plots at Lubenham, Leicestershire. Charred plant remains were present in low to high densities in the samples, the highest density being 1057 items per litre. These samples were generally grain rich (primarily free-threshing wheat), with smaller amounts of chaff, legumes, nut shells and wild seeds. The assemblage was interpreted as waste from processing and consuming the grain which is consistent with the domestic nature of the site. This compares to other east midlands medieval rural settlements such as at South Witham, Lincolnshire. The results add to the regional data set, adding further weight to interpretations regarding past diet, crop husbandry strategies and diet in the period.

Bibliography

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Appendix 6: OASIS Data Entry

PROJECT DETAILS	OASIS ID	universi1-313286		
	Project Name	Westgate Lane, Lubenham, Leicestershire		
	Start/end dates of field work	01-05-2017; 30-10-2017		
	Previous/Future Work	Yes		
	Project Type	Excavation		
	Site Status	None		
	Current Land Use	Paddock		
	Monument Type/Period	Medieval pit Medieval ditch Medieval building 18 th century building		
	Significant Finds/Period	Medieval pottery 18 th century pottery		
	Development Type	Residential development		
	Reason for Investigation	NPPF		
	Position in the Planning Process	Post-determination		
Planning Ref.	15/01471/OUT			
PROJECT LOCATION	Site Address/Postcode	Westgate Lane, Lubenham, Leicestershire, LE16 9TS		
	Study Area	1.8 ha		
	Site Coordinates	SP 70327 87237		
	Height OD	98m OD		
PROJECT CREATORS	Organisation	ULAS		
	Project Brief Originator	Local Planning Authority (Harborough District Council)		
	Project Design Originator	ULAS		
	Project Manager	Vicki Score		
	Project Director/Supervisor	Roger Kipling		
	Sponsor/Funding Body	CgMS		
PROJECT ARCHIVE		Physical	Digital	Paper
	Recipient	ULAS	ULAS	ULAS
	ID (Acc. No.)	X.A53 2017	X.A53 2017	X.A53 2017
	Contents	Pottery Fe & Cu Small finds animal bone	Photos	Site records Field notes
PROJECT BIBLIOGRAPHY	Type	Grey Literature (unpublished)		
	Title	An Archaeological Excavation at Westgate Lane, Lubenham, Leicestershire, NGR: SP 70327 87237		
	Author	Kipling, R.		
	Other bibliographic details	ULAS Report No 2018-063		
	Date	2018		
	Publisher/Place	University of Leicester Archaeological Services / University of Leicester		
	Description	Developer Report A4 pdf		



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