

Small Pits, Big Ideas

Community test pitting in Worcestershire

Summary report 2021-22

May 2023



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Explore the Past



Small Pits,
Big Ideas

Small Pits, Big Ideas II

Worcestershire

Community test pitting 2021-22 summary report



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Community Test Pitting in Worcestershire 2021-22

By Nina O'Hare

Summary

Between October 2021 to July 2022, 96 'test pits' were excavated across the villages of Beoley, White Ladies Aston, Wichenford, Badsey, Wolverley and the town of Bewdley. These community excavations were part of a National Lottery Heritage Fund project – Small Pits, Big Ideas – researching rural medieval settlements across the county. The project was run by Worcestershire Archive & Archaeology Service on behalf of Worcestershire Archaeological Society.

The project aimed to investigate historic villages that are still occupied today, in order to understand more about their origins and development over time. Results of individual test pits are discussed in separate reports for each of the six Big Dig locations. This report brings together the overviews from each location in order to offer insights into rural medieval Worcestershire more generally.

The most striking result is that virtually no evidence of settlement was found prior to the mid-12th century, in any of the six locations, despite documentary evidence for earlier origins. Archaeological evidence from the centuries immediately prior to 1066 is notoriously scarce from Worcestershire in general. It is suggested that a cultural shift may have taken place in Worcestershire following the Norman Conquest, which caused a change in preference towards ceramic cooking vessels.

Comparison between Big Dig results also throws light on to the production and trade of medieval pottery in the region. Little evidence of concentrated settlements was seen, with the exception of Badsey, and it is possible that many of Worcestershire's villages were not nucleated with one clear centre until after the 14th century. The possibility that different medieval farming practices were used is also raised by Wichenford's curious lack of medieval pottery around its houses. Caution is needed though, as test pitting has so far only investigated a relatively small sample of the county's rural settlements. It is hoped that the sample size will grow over time with further test pitting.

Introduction

About the project

Small Pits, Big Ideas helps communities reveal the origins of local villages and their story over time. Relatively little is known about the development of Worcestershire's rural medieval settlements as many are lived in, making large archaeological excavations impossible. By uncovering the archaeology hidden in back gardens, the project brings people directly in touch with their past and shines new light on the story of rural Worcestershire. Between autumn 2021 and summer 2022, six locations were investigated: Beoley, White Ladies Aston, Wichenford, Badsey, Wolverley and Bewdley.

This project follows a [pilot phase in 2017-18¹](#) and [extensive research in East Anglia²](#), where this approach has revealed changes caused by the Black Death in 1348-9. Small Pits, Big Ideas is run by Worcestershire Archive & Archaeology Service on behalf of Worcestershire Archaeological Society, with support from the National Lottery Heritage Fund and partner organisations.

Over the period October 2021 to July 2022, 96 'test pits' were excavated across the villages of Beoley, White Ladies Aston, Wichenford, Badsey, Wolverley and the town of Bewdley. Over 400 people took part in digging the test pits and processing the finds. For most, this was their first hands-on experience of archaeology. Support was provided by staff from Worcestershire Archaeology, student supervisors and volunteer archaeologists.

What is a test pit?

Test pits are mini excavation areas, just 1m by 1m. They are dug in 10cm layers (called 'spits') with the finds from each spit kept separately, so that it's known how deep down they were found. Test pits were excavated down to the 'natural', which is the point at which archaeology stops and undisturbed geology begins.

What were we looking for?

Today our household rubbish is taken away regularly, but in the past rubbish was often thrown out the back of houses. This wasn't just food waste, but broken pots, bits of building rubble and anything else that was old or broken. Back gardens are therefore an ideal place to look for clues. Pottery can be easily dated, as fashions for different styles changed over time. The amount of pottery found in a test pit can give us a rough idea of how nearby people lived at different times in the past.

Where were the test pits?

Take a look at the map on page 4 to see where the six Big Digs were located.

¹ www.explorethepast.co.uk/2017/11/small-pits-big-ideas-investigating-a-worcestershire-village

² Lewis 2016, available online:

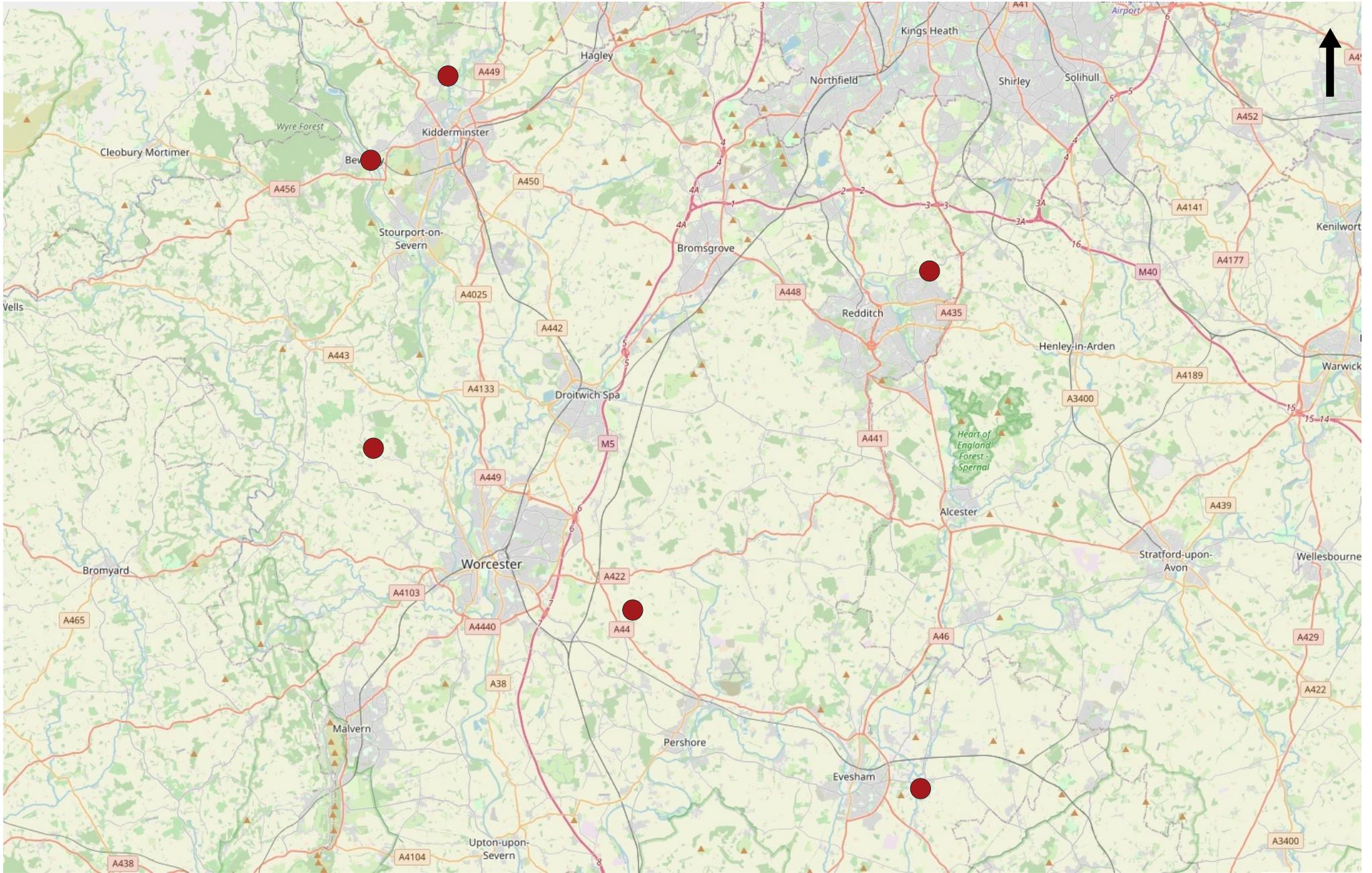
www.researchgate.net/publication/303316768_Disaster_recovery_New_archaeological_evidence_for_the_long-term_impact_of_the_calamitous_fourteenth_century



Photo 1: A Beoley test pit during excavation - test pits were dug in 10cm 'spits' (layers) until the underlying geology was reached.



Photo 2: Excavated soil was carefully checked for finds, using a sieve where possible, with finds from each spit kept separate.



OpenStreetMap contains Ordnance Survey data
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Test pit locations in Worcestershire

Figure 1

Glossary

Abraded: how worn, or not, finds are is often a good indication of how much they have been moved around in the ground. Pot sherds that have sharp breaks are likely to have been thrown away close to where they were found. The opposite may be the case with abraded sherds.

Ceramic building material: This term covers brick, and roof/floor tiles that are made from clay and fired in a kiln.

Context: This term refers to the precise location on an archaeological site in which a sherd was found, usually marked by a number. Each different soil layer, pit fill, wall, or deposit will have a separate number. The finds within that deposit can then be used to determine a *Terminus Post Quem* date - the earliest possible date that the deposit could have formed.

Form: the shape of a pot. The same potters and kilns often produced lots of different forms for different purposes. Common types include 'cooking pots' or jars, storage jars, pitchers, bowls, and drinking vessels like cups and tankards.

Fabric: the composition of the clay used to make the pot. This varies according to the source of the clay. Each production centre used clay from a different (usually very local) source. Other material like small fragments of stone or shell often occurs within the raw clay. Sometimes, coarse material was deliberately added to the pot to make it easier to fire. This is known as 'temper'. Collectively, non-clay materials within a pot are called 'inclusions'. Inspecting the broken edges of a piece of pottery under a microscope allows us to identify the inclusions, differentiate the fabrics, and match them to pieces of known origin in our reference collection (available at <https://www.worcestershireceramics.org/>)

Natural: the 'natural geology' is the point at which archaeological layers stop and undisturbed geology begins. Excavations generally aim to reach the natural, as this means that all archaeological layers have been uncovered in that spot.

Post-medieval: archaeological shorthand for the later 16th – 19th centuries. After the post-medieval period is the modern era (1901 onwards). Many pottery traditions span period boundaries, and are therefore recorded as, for example, "post-medieval/modern". Sometimes the same fabrics or wares are given slightly different dates. This is usually because the individual sherd has characteristics which enable the date to be refined.

Medieval: 1066AD – 1539AD

Post-medieval: 1540AD – 1900AD

Modern: 1901AD – 2050AD

Test pit: a small area excavated in order to sample a location's archaeology.

Slip: a thin layer added to a pot after it has air dried but before it's fired. Slips are usually added for decoration.

Spit: each test pit was divided into 10cm layers, called spits. Spit 1 was 0- 10cm below the ground, Spit 2 was 10 – 20cm and so on. Spits are used to divide up a deposit into fixed depths. They are not the same as a context, which is the name given to an archaeological layer or deposit – spits can be

used to divide up a large context or to record the depth in a test pit. Gardens tend to have been dug over and churned up a lot, so there are usually little difference between the archaeological contexts in a test pit.

Sherd: the term for a fragment of pottery

Ware (for example 'Midlands Purple ware', 'black glazed red sandy ware' or 'earthenware'): The name given to a style of pottery. In the post-medieval and modern periods, pottery fabrics become a lot more homogenous, and the local variations are harder to spot (at least visually). The styles and traditions of potting become more useful than the fabric for identifying the pottery.

Research aims

1. Help redress the research bias in the investigation of medieval villages – deserted settlements have been disproportionately excavated compared to those that remain occupied, primarily because its easier to excavate a deserted settlement.
2. Understand the age, layout and development of Worcestershire's rural medieval settlements that are still lived in today
 - What variation exists across Worcestershire?
 - How do settlements in Worcestershire compare to those elsewhere in England?
3. What impact did the Black Death of 1348-49 have on Worcestershire's medieval villages that are still occupied today?

Big Dig results

A report has been produced for each Big Dig and detailed discussion of individual test pits can be found in these six reports, which are available online. This report offers an overview of all six Big Digs. First, a summary of each location is given, then comparisons are made between locations in order to over a tentative first look at medieval settlements across Worcestershire that are still lived in today.

Beoley

Together, the 13 test pits across Beoley tell a broader story of the village over time. The majority of test pits reached the natural geology, meaning that all archaeology was excavated and the oldest clues weren't missed. Finds were mostly typical of household waste and general building rubble, with the notable exceptions of an early (1550 – 1650) glass goblet fragment from Test Pit 7, possible piece of burnt daub from a timber framed building and smithing waste (both Test Pit 10). Whilst the glass is an unexpectedly high status and rare find, potentially from Beoley manor, the smithing waste is a reminder that rural settlements involved many more trades than farming.

Where was the medieval village?

Firstly, little medieval pottery was found. If Beoley village (also called Holt End) had been a medieval village centred around a green or spread along a road then more test pits would have been expected to produce medieval pottery. Instead, medieval activity was found in three spread out locations – alongside the brook and an old holloway (Test Pit 6), within the moated platform (Test Pits 10 and 11) and at the end of Bleachfield Lane (Test Pit 13). From this evidence, it appears that medieval Beoley was small clusters of houses and farms spread out over a wide area rather than a concentrated village. Dispersed medieval settlements are often, but not always, found in wooded areas – the early medieval Domesday survey records a large area of woodland within the parish, so it's interesting that this may have also been the case in Beoley.

Why is the medieval church separate from the village?

Medieval churches were typically alongside villages³, so where they stand alone today it is usually due to the settlement gradually shifting over time or being total abandoned. St Leonard's church is just such an example, as it sits at the top of the hill whilst the modern village is further east. However, no medieval pottery was found near to the church (Test Pits 1 and 8) and test pits at the base of Church Hill (Test Pits 2-5) don't contain evidence of a medieval settlement shifting down the slope over time either.

There may well have been medieval or earlier dwellings on top of Church Hill that were too far from the test pits to be detected. Yet regardless of whether or not there were houses on the hilltop, it seems likely that there wasn't an obvious settlement centre by which to build the church. This raises the intriguing possibility that St Leonard's church may be older than its 12th century masonry and have Saxon origins. Alternatively, in the absence of an early medieval village centre, other factors may have had a greater influence on the church's location, including the medieval belief that being higher up could bring you closer to the heavens.

³ Lewis & Jones 2012 Chapter 12 The Midlands: Medieval Settlements and Landscapes. In Christie & Stamper (eds) *Medieval Rural Settlement: Britain and Ireland, AD 800 - 1600*

Where was the medieval manor?

Test Pits 10 and 11 strongly suggest that the square earthwork under Moss Lane Close is medieval. Moats take considerable effort, and therefore money, to create so were generally only built around high status buildings, such as manor houses and hunting lodges. It is therefore likely that Beoley manor once stood on what is now Moss Lane Close, at least for some of its time.

The 16th century writer Habington describes Beoley manor as “a Lordshyp in former ages, fortified with a Castell”, whilst the 18th century historian Nash claims that the Beauchamp’s seat at Beoley burnt down in 1303⁴. Several



Figure 2: Moss Lane Close with projection of moat
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locations have been suggested for the site of Beoley’s medieval manor: The Mount earthworks south of St Leonard’s church, moat around Moss Lane Close and underneath Beoley Hall. The Mount has not been excavated and if a moat did exist at Beoley Hall it has been lost during construction of the 18th century hall.

It is tempting to fit the medieval roof tiles, pottery and burnt daub to the tale of Beoley manor burning down in 1303. A fire many also have given the Beauchamp family the impetus to rebuild the manor elsewhere, perhaps at Beoley Hall where the manor was latterly located. However, it’s possible that the moat at Moss Lane Close was instead a hunting lodge or other high status building. There is also mention in 1316 of a court with a grange in Beoley⁴ and it is unclear if and how The Mount fits into the history of Beoley manor. Clearly there is more of this story to unravelled, but confirming the medieval origins of Moss Lane’s moat is a significant step forwards.

When did the village first start to look as it does today?

There is unlikely to have been a sudden turning point when Beoley went from being dispersed clusters to a nucleated village. However, from around the 17th century there was a gradual shift towards one concentrated centre. Besides an increase in pottery, several existing cottages as well as farms were built around this time. Evidence from both archaeological finds and historic buildings shows that the gaps between dwellings were slowly filled in during the 18th and 19th centuries as the village became less spread out.

⁴ *A History of the County of Worcester: Volume 4* – available online: <http://www.british-history.ac.uk/vch/worcs/vol4/pp12-19>



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Location of test pits in Beoley

Figure 3

White Ladies Aston

A total of 16 test pits have now been excavated across White Ladies Aston. Combining the results of 2021's test pits with those excavated in 2017-18 offers us a clearer window into the village's earliest days and changes over time.

Where was the earliest village?

The earliest settlement evidence found in the test pits dates from around the 11th century.

Throughout the medieval period White Ladies Aston was not a single concentrated village – instead, there appears to have been two separate clusters of houses: one around Polly's Piece and the other further south around Moat Lane.

The northern settlement is likely to have formed around an older trackway, which runs southeast towards the Bow Brook. These dwellings may be a continuation of Roman and Saxon settlement slightly further to the east, although these older areas of occupation haven't been confirmed by excavation. The earthworks across Polly's Piece date from the 12th or 13th century and may be planned, probably by the landowner, rather than ad hoc settlement.

To the south, continuous activity from the 10th – 11th century onwards has been found by Nordle Cottage in Moat Lane. This settlement cluster may have been smaller as another test pit close by, at Aston Hall Farm, produced no medieval pottery. However, as at Polly's Piece, there appears to have been building work going on in the area – this time of a moated site (at Aston Moat Farm), most likely during the 13th or 14th centuries.

Given that two clusters of settlement are emerging from the archaeological evidence, it is interesting to note that historic records also show divided land ownership. Medieval White Ladies Aston had an array of changing landlords and as far back as the Domesday survey of 1086 two different tenant lords held land under the Bishop of Worcester: Ordric of Croome and Urse the Sheriff (who in turn rented to Robert)⁵.

Late medieval decline

Historic documents suggest that a series of changes took place in White Ladies Aston during the 14th century. Firstly, fewer people are listed on the lay subsidies (tax lists of the day). It is also possible that the number of major landholders in White Ladies Aston reduced during the 14th century⁶, although challenges with translating early records and the system of overlords and tenant lords makes this hard to untangle with certainty. At a national and European level, the 14th century also saw the Great Famine from 1315-17, Great Bovine Pestilence of 1319-20 and Black Death in 1348-49.

The widespread troubles of the early 14th century may account for the reduction in tax-eligible households within White Ladies Aston. The lay subsidies, which only list the heads of wealthy

⁵ Domesday translation for Worcestershire entries 2,53 and 2,55 – available online:

<https://hydra.hull.ac.uk/assets/hull:461/content>

⁶ <https://www.british-history.ac.uk/vch/worcs/vol3/pp557-561>

households, record 18 names in 1280 and only 9 in 1327⁷. In 1332-3 it is also noted that the settlement as a whole only paid under a quarter of the total tax due. Whilst the majority of Worcestershire parishes paid under half that year, only 20 of the 137 parishes paid less than a quarter⁸. It is clear that White Ladies Aston experienced hard times before the arrival of the Black Death, although whether it shrank in population or just prosperity is hard to ascertain from records alone.

Artefacts uncovered by test pitting seemingly mirror the recorded late medieval decline. Only Test Pits 3 and 7 yielded 15th – 16th century pottery and both in relatively small quantities. The majority of 12th – 14th century finds are ceramic cooking pots, which do become less available after the mid 14th century due to households switch to longer-lasting metal versions. However, Malvernian pottery does continue to be made and only a handful of such sherds are seen in White Ladies Aston's test pits, despite households previously having access to these wares.

At Polly's Piece, Test Pit 3 revealed ongoing – if dwindling – occupation until the 15th or 16th century whilst Test Pit 4 implies that at least some medieval house plots were abandoned either during or shortly after the 14th century. Combined with a small number of 15th – 16th century finds in test pits that lacked medieval activity (Sandfield Cottage and Aston Court Farm⁹), this tentatively points towards a settlement that reduced in prosperity during the 14th century and possibly a little in population size as well. White Ladies Aston appears to have taken a while to regain its strength, but as it regrew during the 15th and 16th centuries there began to be dwellings built on new plots.

Current village layout

The village today runs north to south along the Evesham Road, yet test pit evidence suggests that the medieval settlement had two separate centres. So, when did the village take on its current layout?

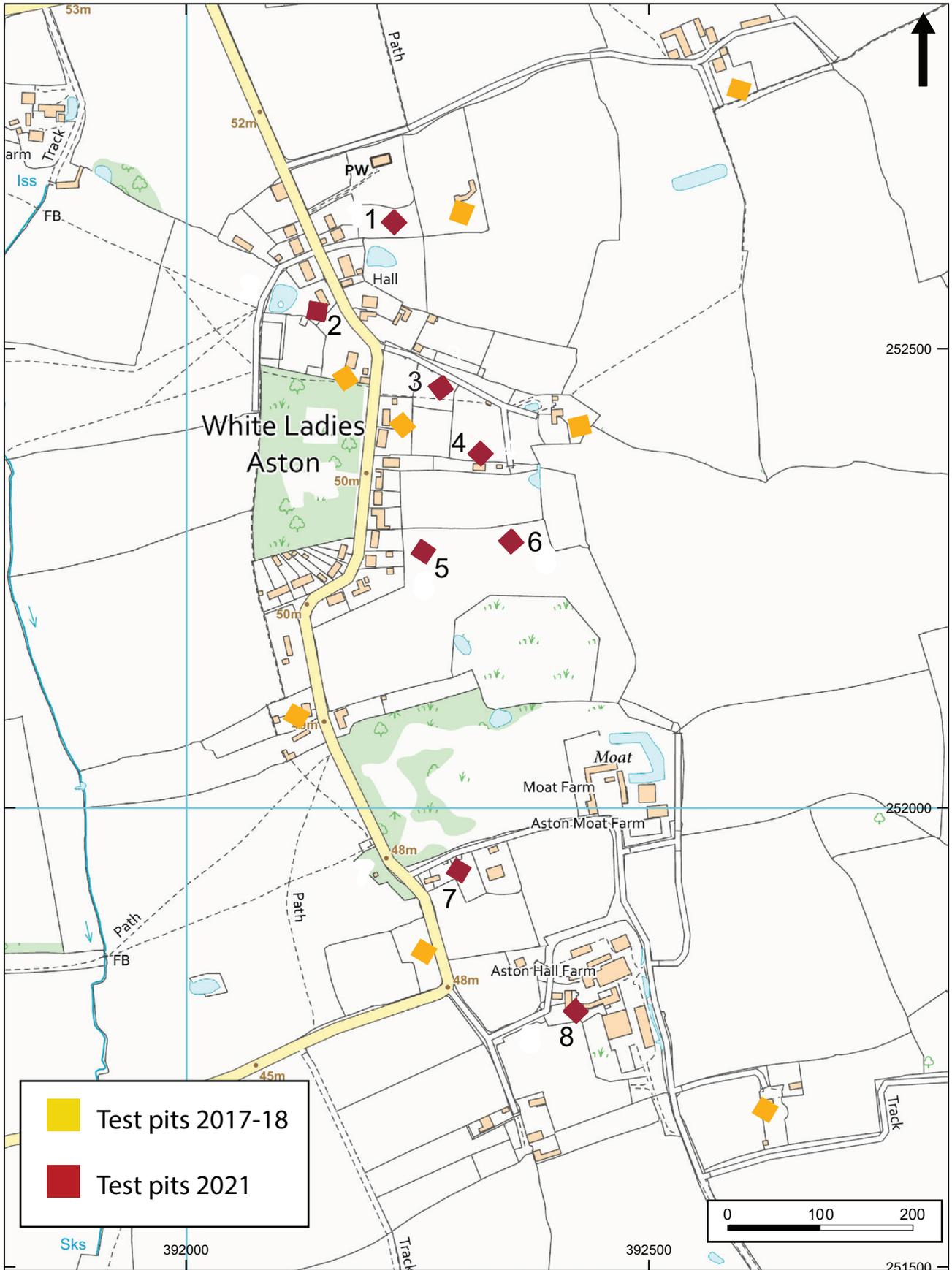
The beginnings of today's linear layout can be seen in the 15th or 16th century when activity appeared in previously unoccupied areas. However, given the small quantity of artefacts from this date and the relative explosion of 17th – 18th century test pit finds, it's likely that the village's reorientation took place towards the end of this time period. Interestingly, the early 17th century is also the last time that Bruley manor is mentioned in records and when the Berkeley family purchased White Ladies Aston manor, which was held until 1544 by Whistones Nunnery¹⁰.

⁷ Transcriptions by Worcestershire Historical Society: Willis Bund (1893) and Amphlett (1899)

⁸ Transcriptions by Worcestershire Historical Society publication: Eld (1895)

⁹ 2017-18 test pits

¹⁰ Victoria County History 1913, available online: www.british-history.ac.uk/vch/worcs/vol3/pp557-561



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Test pit locations at White Ladies Aston

Figure 4

Wichenford

Across the full length and breadth of Wichenford parish, 20 test pits were excavated in April 2022. The local geology and heavy clay soils made excavation challenging and test pits appeared to be relatively shallow, with the natural generally being encountered within 30-50cm of the present ground level. Due to difficult ground conditions, a number of test pits did not reach the base of the archaeological sequence.

Medieval Wichenford

Written records document a settlement at Wichenford from the 8th century onwards, yet the first material evidence found within the test pits dates from the 13th century. This is a similar picture to that of other Big Digs across Worcestershire, in Badsey, Beoley, Bewdley and Wolverley. It would seem that pottery was not widely used in rural Worcestershire households until the late 11th or 12th century, after the Norman Conquest.

Even after AD 1200, there is surprisingly little material from Wichenford's test pits: only six pot sherds definitively pre-date 1630 (four from Test Pit 4, one from Test Pit 8 and another from Test Pit 15). Seemingly in contradiction to this, many of the sites excavated have strong documentary evidence for medieval and later occupation, whilst four of the sites are known or thought to have been moated (Test Pits 2, 10, 16 and 18). So, why hasn't more household rubbish from these centuries been found? There are three main possibilities:

- 1) Test pits were not excavated deep enough so missed the earliest artefacts.
- 2) Sites mentioned in historic records weren't occupied as early as previously thought, with some sites perhaps being fields or farm buildings early on rather than dwellings.
- 3) Medieval household rubbish was thrown away elsewhere, some distance from homes.

Several of Wichenford's test pits didn't reach the natural geology due to the challenges presented by the area's heavy clay soils, so it is certainly possible that evidence of medieval occupation was missed. This would certainly reduce the quantity of medieval artefacts recovered, but is unlikely to account for the almost total absence of medieval pottery – if large amounts of household rubbish had been thrown out the back of medieval houses, then some could be expected from the spits excavated due to gardens soils being churned up over the centuries.

The second possibility – that sites with medieval documentary evidence were not necessarily occupied – could be true for a few locations. Nevertheless, this explanation is unlikely to be true for the majority of test pit sites. It therefore seems likely that the inhabitants of medieval Wichenford were disposing of their rubbish in a very particular way that resulted in broken pottery being deposited away from dwellings. This suggestion is supported by anecdotal evidence that medieval pottery can be found in large quantities on the surface of ploughed fields in Wichenford, especially those around Venn Lane.

Medieval ways of viewing the world were very different to today and drew heavily on the notion of the four elements and interconnected nature of everything. It has been suggested that these ideas applied to different categories of waste as well, with each being attributed different qualities (see Figure 3). Research suggests that broken pottery was routinely added to manure by peasants, and

therefore spread over their arable fields, but not to manor dung heaps¹¹. It is clear that how and where medieval household waste ended up was complex, which raises the intriguing possibility that Wichenford's inhabitants subscribed to prescriptive, and perhaps slightly unusual, methods of land management.

"To seed the land with pottery might not be the act of a modern farmer, but it would not have been out of place in the medieval world. Indeed the reciprocity of feeding the soil the vessels from which the peasant farmer himself had eaten, in order that in turn the soil would produce crops for the farmer to eat once more, fits the medieval notion of permeable personhood, and elemental and humoral interconnections, perfectly." (Jones 2009: 221-222).

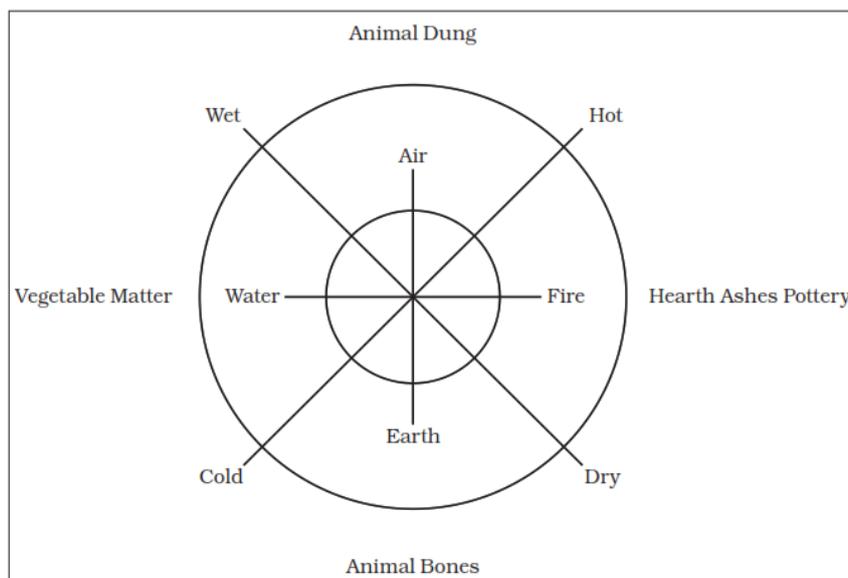


Figure 3: Position of different types of food waste within the elemental wheel. Taken from Jones 2011, p. 8

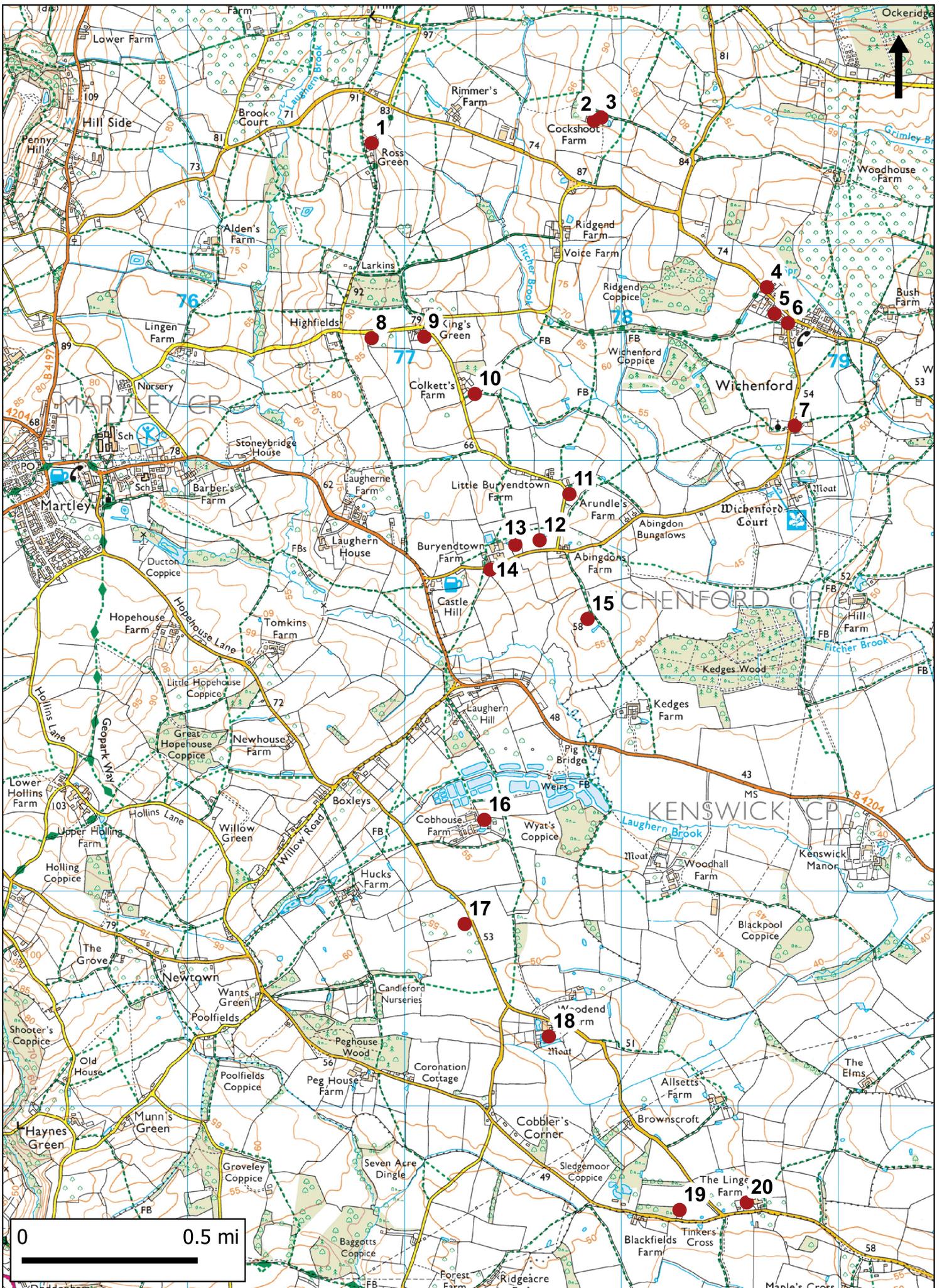
Later expansion

A large quantity of material dating to the 17th to 19th centuries was found; this is typical of rural settlements and reflects the increasing affordability of ceramic goods as much as the expansion of the settlement.

Across the majority of test pits, pot sherds were generally small, heavily worn and battered. This is typical of pottery that was discarded in rubbish heaps or middens, then later disturbed by gardens being dug over or fields ploughed. The one exception to this being Test Pit 20 where large sherds with very fresh-looking breaks indicate this pottery stayed where it had been dumped. Early 18th century white tablewares and porcelain – including possible seconds – were relatively common in Wichenford, reflecting the village's proximity to Worcester porcelain factories.

The discovery of two counterfeit Georgian coins is a fascinating discovery and valuable evidence of their circulation in rural areas. Whilst to modern minds they may seem like a sign of nefarious goings-ons in Wichenford, in reality counterfeits bronze coins were so common in the 18th century that their presence may have been unremarkable at the time.

¹¹ Jones, R. 2009 *Manure and medieval social order*.



Test pit locations in Wichenford

Figure 5

Badsey

19 test pits were excavation across Badsey in May 2022 and the majority reached natural geology. Several test pits were located on the northern edge of the modern village in order to investigate a known Roman site at Black Banks.

Iron Age and Roman settlement

A small quantity of prehistoric and Roman material is typically found across rural Worcestershire, reflecting the region's long history of settlement. However, 9 out of Badsey's 19 test pits produced Roman pottery – considerably more than the one or two in other Big Dig locations. This indicates a higher level of Roman activity than is typically seen elsewhere in Worcestershire and ties in with our current understanding of southeast Worcestershire around the River Avon, where prehistoric and Roman sites are relatively abundant.

Investigations around Black Banks, just north of the modern village, add to Iron Age and Roman artefacts previously found in the area. Finds from in and around Test Pit 1 confirm that this was a multi-period site spanning from the mid-late Iron Age (c400 BC) until the late Roman era, probably the 4th century AD. Analysis of the Iron Age pottery and coin – the first formally recorded from the site – is particularly significant.

Roman pottery was also found in Test Pits 2 (Banks Road) and 3 (Horsebridge Avenue), but in a much smaller quantities. Together with the archaeological layers revealed in Test Pit 1, these suggest that the focus of Iron Age activity was relatively close to Test Pit 1, whilst the core of Roman settlement is likely to be found slightly further west – Banks Road and Horsebridge Avenue appear to be on the southern and western edges respectively of the site. It is most likely that this site was a farmstead, with generations of the same extended family occupying it over the course over several centuries.

Medieval Badsey

Where was the early village?

Written records document a settlement at Badsey from the 8th century. When it was first recorded in detail during the Domesday survey of 1086 there was 17 households, which was a reasonable size for the time. Despite this, the earliest material evidence found within the test pits dates from the 12th century. This is a similar picture to that of other Big Digs across Worcestershire, in Beoley, Wichenford, Wolverley and the Bewdley area. It would seem that pottery was not widely used in rural Worcestershire households until the mid-12th century, well after the Norman Conquest.

From the 12th to 14th centuries there is relatively little material compared to later centuries, but it was nevertheless present in six test pits. Its distribution suggests that the focus of the medieval settlement was, perhaps unsurprisingly, around the church and High Street, with a little activity further to the south around Sands Lane. Medieval pottery from Test Pit 13 (The Firs, 27 High Street) seemingly comes from in situ medieval deposits and was the only test pit with evidence for continuous occupation since then. Several sherds of medieval pottery found in the gardens of modern houses along Seward Road (Test Pits 7, 12 and 14) are in surprisingly good condition. 19th century mapping shows these locations as part of long narrow plots fronting on to the High Street.

Given the condition of the pottery and shape of these plots – which have the appearance of classic medieval tenement plots for a house and smallholding behind – it is probable that medieval Badsey was arranged along the High Street, much as it was in 1812 when the Badsey Enclosure map was drawn.

On the face of it, this relatively concentrated, linear settlement pattern is not unusual or unexpected. However, other Big Digs in Beoley, White Ladies Aston and Wolverley have revealed a higher level of dispersed medieval settlement there than expected. It is possible that differences between those locations and Badsey are the first tentative sign of regional variation in medieval village formation across Worcestershire's villages that are still lived in today.

Finally, it is interesting to note that Black Banks – occupied during the later Iron Age and Roman period – did not remain a focus for settlement. It is possible that modern-day Badsey is the result of settlement gradually shifting south over the centuries, with Anglo-Saxon dwellings being located between the High Street and Black Banks. Settlements of this era (also known as the early medieval period) are notoriously challenging to find in Worcestershire, as they left an exceptionally light archaeological trace. Lack of evidence for Anglo-Saxon/ early medieval occupation is therefore not surprising. However, a shift to new settlement sites in the later Roman era widely took place in Worcestershire, meaning that continuity of settlement from the Iron Age or Roman period up to the present day is unlikely.

Unusual farming practices?

Prior to test pitting, it was expected that the majority of test pits would produce some medieval pottery, as even those locations that were not occupied are likely to have been medieval farmland. Historic fields typically contain a thin scatter of pottery from household rubbish being added to the manure heaps that were later spread as fertiliser. Contrary to this assumption, most test pits did not produce medieval pottery – including test pits within 250m of the High Street (e.g. Test Pits 4 and 5 in Synehurst Crescent and Test Pits 15 and 16 in Badsey Fields Lane). Even accounting for medieval dwellings being tightly clustered to the southern end of the High Street, some pottery spread by manuring could still be expected.

At the northern end of modern Badsey (Test Pits 1-5), it is possible that these areas fell within Aldington parish rather than Badsey, as they mostly did during the 19th century. The lack of finds from these test pits may therefore reflect the historic nature of parish boundaries and increased effort of manuring fields further away from the settlement at Aldington. Nevertheless, this explanation cannot account for Badsey Fields Lane too.

It is interesting that Evesham Abbey not only owned Badsey throughout the medieval era but also established an infirmary there, as recent research is beginning to suggest that land directly farmed by manors was fertilised with pure animal dung. Peasants, on the other hand, seem to have mixed household waste – including broken pottery – with the manure they spread over their fields¹². The church owned many of Worcestershire's villages, but few contained monastic buildings as well. Perhaps what we are seeing is the influence of Evesham Abbey on the farming practices of medieval Badsey.

¹² Jones (2009) *Manure and medieval social order*

Trade connections

The majority of medieval pottery from Badsey's test pits are relatively local wares, produced around Worcester and Malvern. However, a sherd of Newbury B ware and another of Brill-Boarstall ware are relatively uncommon finds for the region – especially the former. The presence of 12th – 13th century Newbury B ware in Badsey may simply reflect the area's southerly location within Worcestershire or be due to the prosperity and connections of Evesham Abbey.

Long distance medieval trade connections were not unusual, and the use of non-local pottery did increase from the 13th century onwards, yet it is interesting to see the difference in trade links between Big Dig locations. For instance, Wolverley was sourcing a lot of pottery from Staffordshire and Shropshire, whilst White Ladies Aston produced early medieval (Norman-conquest era) pottery from the Cotswolds. Given that Badsey is considerably closer to the Cotswolds, it is surprising that none was found here and points to a cultural preference at that date rather than lack of access.

Impact of the Black Death

The 14th century witnessed a series of crises, including the Great Famine of 1315-17, Great Bovine Pestilence of 1319-20 and Black Death in 1348-49. The impact of these in Badsey is unclear due to the relatively small quantities of medieval and 15th – 16th century pottery found. Only Test Pit 13 (The Firs, 27 High Street) produced pottery dating to between mid-14th and 17th century and it is certainly possible that the settlement shrank during this time. However, a lot of this reduction may be accounted for by the transition from ceramic cooking pots, which break frequently, to metal ones, probably as a result of increased wages following the Black Death. Whatever happened, it is clear that the village was not entirely depopulated as it remains occupied today.

Later expansion

A greater quantity of material dating to the 17th and 18th centuries was found; this is typical of rural settlements and reflects the increasing affordability of ceramic goods as much as the expansion of the settlement.

By far the largest quantity of material recovered, however, belonged to the 19th and 20th centuries. Badsey's 1812 Enclosure Map shows that by the early 19th century there were houses almost continuously along the western side of the High Street and also some on the eastern side. Large plots were attached to each property, with those on the western side reaching as far as the Badsey Brook. On these plots, much of the village's later 19th and 20th century house building has occurred. Other expansion has been focussed around Badsey Fields Lane and the northern end of the High Street.

Across the majority of test pits, pot sherds were generally small and worn. This is typical of pottery that was discarded in rubbish heaps or middens, then later disturbed by gardens being dug over or field ploughed. Test Pits 7 (17 Seward Road) and 11 (Bramley Cottage in Brewers Lane) both produced considerable quantities of finds and were clearly in areas where household rubbish was routinely dumped. In the case of Test Pit 11, this also appeared to be a primary rubbish heap where items had lain relatively undisturbed since being thrown away.



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Location of test pits in Badsey

Figure 6

Wolverley

A total of 15 test pits were excavated across Wolverley, just north of Kidderminster. The sandy soils there made it possible to sieve for finds. Over the Big Dig weekend in June 2022, the majority of test pits were able to reach the natural – base of the archaeological sequence.

Early village

The small quantity of prehistoric and Roman material is typical of rural landscapes in the region, reflecting a long history of settlement. Written records document a settlement at Wolverley from the 9th century onwards. Despite this, the first material evidence found within the test pits dates from the 12th century onwards. This is a similar picture to that of other Big Digs across Worcestershire, in Beoley, Wichenford, Badsey and the Bewdley area. It would seem that pottery was not widely used in rural Worcestershire households until the mid-12th century, after the Norman Conquest.

From the 12th to 14th centuries there was relatively little material compared to later centuries, but it was nevertheless present. Its distribution suggests that one focus of the medieval settlement – potentially the largest – was around the junction of Drakelow Lane and Blakeshall Lane, with another settlement cluster around Wolverley Court. Interestingly, the first cluster of medieval finds come from along the edge of a slope and immediately east of a tithe barn, which was at least 16th century in date, and a dwelling called the ‘Manor House’. It is possible that this settlement was Woodhamcote – a name recorded in the Manor Court Rolls and speculated to be in this general area¹³ – although the name ‘Vroggemore’ (Frogmore) also appears in 14th century records¹⁴. Regardless of its name, the presence of early roof tiles indicates important and probably substantial medieval buildings.

Dating is hampered by an incomplete picture of the pottery industries and supply in the area, but there was evidently domestic settlement in parts of the parish by the 13th century. Medieval pottery from Test Pits 5 and 6 is also in markedly better condition than the pot found elsewhere and of later dates, suggesting that relatively undisturbed medieval deposits survive around Rock Hill and Frogmore House.

The picture emerging of medieval Wolverley is not of a concentrated or neatly laid out village, but of multiple clusters of houses scattered across the parish. Dispersed settlements are commonly seen in wooded areas, although there is no mention of woodland in the manor’s 1086 Domesday entry. In addition to the settlement clusters around Drakelow/ Blakeshall Lanes and Wolverley Court, another might be expected around the church. Assuming that the present church was built directly over the medieval one, there is however little evidence of this at present, as no medieval activity was found south of the church around Rose Cottage.

¹³ Fenton et al (1975) and recorded on Worcestershire’s Historic Environment Record as possibly being located around the modern Woodhamcote Manor or Woodfield Farm.

¹⁴ Victoria County History (1913) entry for Wolverley parish, available at British History Online: www.british-history.ac.uk/vch/worcs/vol3/pp567-573

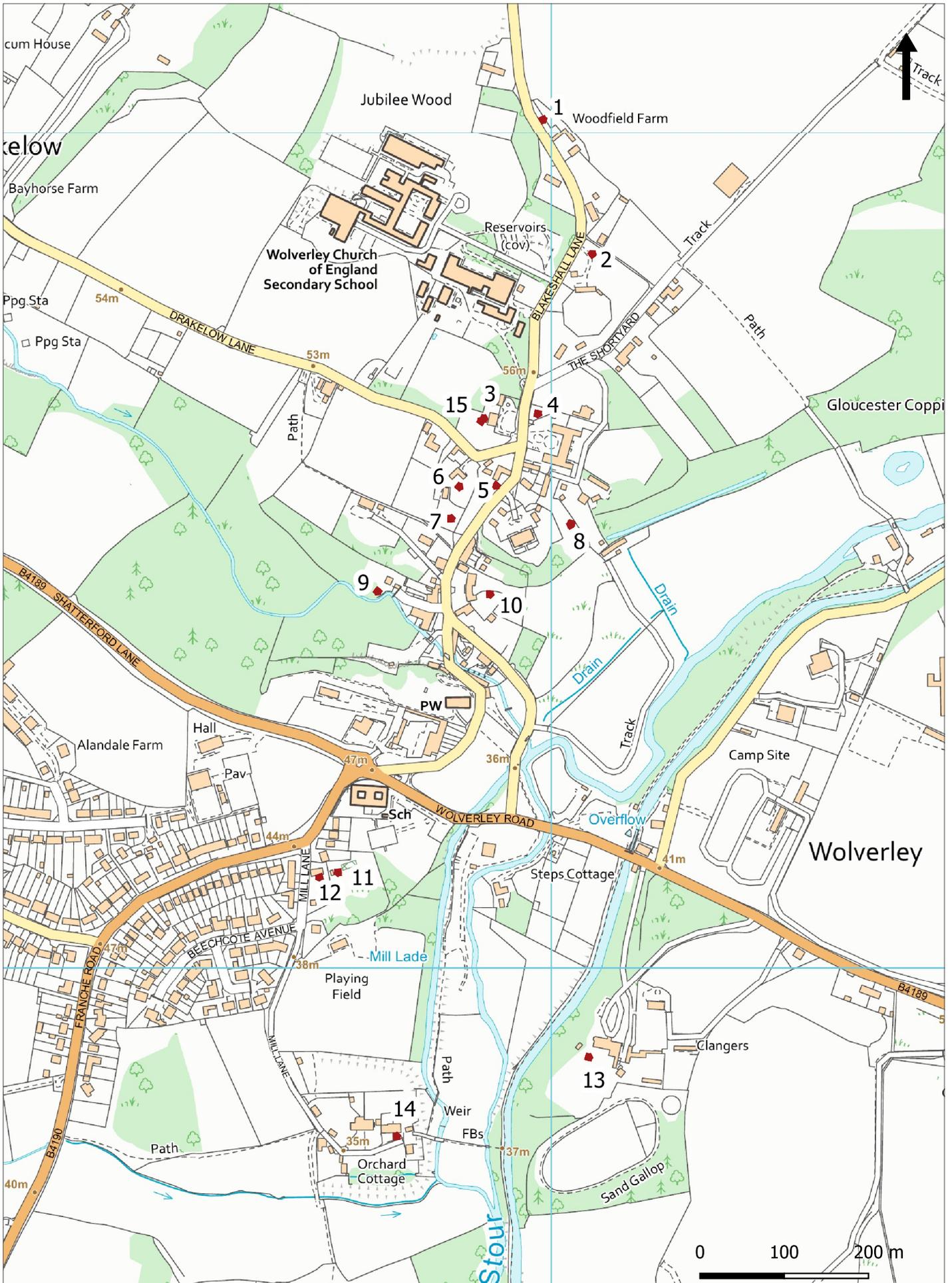
From this small sample, the effects of the crises of the 14th century (including the Great Famine of 1315-17 and Black Death in 1348-49) are unclear, but the presence of later-medieval and transitional wares suggest settlement continuity into the late-15th/16th century and beyond.

Later expansion

A large quantity of material dating to the 17th and 18th centuries was found; this is typical of rural settlements and reflects the increasing affordability of ceramic goods as much as the expansion of the settlement. By the 17th century, the village had taken on a linear layout, stretching north from Wolverley Church, past the brook and up the slope, along what is now Blakeshall Lane.

Across the majority of test pits, pot sherds were generally small, heavily worn and battered. This is typical of pottery that was discarded in rubbish heaps or middens, then later disturbed by gardens being dug over or field ploughed. Early 18th century white tablewares and porcelain were relatively uncommon in Wolverley, compared to other Worcestershire villages (such as Wichenford). This may be due to the village's distance from these pottery works and reduced availability of cheaper seconds. The opening of the canal through Wolverley in 1772 will undoubtedly have increased trading links and is perhaps why later 18th century ceramics were seen more widely across the test pits than pre-1760 tablewares.

The large quantities of ironworking slag across many of the test pits reflects the long heritage of industrial activity and rich natural resources of the area. It is likely that some of the material had been moved from its original production site and re-deposited. Although most was typical of smithing (iron working as opposed to production), the presence of small quantities of slag resembling that created during bloomery production could suggest nearby production sites.



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Location of test pits in Wolverley

Figure 7

Bewdley

Overall, 21 test pits were excavated in and around Bewdley – one in April 2022, 16 over a Big Dig weekend in July 2022 and a further 4 test pits by Bewdley High school in the following weekdays. Test pits were located in Wribbenhall and at Ribbesford in order to investigate the area's rural settlements before Bewdley became a town, as well as numerous within town itself, including two along Wyre Hill.

Finds summary

Evidence of prehistoric activity in Bewdley was provided by a small quantity of worked flint on the eastern side of the Severn: a Neolithic/Bronze Age flint from Stourport Road, later prehistoric burnt flint from Netherton Lane, and the early Bronze Age scraper from Blackstone Farm. The sole Roman artefact was a single sherd of Severn Valley Ware pottery from Jubilee Gardens. Small quantities of medieval material dating from the 12th century onwards were present within the town, on both sides of the river: around Load Street, and at Netherton Lane. The largest quantity of medieval material came from Ribbesford, at which the test pits have uncovered evidence of a lost medieval settlement around the church.

The frequency and range of finds increased considerably from the 16th to the 19th century, reflecting both the fortunes of the town and the increasing availability and affordability of consumer goods. There was a particularly wide range of later-18th century wares. It is clear that Bewdley was able to source pottery from a wider range than other settlements in North Worcestershire and South Shropshire, due to the ease of transporting goods by river.

Prehistoric activity

It is striking that all three test pits (17, 19 and 20) that produced worked flint are within 200m of the River Severn's eastern bank. Added to these finds are an Iron Age enclosure further south at Blackstone, where excavations in the 1970s revealed activity throughout prehistory^{Error! Bookmark not defined.}, as well as the more recent discovery of Iron Age pits and postholes under Bewdley School science block¹⁵. Together, these discoveries stretch 1.5km along the riverbank and throughout the Mesolithic, Neolithic, Bronze and Iron Ages (10,000 BC – AD 43), demonstrating that people repeatedly visited and used this area over millenia.

Medieval settlement

Ribbesford and Netherton Lane

Medieval pottery, dating from the late-11th to mid-14th century, was present in small quantities in the town centre (Test Pit 12) and on the east bank of the Severn (Test Pits 2 and 19). All the material from these test pits was somewhat fragmentary; it shows that there was certainly activity in the area prior to the 14th century, but cannot tell us much about the degree to which the town was

¹⁵ Bewdley High School excavation report, available online:
<https://archaeologydataservice.ac.uk/archsearch/record?titleId=3512269>

developed on either the Wribbenhall or Bewdley sides of the river. However, when the Netherton Lane (Test Pit 19) finds are considered alongside a larger assemblage of medieval pottery from previous fieldwalking in the area – four sherds of cooking pot and 12 glazed 13th – 15th century sherds – it seems likely that a small cluster of medieval settlement was located in this general area, or at least close enough to be farming along Netherton Lane.

In Test Pits 9 and 10, centred on the hamlet of Ribbesford to the south, larger quantities of medieval pottery were found in good condition, and recovered from deposits containing only medieval material. These confirm the presence of medieval dwellings close to St Leonard's church. Several pot forms were identifiable and mostly dated to the 13th century. Few finds post-dated the 14th century and the assemblage included medieval floor tiles and other building materials that likely come from the church, as well as a probable medieval peach stone. The latter is highly unusual and implies that someone around Ribbesford was well connected and wealthy enough to either buy peaches or the trees to grow them locally.

Impact of the Black Death

During the 14th century, several crises spread across Britain: the Great Famine in 1315-17, Great Bovine Pestilence of 1319-20 and Black Death in 1348-49. The individual and combined impact of these catastrophes was undoubtedly severe, but differed between places.

Only two locations in Bewdley – Test Pit 2 in Wribbenhall and Test Pit 7 in Jubilee Gardens – produced finds dating to the 150 years after the Black Death (mid-14th to 15th century). This is a pattern commonly seen across Worcestershire and other Big Digs. It is tempting to ascribe the decline in pottery to population crises of the 14th century, but this was — the ravages of war excepted — a time of growth and prosperity for the town. It is more likely to represent the gap after ceramic cooking pots — vastly overrepresented in the archaeological record due to their fragility — ceased to be produced, and before the growth in the range of ceramic forms available to the consumer in the 16th century.

The exception to the above may be Ribbesford. There, evidence of settlement spans the 12th to 14th centuries but then virtually disappears. It is likely that the settlement at Ribbesford shrank in size after this date – eventually becoming the small hamlet that it is today. However, it is not possible to ascertain whether the causes behind this were the Black Death and other catastrophes, or the pull of the growing town at Bewdley.

Pottery sources

In some ways, the medieval pottery assemblage from Bewdley's test pits is more akin to those from Worcester than to those of rural North Worcestershire. Of the 93 sherds dating to the mid-14th century or earlier, 62 (67%) are in the four most common Worcestershire fabrics: Worcester-type sandy unglazed (fabric 55) and glazed (fabric 64.1) wares, and Malvernian unglazed (fabric 56) and oxidised glazed (fabric 69) wares. At Wolverley, just 6km to the northeast, only 13 out of 55 sherds (24%) from this period were from those four fabrics.

These are small sample sizes, so cannot alone be definitive, but the character of the pottery assemblages does seem to confirm a difference: Wolverley's test pits contained many little-known local fabrics, alongside some whitewares probably produced in Staffordshire. Bewdley's assemblage

contained only small quantities of those minor fabrics, and also included wares from much further afield: Brill-Boarstall (from Buckinghamshire) and several sherds of what is thought to be Ham Green, produced in Bristol. The latter is no surprise, given the relative efficiency and low cost of river transport between Bewdley and Bristol¹⁶.

Wyre Hill

Wyre Hill, on the west side of Bewdley, contains a number of historic timber framed buildings and it has been suggested that this area was developed from the 1460s onwards. The finds from Test Pits 14 and 15 do not contradict this theory, as nothing pre-dating the 1460s was found. This lack of medieval artefacts appears to be a genuine absence, as one test pit reached the natural geology – base of the archaeological sequence – and the other was close to this point. Instead, both test pits produced pottery from the 1500s onwards, which closely match the late 15th century date suggested for Wyre Hill's development. Interestingly, a small quantity of household waste but several drinking vessels were produced from The Black Boy, lending weight to the pub's reported 15th century origins.

Big Dig comparisons

Origins of Worcestershire's villages

A key research question that this project hoped to begin answering is 'how old are Worcestershire's villages?'. All six Big Dig locations are recorded in historic documents from at least the 11th century onwards. But how old are they really?

The answer that's emerging is that we still don't know – from 96 test pits we only have two sherds of pottery that date from around the time of the Norman conquest (AD 1066) and nothing that definitively predates the 11th century. This is a frustrating discovery for dating the origins of Worcestershire's villages, as it means that the earliest phase of settlements cannot be identified from pottery found in test pits.

However, it does raise interesting questions about why the use of pottery in rural Worcestershire changed in the 100 years following the Norman conquest, as well as highlighting differences with other regions.

What did they look like?

Besides Badsey, the other five locations showed some level of dispersed medieval settlement. This tentatively suggests that Worcestershire's early villages were more often spread out with multiple clusters of houses rather than a single neat, concentrated village centre. The exception to this – Badsey – is interestingly located in the southeast corner of the county, where investigations of

¹⁶ Dyer (1989), page 309

deserted medieval villages also suggest that nucleated villages were more common than in north and west Worcestershire. Caution is needed, however, as our sample size is still small.

Pottery tales

Cultural meaning of ceramic pots

The oldest archaeological evidence of settlement that has been found in most Big Dig locations dates from the 12th century: around 50 – 100 years after the Norman conquest and start of the medieval period. We know that people were living around these areas before then from written records, so why the sudden change in pottery use?

Most of the medieval pottery found in Worcestershire comes from ceramic cooking pots, as being regularly heated over a fire and then cooled made them liable to break. Before the 12th century, ceramic cooking pots are being made in the Cotswolds and other areas accessible by trade. Yet they are rarely found in Worcestershire – small quantities have been recorded from Worcester city centre and a few high status sites, but pre-12th century pots are vanishingly rare across the county¹⁷. The project's excavation of 96 test pits across six locations implies that ceramic cooking pots were not used in rural areas of medieval Worcestershire either.

This begs the question of what changed – why did Worcestershire's rural households not typically use ceramic cooking pots in the 11th century but did by the mid-12th century? Lack of access due to poor trade links or cost are possible explanations. However, Worcestershire has far reaching trade links during the Roman era and by the 13th century, so if people had really wanted to get hold of ceramic cooking pots during the 9th – 11th centuries then they would likely have found a way to do so. This raises the possibility that households in Worcestershire were choosing not to use ceramic cooking pots – that what we are seeing is a change in cultural preferences between the 11th and 12th centuries.

Pottery production & trade

Test pitting has highlighted where different parts of Worcestershire were sourcing their pots from during the medieval period. Both north and south Worcestershire villages purchased pots made in Worcester and Malvern. However, northern villages – Wolverley and Beoley – also had trade links with Shropshire, Staffordshire and Warwickshire. Interestingly, Wolverley had a particularly high proportion of what was probably local pottery, whilst trade in Bewdley close by was dominated by its trade links along the River Severn. Badsey meanwhile, in the southeast, did not look south to the Cotswolds and Gloucestershire for its general pottery supplies, but did acquire the occasional pieces from further afield.

Different farming practices

It is striking that so little medieval pottery was produced from Wichenford's test pits, given the area's extensive documentary history. Conversely, areas of Badsey that might be expected to produce medieval pottery from manure scattering did not. Given the relatively small insights provided by test pitting, we cannot extrapolate apparent trends too far. However, the potential that

¹⁷ Bryant (2004)

villages across Worcestershire were being farmed in different ways and that this may be seen in the finds assemblages is an intriguing possibility.

Impact of the Black Death

No clear impact of the crises of the 14th century, which included the Black Death, can be seen. All six test pit assemblages show a dip in late 14th to 16th century finds, yet much of this variation is likely due to the switch from ceramic to metal cooking pots. Two locations – White Ladies Aston and Ribbesford – do show signs of decline after the 14th century, but the changes are difficult to quantify and attribute to particular causes. In the case of Ribbesford, the allure of a growing town close by at Bewdley may well be as much a part of its decline as the Black Death.

What next?

After the end of the project, the archaeological finds will either be returned to the landowner or deposited with Museums Worcestershire, depending on their preference. The reports and archaeological records will be stored by the [Archaeology Data Service](#) – a publicly accessible digital archive. A copy of each report will also be available on www.explorethepast.co.uk, which is run by Worcestershire Archive & Archaeology Service, and the county's public Historic Environment Record (HER). Worcestershire HER event references for the Big Digs are WSM77705, WSM71094, WSM71096, WSM71429, WSM71430 and WSM71431.

Archaeological investigations often unearth as many questions as they do answers. They are part of an ongoing process of gradually piecing together details about the past, so it is hoped that the stories revealed by these test pits will be expanded upon in future.

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Bibliography

- Amphlett, J (ed) 1895 *A Survey of Worcestershire by Thomas Habington Vol. 1*. Worcestershire Historical Society
- Bryant, V 2004 Death and desire: Factors affecting the consumption of pottery in medieval Worcestershire. In *Medieval Ceramics* Vol. 28, 117-123
- Dyer, C, 1989 The Consumer and the Market in the Later Middle Ages. *The Economic History Review* 42 (3): 305–27. <https://doi.org/10.2307/2596436>.
- Eld, J (ed) 1895 *Lay Subsidy Roll for the County of Worcester 1 Edward I (1327)*. Worcestershire Historical Society
- Fenton, M, Philpotts, E, King, P & King, L 1975 The Kinver Edge Region: Interim Report of an Archaeological Survey. In *Worcestershire Archaeology and Local History Newsletter* No. 15 (Winter 1974/ 75)
- Jones, R 2009 Manure and the medieval social order. In MJ Allen, N Sharples & T O'Connor (eds) *Land and People: Papers in memory of John G. Evans*. Oxford: Prehistoric Society/Oxbow, 215–25
- Lewis, C & Jones, R 2012 Chapter 12 The Midlands: Medieval Settlements and Landscapes. In N Christie & P Stamper (eds) *Medieval Rural Settlement: Britain and Ireland, AD 800 – 1600*. Oxford: Oxbow Books, 186-205
- Lewis, C 2016 Disaster recovery: New archaeological evidence for the long-term impact of the 'calamitous' fourteenth century. In *Antiquity* Vol. 90 (351), 777-797
- Open Domesday 2023. Available: <https://opendomesday.org>
- VCH 1924 'Parishes: Beoley'. In W Page & JW Willis-Bund (eds) *A History of the County of Worcester*. London: Victoria County History, Vol. 4, 12-19. British History Online <http://www.british-history.ac.uk/vch/worcs/vol4/pp12-19> [accessed 8 March 2022]
- VCH 1913 Parishes: White Ladies Aston. In *A History of the County of Worcester: Volume 3*. London: Victoria County History, 557-561. Available: www.british-history.ac.uk/vch/worcs/vol3/pp557-561 [accessed: 28 April 2023]
- VCH 1913 Parishes: Wolverley. In *A History of the County of Worcester: Volume 3*. London: Victoria County History, 567-573. Available at British History Online: www.british-history.ac.uk/vch/worcs/vol3/pp567-573 [accessed: 18 April 2023]
- WAAS 2017 Worcestershire Ceramics Online Database. Available: <https://www.worcestershireceramics.org/> [accessed April 2023]
- Willis Bund, JW (ed) 1893 *Lay Subsidy Roll for the County of Worcester c. 1280*. Oxford: Worcestershire Historical Society