

Report on Archaeological Investigations at Welby, Leicestershire.

Asfordby,
Leicestershire.



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Mercian Archaeological Services CIC
Report MAS051
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Front cover Illustration: Trench 1 under excavation looking NW, and inset, W, with ventral view of patinated blade-like flake, dorsal view of partially patinated retouch flake and dorsal view of unpatinated flake with faceted platform all from trench 1 and all to common scale, top right, with Early Stamford Ware bowl rim from trench 2 bottom left and Stamford ware spouted pitcher rim from trench 1 above it (not to scale).

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Non-Technical Summary:

At the invitation of Force Archaeology, Mercian Archaeological Services CIC is undertaking archaeological investigations of a site at Welby, Leicestershire. It is intended that the investigations will comprise several seasons of excavation spread over several years.

The archaeological excavations reported on here represent the first phase of intrusive fieldwork of the project and took place over two weeks, from 14th-18th and 21st-25th of June 2021. The excavations occurred as part of an archaeological training field school directed by Mercian Archaeological Services CIC.

Examination of the morphology of the earthworks at the site by Force Archaeology has identified a rectilinear bank and ditch that appears to surround, constrain, enclose, or otherwise, presumed medieval village earthworks on their southern and western sides. The corner of this enclosure appears to be rounded and on these grounds Force Archaeology tentatively drew parallels with Roman military works. The project design for the current excavation identified this enclosure as an unusual feature of the settlement with a high potential to reveal information about the origins of Welby.

Two trenches were excavated in 2021 with the objective of investigating the origins and dating of the bank and ditches of the rectilinear enclosure on the western and southern sides. However, as a result of the weather during the excavations oscillating from extremely hot and dry to very wet, excavation through the clays of Welby was slow, and neither of the trenches were completed this season.

Despite this, both trenches revealed impressive evidence of the power of earthworms to sort and modify soils, with the soil to a depth of up to c.0.3m below modern ground level having been fully sorted by the worms and all macroscopic inclusions in the top 0.3m of soil, from natural stones to archaeological artefacts, deflated by worm action into a single horizon between 0.25 and 0.3m below present ground surface.

Trench 01 was excavated across the bank and ditch of the enclosure and part of the interior at the point that it meets the bank of an internal enclosure, possibly the back of a medieval village toft. Other than an impressive demonstration of the sorting power of earthworms, no archaeological features of note were revealed this season, though finds from the toft boundary tentatively suggest construction in or after the late 11th to early/mid 12th century. Finds ranged from residual prehistoric struck flint and Roman pottery, through a fragment of burned quernstone, to fresh and unabraded Saxo-Norman pottery; and small quantities of pottery ranging from the mid-12th to 18th centuries.

Trench 02 was excavated across the bank and part of the interior of the enclosure on the southern side, where the LiDAR data shows no sign of internal settlement earthworks. Finds again included residual prehistoric struck flint and Roman pottery, including a miniscule flake from a decorated Terra Sigillata (Samian) vessel. The vast majority of ceramic finds however were of late Saxon to Norman date and were primarily Stamford ware. Other Saxo-Norman sherds include a fragment of probable inturned rim bowl in St Neots ware, a jar or bowl in Torksey-type ware and a possible South Lincolnshire quartz and oolite tempered jar or bowl.

Both trenches also yielded quantities of burnt (mostly unworked) flint and fired clay fragments.

As the excavation of the trenches was not concluded this season it would be premature to attempt to offer conclusions. The bias towards the century or so either side of the Norman Conquest in the pottery though is notable. However, at such an early stage in the excavations it is not possible to suggest if this:

- dates the construction of the rectilinear enclosure to the Saxo-Norman period;
- suggests the enclosure's last main use was in this period but it was constructed earlier;
- is because the enclosure ditches cut through Saxo-Norman deposits and the enclosure is therefore later than this period;
- is because medieval and later deposits remain to be discovered sealed beneath silting washed off the enclosure banks.

It will only be the continuation, and conclusion, of the present excavations in the next season of fieldwork, which can resolve these possibilities.

Introduction:

Site Location:

The site of Welby is at NGR SK7252 2095 (Fig 01). It is today within Asfordby Parish, in north-east Leicestershire: historically the parish of Welby was located within the Framland Hundred of Leicestershire. Earthworks, presumed to be the remains of a medieval village, are located around St Bartholomew's church, extending either side (north and south) of Welby Lane (Figure 05). 'The Site' as discussed in this document comprises the earthworks south of Welby Lane, bounded on the north by Welby Lane; on the east by the Asfordby Business Park; by the business park and by pasture fields on the south; and by pasture fields and an electricity substation on the west (Figure 08; Figure 10).

Topography:

The local topography was established about half a million years ago at the end of the Anglian Glaciation. The drainage pattern of rivers and streams (Figure 02) was largely set up at this time, and as the ice sheets melted cappings of glacial till were deposited across the landscape.

The site of Welby Village is c.2km north of the River Wreake. The Wreake is a tributary of the River Soar, which it flows westwards to join near Syston and Rothley (Figure 01). The upper reaches of the River Wreake are known as the River Eye. The reasons for a single river having two names are unclear, but it has been suggested the origins may be ancient, and might in some way relate to Neolithic or Bronze Age territorial divisions (Finn 2011, 113).

A series streams draining the ridge of high ground north of the river valley are tributaries of the Wreake/Eye: they occupy valleys probably cut by their glacial predecessors and are themselves served by a series of dendritic gullies (Figure 02, Figure 03). The church of St Bartholomew and the earthworks of the village of Welby occupy the western flank of one of these tributaries (Figure 03, Figure 04), with probable manorial fishponds in the tributary valley bottom (Figure 05; Figure 06). The original site of Welby Grange is located on the eastern flank of the adjacent tributary valley to the east (Figure 03; Figure 05), separated from the village by the ridge of land between the two tributaries (Figure 04). The Site comprises land with an elevation between c.95m and 107m AOD. The settlement was established on undulating ground: the northern boundary of settlement seems to terminate on the edge of a small, probably glacial, gully (Figure 06 - 08); another gully cuts through the centre of the earthworks and is now occupied by Welby Lane (Figure 06; Figure 07) and the topography of the eastern part of the former settlement falls significantly towards the valley bottom of the tributary stream (Figure 08). To the south spoil heaps, excavations and landscaping for Holwell Ironworks and for Asfordby Colliery (now industrial estate) have severely modified the original topography (Figure 05 - 07).

Geology:

The bedrock geology is the Charmouth Mudstone Formation. This Jurassic formation comprises dark grey laminated shales; dark pale and bluish grey mudstones; concretionary and tabular limestone beds; argillaceous limestone; phosphatic or ironstone nodules; and organic rich paper shales and fine sandy beds in lower parts (BGS 2021a). However, the bedrock is masked by a series of superficial deposits in the vicinity of the site. These are of Quaternary age and include glacially deposited Diamicton and Lias-rich Diamicton of the Oadby Member; as well as Head deposits of clay, silt, sand, and gravel in the valleys (BGS 2021b).

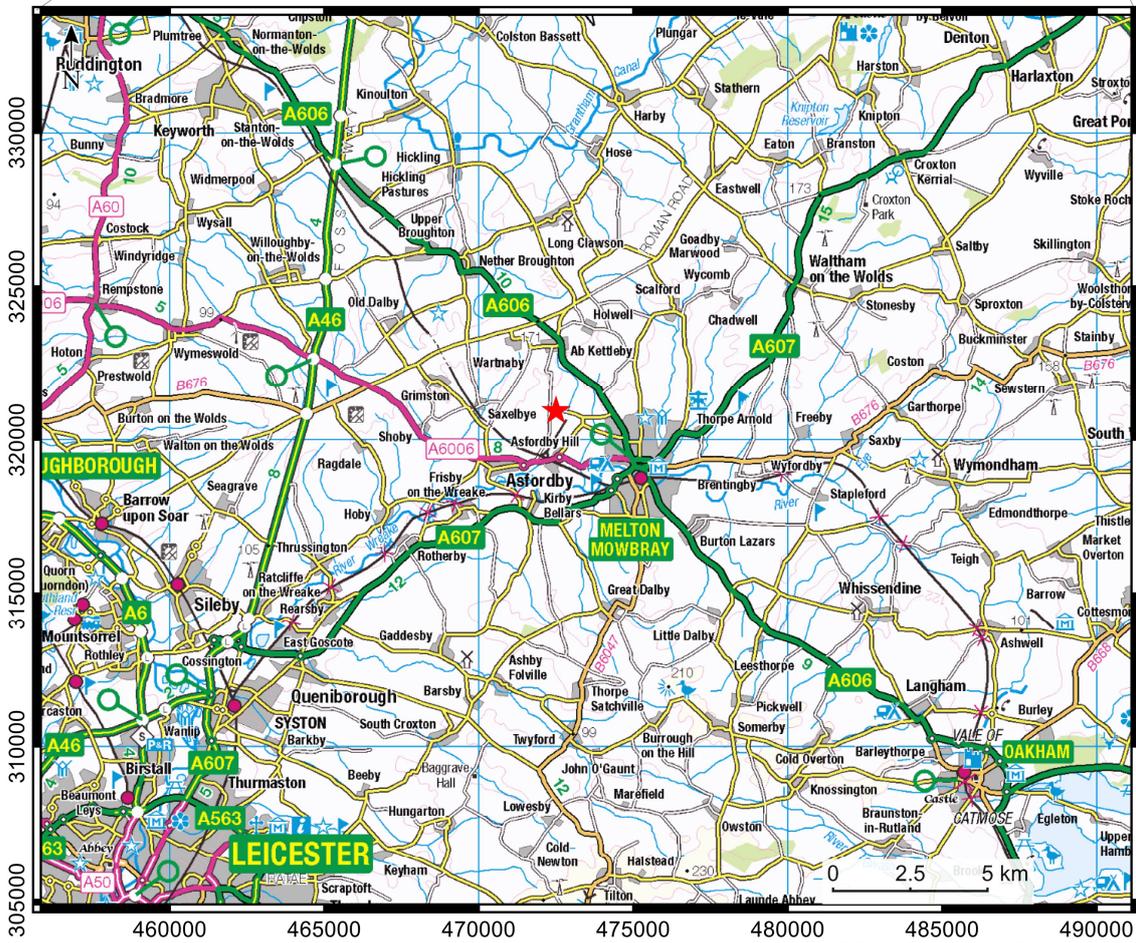
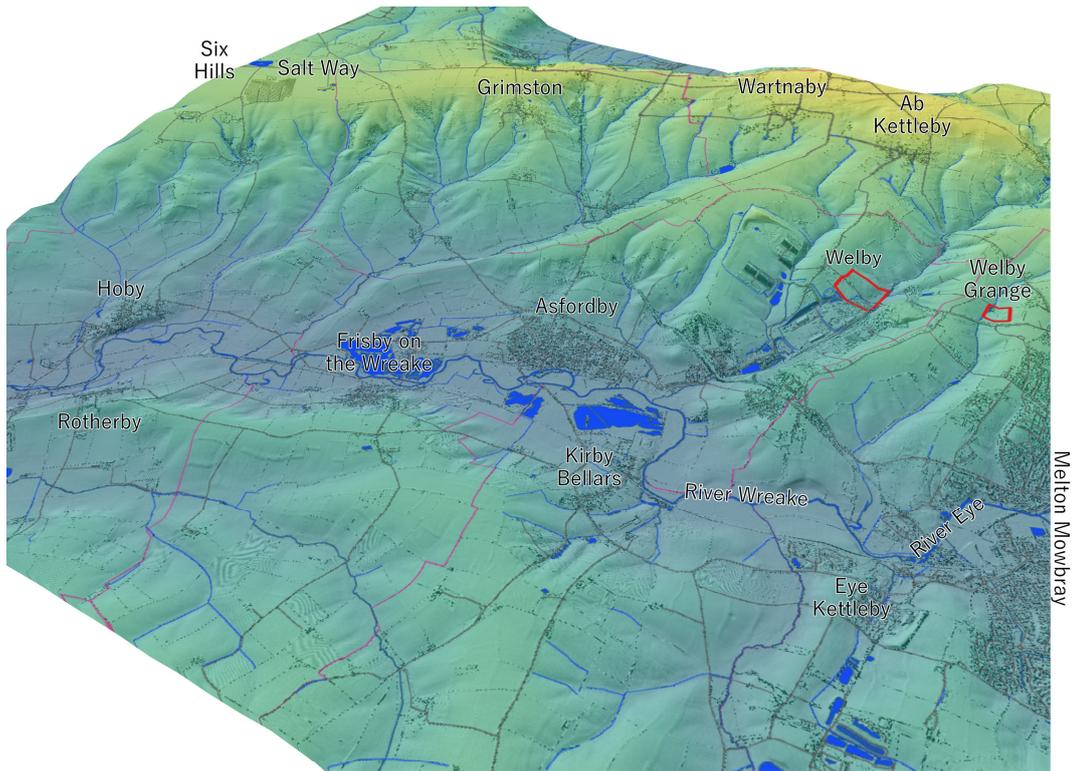
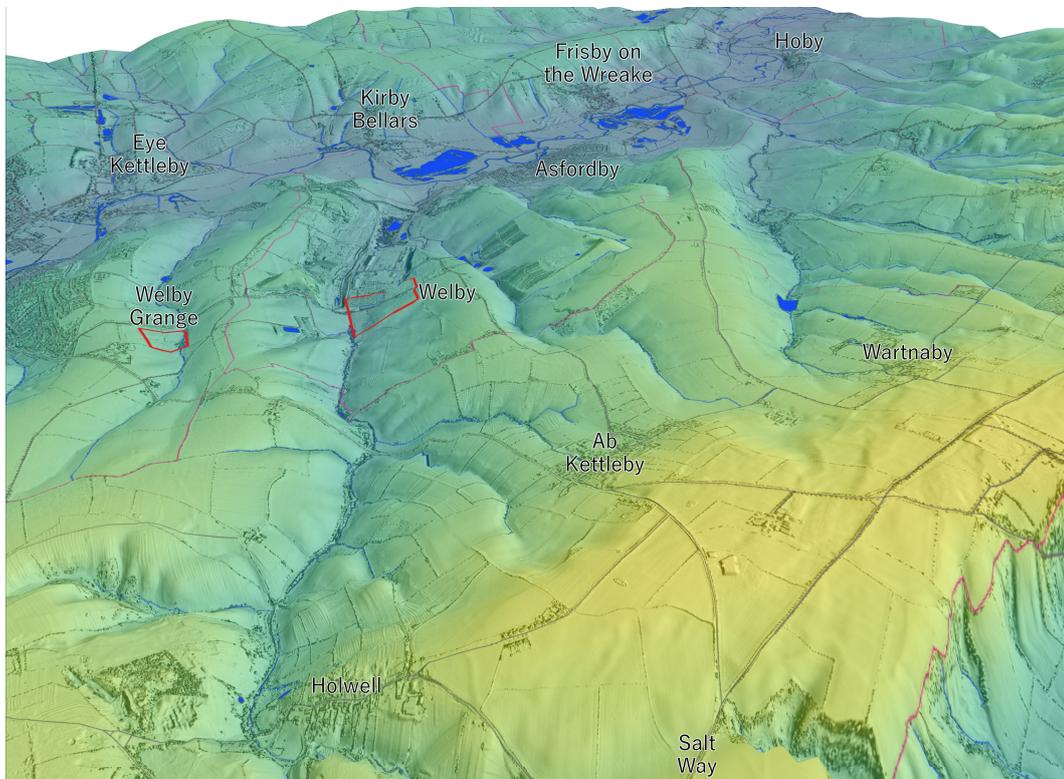


Figure 01 – Location of Welby (red star).



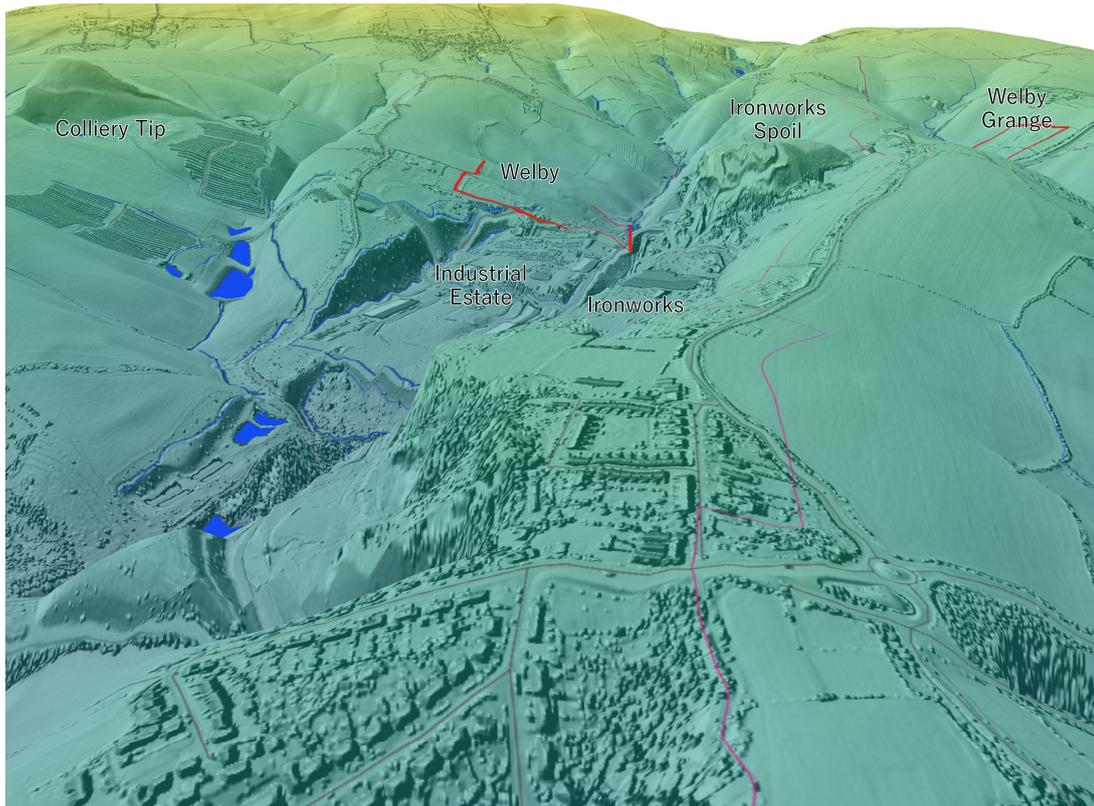
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Figure 02 – Topographical model of the Wreake valley between Melton Mowbray and Hoby showing location of Welby within the landscape, as well as some of the places mentioned in the text. Pink lines are modern parish boundaries. Three-dimensional render of LiDAR Digital Surface Model (DSM) with vertical exaggeration scale factor of 8, elevation indicated by colour graded from yellow (high) to purple (low). View looking NW. Model created from Environment Agency 2018 Digital Surface Model (DSM) LiDAR data.



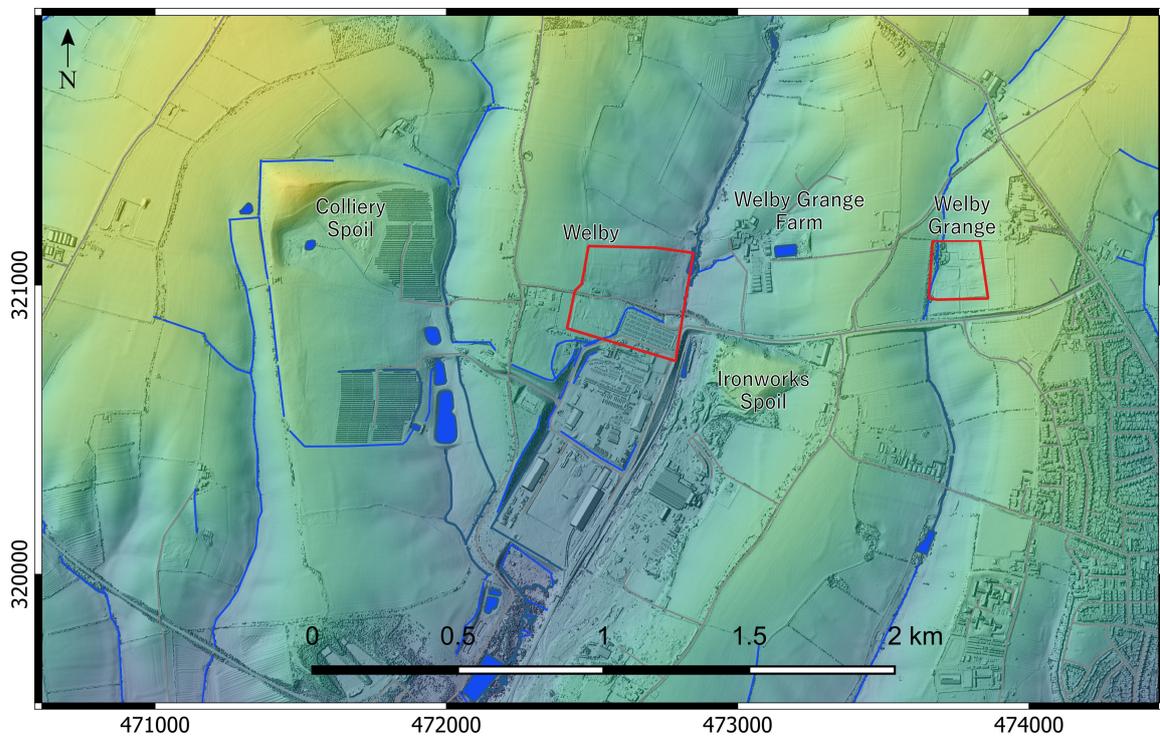
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Figure 03 – The Wreake valley from the high ground to the north, looking SW, showing location of Welby. Source and details as Figure 02.



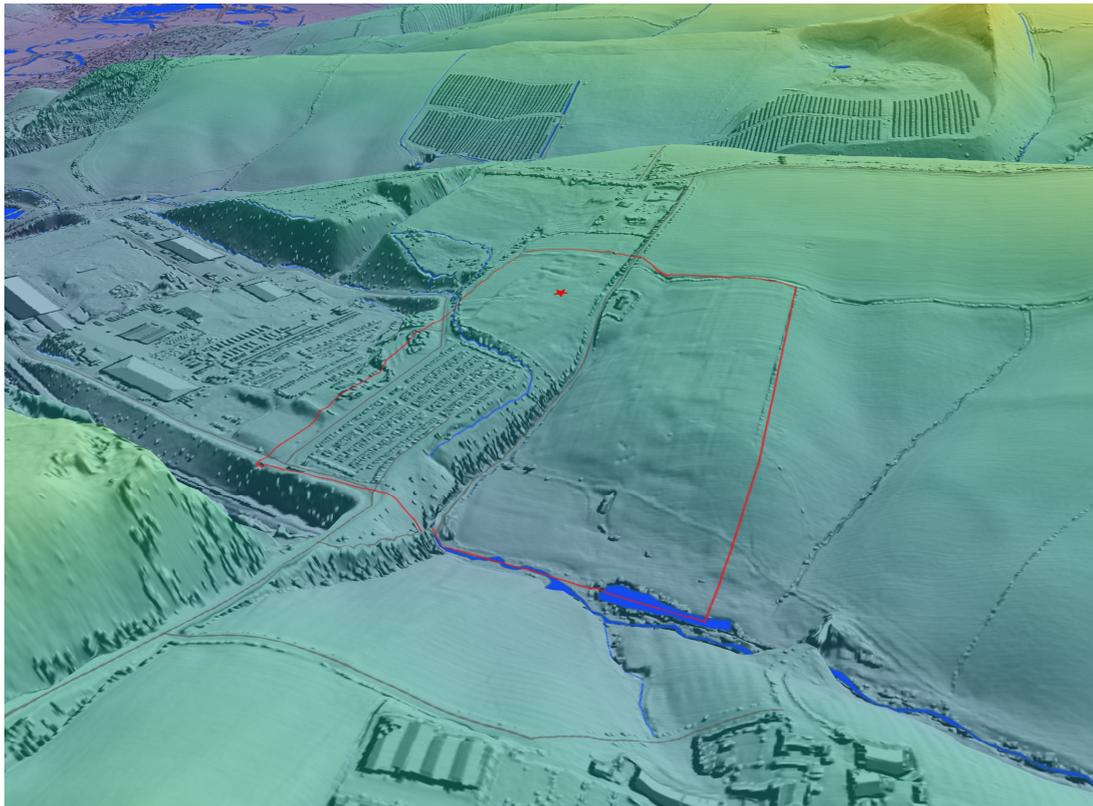
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Figure 04 – Three-dimensional model of landscape with vertical exaggeration showing Welby (central red polygon) and Welby Grange (red polygon top right) on the flanks of their valleys, looking north with the settlement of Asfordby Hill in the foreground. Note the significant alteration of the terrain for the ironworks and spoil tip and subsequently for the colliery / industrial estate and spoil tip.



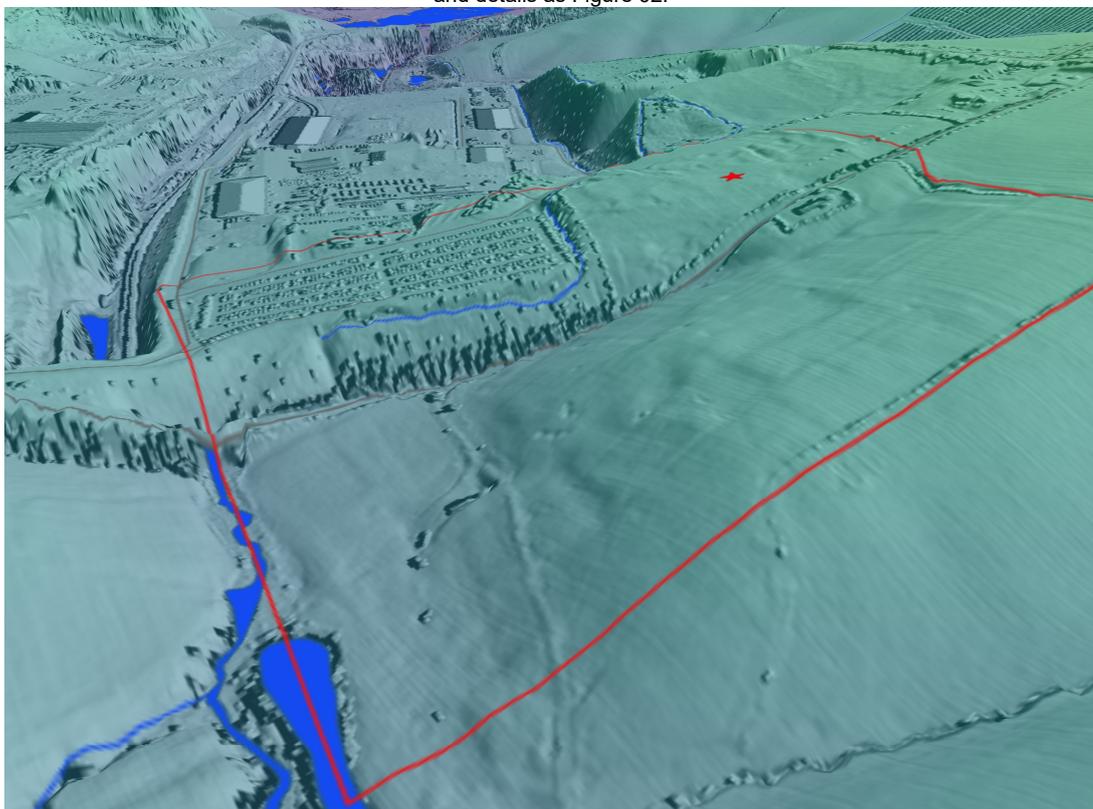
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Figure 05 – Map of Welby (central red polygon) showing earthworks revealed by LiDAR survey. Elevation indicated by colour graded from yellow (high) to low (purple).



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Figure 06 – Three-dimensional model of Welby looking west showing earthworks and the industrial estate. Former extent of village earthworks indicated by red polygon. 'The Site' (land parcel under investigation) indicated by red star. Source and details as Figure 02.



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Figure 07- Exaggerated 3D model of Welby looking SW. Approximate extent of village earthworks indicated by red polygon; red star indicates the field under investigation. Note the significant change in elevation between the western and eastern parts of the site.



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Figure 08 – Exaggerated three-dimensional model of Welby from the south, looking north, showing earthworks. 'Church' shows location of St Bartholomew's; 'Old Hall' indicates location of demolished manor house and 'House' indicates the approximate location of the last occupied house in Welby, derived from georeferenced Ordnance Survey County Series maps.

Archaeological and Historical Background:

The site is located in an area rich in archaeological remains. Existing archaeological knowledge was collated in a desk-based assessment by Force Archaeology (Saunders 2017); the historical sources have recently been more comprehensively assessed by the Victoria County History (Fox 2017). The reader is, at present, referred to these sources for more detail on the archaeological and historical background.

To provide context for the excavations, however, the following summary of some of the evidence relevant to the findings of the excavations are presented below.

There is extensive evidence of human activity in the area from the Mesolithic period onwards. Notable archaeological evidence in the immediate vicinity of the site (MLE numbers are the identifiers for the sites on the Leicestershire Historic Environment Record) includes a hoard of late Bronze Age metalwork found c.0.5km W of the Site in the 19th century (Powell 1948); evidence of Iron Age and Roman activity in the immediate surroundings of the Site (MLE3345; MLE18614) and unsubstantiated rumours of a Roman tessellated pavement found during ditch digging somewhere in one of the surrounding fields (MLE3349). The Fosse Way was a major Roman road: the section from Leicester to Lincoln passes 8km to the west of Welby at its closest point, at Six Hills. The Salt Way crosses the Fosse Way at Six Hills and heads eastwards to Lincolnshire, passing within 3km of Welby (Figure 02). The Salt Way is believed to be a prehistoric ridgeway that continued in use in the Roman period and beyond (Behr 2011, 99). Melton was probably an important place in the Anglo-Saxon period, with burials (Saunders 2017, 10) and significant finds of the period from Melton Mowbray and the surrounding parishes (e.g. Youngs 1993; Wicker 2021; Finn 2011, 1); it has been suggested Melton may have been an early monastic site.

In the medieval period Welby was part of the parish of Melton Mowbray, and was within the Hundred of Framland. It was a large settlement at the time of the Domesday survey in 1086, amongst the largest 40% of settlements in the country, when ranked by number of households,

taking statistics derived from the Domesday survey at face value (Powell-Smith 2021). However, the apparently large size of the settlement at Domesday is more a product of the populous nature of this part of England in the late 11th century (e.g. Dyer 2002, map 7) than an indication that Welby was an unusually large settlement: in fact within the Hundred of Framland Welby was (just) below average size (c.28 households in Welby against an average of 31.5). The largest settlements in the Framland Hundred, being Hose, Saltby, Clawson, and Bottesford (71, 77, 83 and 110 households respectively), were all significantly larger than Welby. Welby was, at least, larger than the recorded 18.1 households of Melton Mowbray (statistics generated using data from Powell-Smith 2021b).

There were two tenants in chief recorded at Welby in 1086; the two manors persisted through the medieval period and were only finally united in the late 17th century. The documentary evidence is set out by Fox and Fisher (2018). Briefly, the Mowbray and Segrave families held one of the manors throughout the medieval period. It had been assessed at seven carucates and two bovates at Domesday. The other manor, belonging to Countess Judith at Domesday and assessed at eight carucates and two bovates was in the hands of the Assheby family by the 14th century, and subsequently passed by marriage to the Digby family in the late 15th century. In the late 16th century the Digby family was able to purchase the Mowbray/Segrave manor. With the holdings united, the Digby family set about depopulating the village and enclosing its land (Fox and Fisher 2018, 1). In 1617 Thomas Digby sold the manor to a former sheriff of London and member of the Salter's Company, George Bennett, for £10,200 (Fox and Fisher 2018, 10). His descendants included St John Bennett, who was High Sheriff of Leicestershire in 1679 and 1692 (Fox and Fisher 2018, 11).

One of the manorial sites, located to the north of Welby Lane, survived until the remains of the building were demolished in 1961 (Saunders 2017, 12). This is believed to have been the manor house of the Digbys, and probate inventories and hearth tax returns indicate it was a substantial construction (Fox and Fisher 2018, 13-14). Many of the earthworks on the north side of the road (Figure 07; Figure 08) are considered to be the remains of the 16th or 17th century gardens surrounding this house (Hartley 1987, 16). The buildings of the present Welby Grange Farm contain re-used 14th and 16th century stonework (Courtney 1981, 42) that may have originated in this manor house (MLE8862). The location of the other manor, which in the 16th century comprised one messuage, one cottage, three tofts, a dovehouse, garden and orchard as well as agricultural land (Fox and Fisher 2018, 5), is unknown.

The only building now surviving at the site of Welby village is the church of St Bartholomew. This medieval structure comprises nave, chancel and bellcote. It was first recorded in 1220, and was a chapelry of Melton (Saunders 2017, 11). The surviving building is considered to date to the 14th and 15th centuries and was originally dedicated to St Giles; it was supplied with a priest from Melton Mowbray twice a week (Fox 2017b, 1).

Welby, or Sysonby, Grange belonged to Garendon Abbey (a Cistercian house located near Loughborough), and was mentioned in a letter from Pope Alexander III in the 12th century (Courtney 1981, 33; 43). The site of the grange is believed to be represented by a rectangular complex of earthworks located to the east of Welby village (Hartley 1987, 15) and is a Scheduled Ancient Monument (NHLE 1016317) (Figure 05); the modern Welby Grange Farm is located west of the earthworks, closer to Welby.

In 1439 two woods were recorded at Welby, 'monkke wode' and 'la Walwode' (Squires 2006, 30).

The settlement of Welby remained large in the medieval period, and 75 taxpayers were recorded there in 1377. However, the tax paying population had shrunk to 7 (+4) by 1524 (Saunders 2017, 11). Numbers remained low until the 19th century, when it has been suggested that documentary sources indicate an increase in population (Saunders 2017, 12). This might however reflect different methods of counting and recording (e.g. perhaps the counting of individual people rather than households), as well as households within the civil parish but not necessarily living at the site of Welby village. However, the Old Hall remained standing into the 20th century, as did a house on one of the medieval plots to the south of Welby Lane which was occupied into the 1960s (Hartley 1987, pl 7; CUCAP AMW98)

To the north and east of the church are earthwork remains of enclosures and trackways that are currently under pasture but which were ploughed in 1966 (MLE8862) (Figure 08). To the south of the church further enclosures, together with ridge and furrow agriculture, survive as earthworks in pasture which has probably not been ploughed since the medieval period or earlier. The morphology of these earthworks suggests they are likely to belong to the shrunken settlement of Welby (MLE3340) and its surrounding agricultural land. The surviving section of

these remains appear to be constrained on the west and south sides by a linear bank and ditch. This comprises a broadly N-S aligned bank and ditch with only ridge and furrow earthworks to the west of it and village earthworks to the east. At its southern end the bank and ditch appears to turn (with a rounded corner) through 90 degrees and runs east, though no external ditch associated with the bank on the W-E stretch is visible. The morphology of this rectilinear boundary has led to the suggestion that it may be a Roman fort or settlement subsequently reused in the Saxon or medieval period (Saunders 2017, 13).

Significant areas of the former Welby village have been destroyed, first by Holwell Ironworks from 1875, and subsequently for the tip and site of the Asfordby super colliery (Saunders 2017, 12); part of the former village site is now occupied by an industrial estate and the surviving earthworks have been partially bulldozed (Figure 10).

Despite the extensive destruction there has been little archaeological investigation of Welby village site: finds were recovered and archaeological features noted during topsoil stripping in the 1960s and again when soil surveys were conducted in the 1980s (Saunders 2017, 12). Fieldwalking was also undertaken on a number of arable fields around Welby (e.g. Liddle 1980 96). The artefacts from these investigations are curated by Leicestershire Museums Service and were examined by the writer at the invitation of Force Archaeology in 2018. The finds from fieldwalking indicated Roman activity in the area, as well as a wide range of medieval and early post medieval pottery. The finds from the soil survey test pits within the village earthworks indicated activity/occupation from late Saxon to early post medieval times. These finds provide a useful indication of the main sources and types of pottery in use in the area in these periods and would likely benefit from more detailed study as the intended project progresses.

The earthworks, pre-destruction, were plotted from aerial photographs and limited interpretation was attempted (Hartley 1987, 16; 46).

Recent work comprised a watching brief on the stripping of an area south of Welby Lane for construction of the church car park (Saunders 2017, 10). Trent and Peak Archaeology undertook the watching brief in 2016. A rubble wall was encountered immediately below the turf which contained a fragment of a Georgian spur amongst the stones; all the pottery recovered was of post-medieval to modern date (Saunders pers comm.). Despite the dating of the apparently associated artefacts, the wall was considered to be medieval in date (Saunders 2017, 10); no report on the work was available at the time of writing so the grounds for this dating are unclear.

Operation Nightingale Heritage undertook a topographic survey of the Site in 2017. This recorded a substantial bank and external ditch on the western and southern sides of the village, together with up to ten possible house platforms (Saunders 2017, 13).

Ground resistance survey in 2017 by Operation Nightingale Heritage located a possible entrance in the western side of the enclosure bank with a possible track leading through it, together with a second ditch running parallel to, and located to the west of, the western enclosure ditch. A possible rectangular stone building was also identified east of the enclosure bank north of the putative entrance. Two 40x20m house platforms were also identified, with possible trackways and a possible passage (Saunders 2017, 13).

A resistivity survey was begun in 2019 by Mercian Archaeological Services CIC (MAS) as an initial taster of fieldwork at Welby for Force Archaeology. This survey is ultimately intended to cover a substantial area of the site, and only a small part was surveyed in 2019. The results will be reported on when the survey is complete but preliminary processing of the data indicates that, due to the small area covered, while features known to exist as earthworks were revealed in the data (for example the enclosure bank and ditch), other features were not identified, and coverage of a wider area is required before identification of more subtle trends in the data can be identified (A Gaunt pers comm.).

Aims and Objectives:

The 2021 excavations by Mercian Archaeological Services CIC were designed to investigate the bank and ditch bordering the village earthworks on the surviving western and southern sides (and subsequently referred to as the 'rectilinear enclosure' or 'enclosure' in this report, though there is, at present, no evidence that it continued on the northern or eastern sides), highlighted as being of interest by Force Archaeology. Due to the large size, regular rectangular form, and rounded corners, it has been suggested that the enclosure could be of Roman date (Saunders 2017, 13).

The objective of the investigations is to date the construction of the bank and ditch, and to see if there is any evidence for what it was, and when it was used.

Based on the theories advanced by Force Archaeology for what the rectilinear bank and ditch might be, the excavations have the potential to address the following matters highlighted as regional priorities in the (updated) East Midlands Archaeological Research Agenda and Strategy (Knight et al 2012):

6.6 Early Medieval: c.410–1066

6.5.1 How may Anglo-Saxon and British communities have utilised late Roman towns and their immediate environs?

6.5.2 Can we identify middle Anglo-Saxon defensive works, including new foundations and refurbishments of Roman walled towns?

6.7 High Medieval: 1066–1485

7.2.1 How can we elucidate further the development of nucleated villages, and in particular the contribution of the Danelaw to changes in village morphology?

7.2.2 How can we shed further light upon the origin and development of dispersed hamlets and farms in champion and pastoral areas?

7.2.3 How can we improve our understanding of the form, evolution and functions of buildings within rural settlements and establish the extent of surviving medieval fabrics?

7.2.4 Can we clarify further the processes of settlement desertion and shrinkage, especially within zones of dispersed settlement?

The excavations were undertaken as a training excavation, meaning another critical objective of the work was to provide delegates with experience of a wide range of theory and practice relating to archaeological excavation and related disciplines.

Methodology:

The excavation was conducted in line with current archaeological standards and guidance and best practice, including IFA 2014a; IFA 2014b; IFA 2014c; Description and recording of contexts, drawing conventions, etc., follow those set out in the Museum of London Archaeological Service Archaeological Site Manual (MOLA 1994) and The Manual of Archaeological Field Drawing (Hawker 2001). Colours were recorded with reference to the Munsell Colour System (Munsell 1994).

Excavation was by hand using trowel, mattock and spade. The primary unit of excavation was the context. However, within thicker contexts excavation proceeded by spits of no more than 0.1m at a time. As well as allowing a level of control over the excavation to prevent features being dug away unrecognised, use of spits within a context provides vertical information on the finds, potentially allowing, for example, deposits lacking visually identifiable horizons that formed over a significant period of time to be identified on analysis of the finds. However, context always takes precedence over spit, and contexts are the primary unit of excavation. All finds were bagged by context, with spit number within the context recorded as appropriate: finds might therefore be noted as coming from context (102), spit 2, for example. Where a context number is given with no spit number it can be taken as read that spit 1 is referred to.

Contexts were assigned a unique identifier, with context numbers 100 to 199 being assigned to trench 01 and context numbers 200 to 299 assigned to trench 02. Spit numbers are not unique and reset for each context. For example, assuming a simple succession of horizontal layers, with imaginary context 300 being 'topsoil' 0.23m thick and context 301 being 'subsoil' 0.14m thick stratified beneath it, then context 300 spit 1 would represent the top 0m to 0.1m of context 300; context 300 spit 2 would be the soil at 0.1 to 0.2m depth of context 300; and context 300 spit 3 would be a smaller volume of soil as it would represent the 0.2 to 0.23m of soil at the base of context 300. Context 301 spit 1 would then be the first 0.1m of 301, which in real terms would lie at 0.23m to 0.33m below ground level; context 301 spit 2 would be the 0.1m - 0.14m of 301; etc. Should the spit information not prove useful in post excavation analysis it may be discarded.

While the excavators were encouraged to make every effort to spot things while excavating, even the most careful excavator will still sometimes miss artefacts. In order to maximise recovery, the spoil from excavation was (dry) sieved through a mesh size of 10mm, where possible. Where this was not possible (particularly further down the soil profile in the more clayey deposits), larger clods were broken up by hand and visually searched for finds. A lack of water precluded wet sieving, though soil samples have been collected which can be subjected to laboratory based wet sieving if appropriate. However, artefact recovery was, subjectively, judged to be good, with small fragments of flint debitage, flakes of bone, fragments of pottery, fired clay

and charcoal under 1g, and much smaller than the mesh size of the dry sieves, all recovered routinely by the excavators.

On site recording was by means of traditional measured scale plans and section drawings, photography, written context sheets based on the MOLA system (as this system is what delegates are most likely to encounter if they choose to pursue an archaeological career, or if they work with other units around the country) as well as by Structure from Motion photogrammetry (Waldhäusl and Ogleby, 1994; Grussenmeyer et al, 2002; HE, 2017). The photographs were taken in the visible light spectrum from ground level using a digital SLR with 16.9 megapixel sensor and fitted with an 18-55mm lens. The photogrammetry was/will be used to produce orthophotographs of sections or plans of the trenches to allow additional detail to be added to the scale drawings as necessary. Ground control points for the photogrammetry were established using Leica TS07 reflectorless total station recording in the British National Grid (BNG) coordinate system, set up from points established by survey grade GPS.

Further details of the methodology will be described in the final report.

Finds collection policy:

The excavators were encouraged to retain all macroscopic inclusions in the deposits, whether natural or otherwise. These were placed in the trays of miscellaneous bulk finds from each context. In addition to permitting accurate recording of quantities, types, size ranges and sorting of natural inclusions (which were discarded following recording) within each deposit, the trays were examined by the on-site finds specialist. This ensured that artefacts that may not have been recognised by inexperienced (and, in some cases, experienced) excavators were recovered. In practice this was particularly valuable in ensuring that burnt gritstone quern fragments, burnt flint, and iron stained fragments of calcareous Saxo-Norman wares (which looked very similar to the outer cortex of the natural ironstone nodules also present on site) were recovered and did not end up on the spoil heap.

At present all potentially humanly modified artefacts of any date and type (up to and including modern plastic), as well as all animal bone (modified and unmodified), have been retained for study. As the excavations progress and specialist analysis of the finds is conducted a discard policy will be enacted in line with Leicestershire Museums Service policies (LCC 2018, 8-10) and the guidelines on selection, retention and disposal of archaeological collections (SMA 1993). As the MAS investigations at Welby are done for research purposes, not to mitigate the damage caused by development, it is expected at the outset that all ceramics, metalwork, struck flint, and other finds will be subjected to analysis as a matter of course. Animal bone will be assessed by a bone specialist as the project progresses and it, or a subset of it, will proceed to analysis if appropriate.

Results:

To set the excavations in context, open source LiDAR data (Digital Terrain Models, DTM, and Digital Surface Models, DSM (Wheatley and Gillings 2000, 9)) collected for the Environment Agency (Environment Agency 2020) were analysed using a range of raster terrain analysis algorithms in Geographical Information Systems (GIS) software. Methods of analysis included hillshade analysis, slope analysis and relief analysis. The LiDAR data reveals a number of identifiable elements within the surviving earthworks (Figure 09; Figure 10).

Amongst these, it is notable that the western bank and ditch of the rectangular enclosure (E-E*) is on the same alignment as the ridge and furrow ploughing to the west (B); there are also traces of ridge and furrow to the east of the bank (C). The latter may underlie the medieval village earthworks (G; I) and the wavelength of the ridges here is greater than the ridge and furrow to the west of the enclosure (B). The ridge and furrow at (B) is also less distinct than that in the adjacent modern land parcel to the west (A) and was not mapped by Hartley (1987, 46); this might indicate the ridge and furrow earthworks at (B) have been reduced, possibly by ploughing (see below).

The southern bank of the enclosure (F-F*) appears to be on the same alignment as NW-SE aligned ridge and furrow ploughing which was formerly visible to the south of the bank (Hartley 1987, 46). At least one aerial photograph also shows ridges on this alignment north of (i.e. inside) the enclosure bank (CUCAP AMX4, taken 1966). Ridge and furrow of the same alignment is partially visible inside the SW corner of the enclosure (C). While the relationship between the two superimposed orientations of ridge and furrow at (C) is not entirely clear from the LiDAR, the curving shape of the NW-SE aligned strips seems to suggest that (at least here)

they probably represent infill ploughing, after the rear toft boundary (G-G*) had been established, and may therefore be later than the strips following the orientation E-E*.



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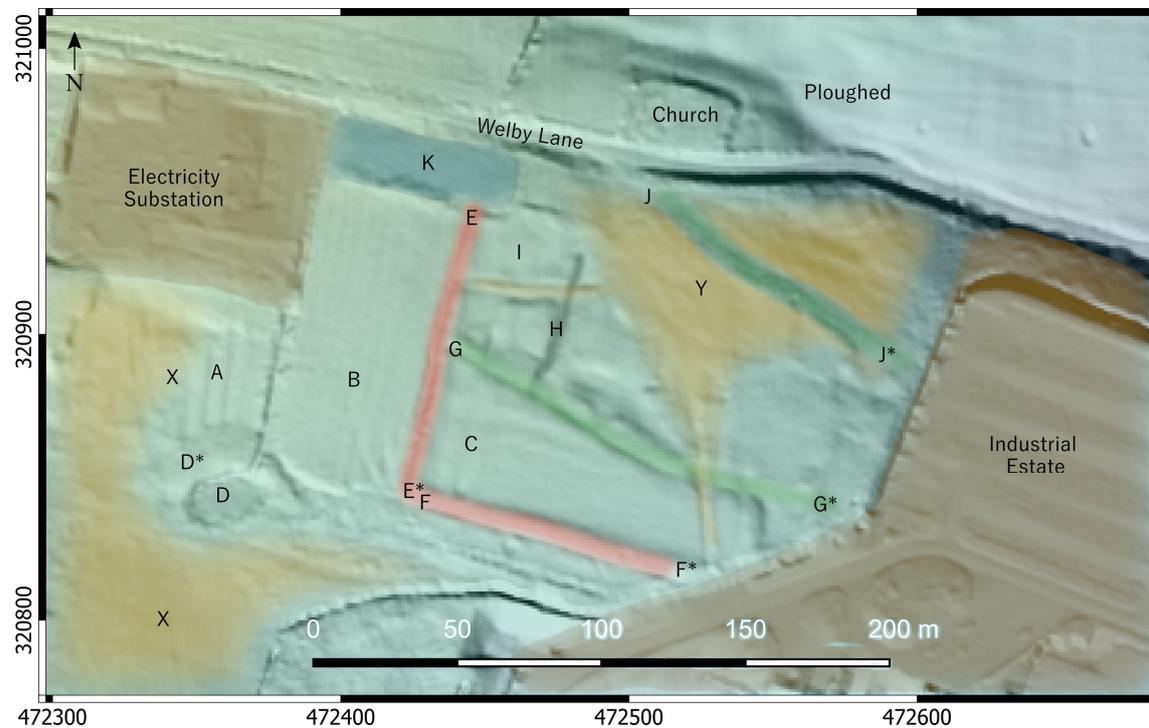


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Figure 09 - A) Slope analysis of 1m LiDAR DTM with Z factor of 3. B) Combined hillshade model of 1m LiDAR DTM with Z factor of 3, azimuth 200 and 300 degrees, and vertical angle of illumination of 40 degrees.

The southern enclosure bank (F-F*) does not seem to be associated with a ditch of commensurate size to its south. Indeed, the ground 'inside' the enclosure is higher than that 'outside' to the extent that the inside appears almost to be made, levelled, ground; alternatively the ground to the south may have been cut away to produce this effect. Indeed, the ground to the south of the enclosure bank is very level, as though it had been bulldozed. The continuation of

this level area across the southern part of the ridge and furrow at (B) reinforces this idea, strongly suggesting modern truncation. However, aerial photographs taken in 1966, before most of the documented destruction of the site, seem to indicate that this flatter area existed at this time (CUCAP AMX4).



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Figure 10 – Explanatory plot of the earthworks in Figure 09. Basemap uses combined hillshade and relief models derived from 1m resolution LiDAR DSM. See Table 01 for key to features.

Feature ID (Fig 10)	Identification
A	Broad ridge and furrow strips aligned roughly N-S. Truncated by modern disturbance (X) and pond (D; D*)
B	Narrow ridge and furrow strips aligned roughly N-S. The diagonal lines in the SE corner are modern erosion by farm animals
C	Superimposed features appearing to be broad ridge and furrow strips. At least two ridges aligned roughly N-S and at least two reverse S-shaped ridges aligned roughly W-E, with further ridges possibly present. It is not entirely clear which alignment is the earlier
D; D*	Post-medieval/modern pond (D) and spoil from pond (D*) masking ridge and furrow
E – E*	Western bank and ditch of 'rectilinear enclosure'
F – F*	Southern bank of 'rectilinear enclosure'. External ditch not readily apparent
G – G*	Bank and ditch or hollow way forming the rear boundary of ?medieval village crofts aligned on former street J-J*. Truncated by industrial estate to the east, and apparently terminating at the western 'rectilinear enclosure' bank (E-E*) as its western extent
H	Ditch or hollow way probably forming the eastern boundary of the westernmost toft of the village
I	Westernmost village toft. The W-E line marked in yellow cutting across it is very sharply defined and may represent modern damage/erosion, though the route followed may partially respect an older ditch
J – J*	Approximate line of one of the hollow ways running through the settlement, upon which the village tofts appear to be aligned. The ground drops away steeply to the north of this hollow way
K	Enclosure. This shows little sign of earthworks and may have been extensively ploughed in the post medieval period
X	Modern disturbance and probable disturbance that has appears to have obliterated or masked archaeological features in this area
Y	Area of 'blurred' earthworks likely to be a product of post-medieval or modern disturbance, masking village tofts and hollow way

Table 01 – explanation of features identified on Figure 10.

The medieval village earthworks are represented by the churchyard to the north of the road, and various features within the Area of Investigation. A linear series of tofts are set out on the south side of a road that follows the break of slope at the top of a shallow valley running broadly W-E. The line of the road is approximately J-J*; it was clearly visible as a substantial

feature in aerial photographs taken in 1966 (e.g. CUCAP AMW98), but is now very difficult to distinguish in the LiDAR data and in the field. The tofts are aligned on the road, which follows the topography, rather than respecting the alignment of the rectangular enclosure. Bank and ditch G-G* appear to form the southern boundary of the village tofts. The westernmost toft (I) seems to have been defined by the enclosure bank on the western side and by a substantial ditch or hollow way (H) on the east. It is at present unclear if it was subdivided N-S and W-E or if these are later (or earlier) features; the possible N-S division is on the line of (?earlier) ridge and furrow. The W-E track cutting the plot in half, and cutting through the enclosure bank, appears to cut the other earthworks in the LiDAR and is here interpreted as post-medieval disturbance, though it does appear to have been removed by the ?modern disturbance (Y). This track may have been metalled according to the earlier geophysical survey data (Saunders 2017, 34). Modern disturbance (Y) has blurred or obliterated the toft boundaries further east, though the slope analysis (Figure 09 a) suggests slight traces of the N-S boundaries and traces of the northern toft boundaries adjacent to the street have survived.

Disturbance is readily visible. The field to the north of the road has been ploughed, resulting in the levelling (but not complete destruction) of the earthworks in this area. The ruins of what is believed to be one of the manor houses of Welby, surrounded by the earthworks of formal gardens, survived in this field until the 1960s (it is believed to have been the Digby manor (Fox and Fisher 2018b, 13-14)). More damaging than the ploughing, the industrial estate has truncated the archaeology of the eastern half of the village. Aerial photographs show that the linear tofts continued into this area, and that one of the village tofts remained inhabited well into the mid-20th century. Construction of the colliery and industrial estate significantly altered ground levels in this area to the extent that any archaeology is unlikely to have survived here (Figure 06; Figure 07). It is also possible that the obliteration of the earthworks at (X) relates to preparation for construction of the pit tip, or electrical substation.

The Excavations:

Two trenches were partially excavated between 14th-18th and 21st-25th of June 2021. Weather conditions during the work oscillated between hot with bright sunshine, to rain (heavy). As a result the clay soils of the site proved difficult to excavate, and neither trench was completed this season. The trenches will be re-opened and excavation continued next season, and the provisional results presented here will be superseded when the excavation of the trenches in question is completed.

Trench 01 was located across the western ditch and bank of the rectilinear enclosure (Figure 10 E-E*). It was 18m long by 2m wide (Figure 11). The trench was located to additionally investigate the bank at the rear of one of the village tofts where it meets the enclosure bank (Figure 10 G). Excavation began in week 1 of the training excavation and continued through week 2.

Trench 02 was 8m long by 1.5m wide (Figure 11). It was located across the southern bank of the rectilinear enclosure (Figure 10 F-F*). It was also placed to include a sample of the 'interior' of the enclosure, though far enough east to avoid the two surviving N-S ridge and furrow earthworks (Figure 10 C). Excavation began and ended in week 2 of the training excavation.

The existing topography of the ground surface was recorded via photogrammetry prior to commencement of excavation.

Trench 01 was excavated first. Many of the contexts defined during excavation (Figure 12) proved to relate to post-burial modification of the soil profile by non-anthropogenic factors (predominantly bioturbation), and by soil formation processes, rather than being reflective of archaeological horizons. These bioturbated layers were practically sterile in archaeological terms. The stratigraphic sequence in the trenches are detailed below by trench:

TRENCH 01:

Context 100 was the stratigraphically most recent deposit encountered and included the turf. It was Munsell N4/1 (dark grey) clayey silt with coarse granular crumb structure, abundant fine roots and common vertical worm burrows to c.7mm. It was taken to extend eastwards from the enclosure bank; the same layer from over and west of the enclosure ditch was assigned the context number 102. Context 100 was up to 0.15m thick. It contained very few inclusions; these were less than 1% of patinated flint gravel up to c.15mm and ironstone nodules to 30mm; small pieces of plastic (possibly food packaging, together with a plasticard bread bag closure); several fragments of a pair of plastic and metal sunglasses with tiny crystals inset in the lenses; and animal bone and teeth (large herbivores, predominantly sheep).

Context 102 was the stratigraphic equivalent of 100 but in the western part of the trench, over the enclosure ditch and the ground to the west of it. It answers to the description of context 100 save that there was more evidence of waterlogging in the form of oxidised iron mottling.

Beneath 100/102 was a 7.5YR 4/2 (Brown) firm clayey silt with coarse prismatic texture, up to 0.1m thick. It had common vertical worm burrows up to 4mm in diameter and common fine (grass) roots. Like the overlying deposits it contained few inclusions; less than 1% well sorted sub-angular patinated flint gravel up to 50mm; less than 1% moderately sorted sub-angular ironstone to 70mm, and less than 1% rounded grey limestone to 20mm. Fine charcoal was present making up less than 1% of the total deposit volume, as well as animal bone and pottery. Though there was no obvious difference in colour or texture, this deposit was divided into three contexts. Over the enclosure bank this deposit was assigned context number 104; to the east of the enclosure bank it was assigned context 107; and to the west of the enclosure ditch it was assigned context 111.

Both this deposit and the overlying 100/102 proved to be modern deposits of fine soil excreted by earthworms (see below).

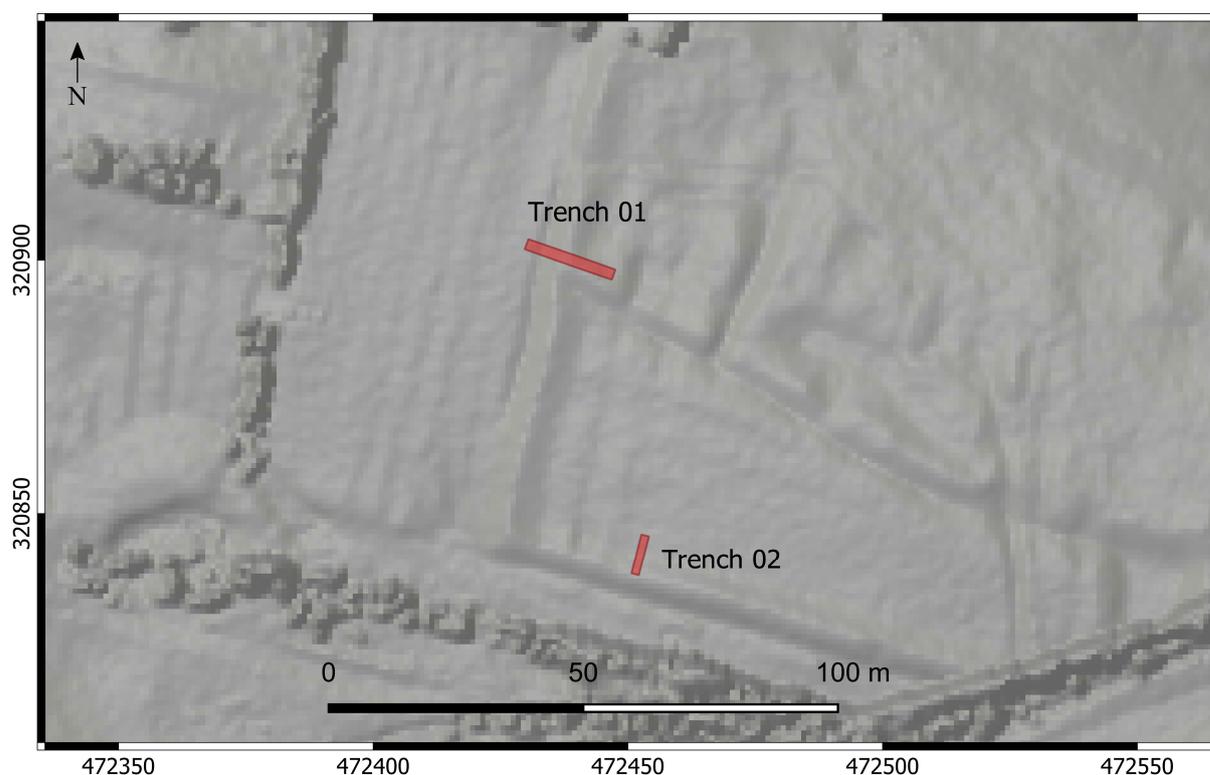


Figure 11 – location of trenches partially excavated at Welby in relation to the earthworks. Basemap uses Hillshade and Relief modelled LiDAR data.

At the base of worm-sorted deposit 104/107/111, at between approximately 0.25 and 0.29m below present ground level, a layer of stones and artefacts was encountered. This represented the inclusions formerly present in the overlying deposits that had been sorted by earthworms into this deflated horizon (see interpretation, below). Finds included a range of pottery, struck flint, iron, animal bone and other artefacts, ranging in date from prehistoric to modern.

This deflated horizon is henceforth described as the 'worm horizon'. Context number 108 (Plate 06) was assigned to this deposit over and to the east of the enclosure bank. The soil matrix of 108 was 10YR 6/4 (Light Yellowish Brown) clay. The stone content varied, with quantities decreasing with depth. At the surface there was up to c.2% of poorly sorted inclusions including angular flint gravel, rounded quartzite pebbles, ironstone nodules, and sub-angular lumps of yellow ironstone of similar type to that used to construct St Bartholomew's church. These inclusions ranged up to 250mm maximum dimension, though most were under 120mm. Context 108 featured struck prehistoric flint, part of a burnt quernstone, burnt flint and fired clay fragments and pottery. The pottery was predominantly Saxo-Norman and included Stamford ware, Torksey type ware, Potters Marston ware, Splashed ware and un-sourced early medieval ware. The latest

pottery was a fragment of a medieval vessel from an unknown source, of probable 13th to 15th century date. This context is provisionally interpreted as the makeup of the enclosure bank and may include soils built up on top of, and on the tail of, the bank.

Context 109 (Plate 05) was very similar to 108 in terms of the soil matrix, which was the same colour and texture as 108, but showed more signs of post depositional waterlogging in the form of iron staining. The stone content was also different; with up to c.3% moderately sorted stone in the 'worm horizon', predominantly comprising rounded quartzite pebbles and angular flint gravel up to 190mm but mostly under 60mm. With depth the stone content decreased but included a few larger specimens. Context 109 was greater than 0.06m thick, and excavation through it was not completed this season. A wider range of ceramics came from context 109 than 108, with material including Roman, early medieval, medieval, and a notable range of post-medieval ((Midlands) Blackware, Cistercian ware, Tin Glazed Earthenware, Brown Glazed Earthenware) pottery. The pottery comprised small and sometimes rather abraded sherds and context 109 is provisionally interpreted as a former cultivation/plough soil that may have been in use into the 18th century. The post depositional changes visible in the soils suggest that today, this part of the site may be seasonally waterlogged.

FEATURES:

Shallow scrape 105 was located in the eastern part of the trench approximately 2.5m east of the eastern limit of excavation (Plate 04). It was recognised at 0.1m below ground level, where its fill, 106, appeared as a slightly darker patch of silty clay with a higher clay content than context 107 that the feature was cut into. In plan it was an amorphous but generally oval patch, c.0.6m by c.1m (N-S). It was revealed at the end of the day, and on cleaning the upper surface in an attempt to define the edges the following day as a prelude to excavation it was untraceable with the exception of a few, much smaller, patches of fill. On attempted excavation these proved to be no more than a few millimetres deep. This indicated that the feature had been no more than a shallow scoop. Its nature remains undetermined, but its stratigraphic position, visible cut into the upper surface of context 107, indicates it was of modern date.

Ditch 113 ran N-S through the trench, and represents the enclosure ditch (Figure 10:E). As its original cut has yet to be identified it does not appear on Figure 12. Excavation has not proceeded far enough this season to determine its original profile or width. It contained several distinct fills. From most recent to oldest, these were context 101; context 103 and context 110. Context 101 (Plate 01; Plate 02) was N3/1 (Very Dark Grey) clayey silt up to 0.19m thick. It contained less than 1% well sorted platy ironstone fragments up to 10mm in size as well as less than 1% angular patinated gravel flint up to 15mm. There were abundant fine roots (grass) and common worm burrows, with vertical burrows up to 4mm in diameter recorded. Finds included plastic and small quantities of animal bone. This deposit is essentially the same as context 100, the

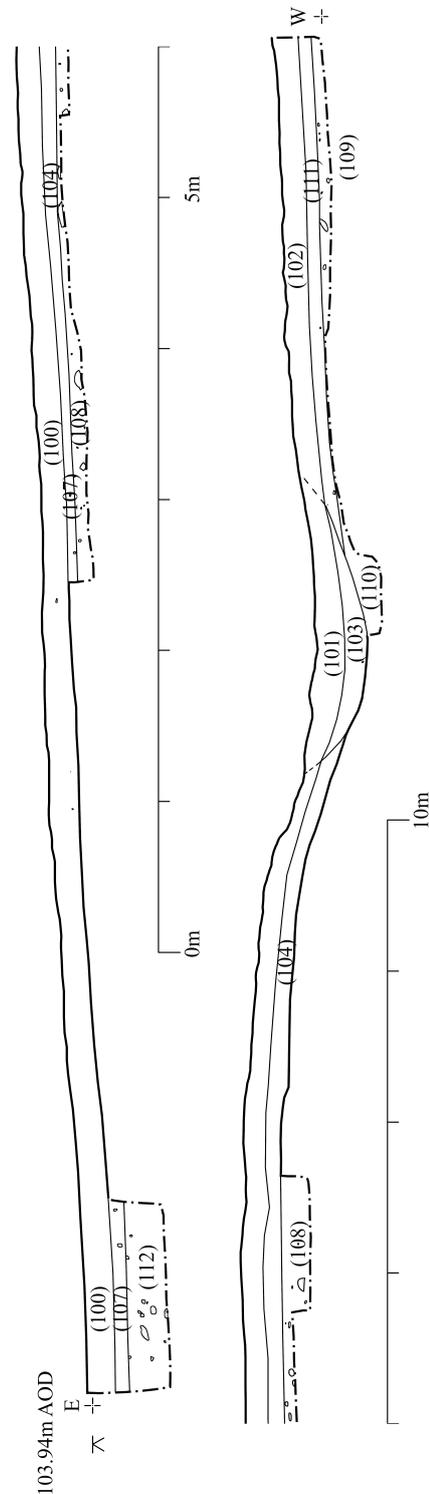


Figure 12 – north facing section of trench 1 at conclusion of excavation.

organic A horizon of the soil formed in the earthworm excreta. However, it was darker and siltier probably due to water logging. It had a sharp, smooth, interface with context 103 beneath.



Plate 01 – working shot of trench 01 looking east showing contexts 111 (foreground); 101 (the brown stripe in the ditch in the middle of the frame) and 104 (under the 0.5m scale bar), with 107 beyond. Larger scale bar divisions = 0.5m; shorter scale bar divisions 0.1m.

Context 103 (Plate 03) was N4/1 (Dark Grey) clayey silt, with c.50% 7.5YR 5/6 (Strong Brown) iron mottling. It was up to 0.14m thick. It contained the same range of natural inclusions as 101, with the addition of a rounded ?quartzite pebble 63mm in maximum dimension. Beneath context 103 was context 110. Context 110 was 10YR 6/6 (Brownish Yellow) clay. It was at least 0.12m thick but only a small sondage was excavated into it this season. The part investigated only had small quantities (less than 1%) of natural inclusions, of the same range as in the overlying contexts. The only find was part of the bowl of a clay tobacco pipe of Leicestershire type datable to c.1680-1710. Context 110 may represent the fill of ditch 113; contexts 103 and 101 may more likely represent post-depositional soil formation processes relating to the activity of earthworms and water logging. No evidence to date the ditch was encountered, though the

presence of the tobacco pipe bowl fragment may indicate the uppermost fill was still accumulating in the late 17th / early 18th century. Though it was not fully excavated, and the fills seen were narrow, the original cut for ditch 113 may have been about 2m wide, as suggested by a pebble-free band at the edge of context 109.



Plate 02 – Trench 01 looking south, showing context 101. Scale bar divisions 0.5m



Plate 03 – Trench 01 looking south, showing context 103 after the removal of 101. Scale bar divisions 0.5m



Plate 04 – Trench 01 looking south, showing shallow amorphous feature 105 cut into 107. The fill of 105, 106, can be seen in the centre of the frame due to the shine imparted by its more clay rich soil. Scale bar divisions 0.1m



Plate 05 – west end of trench 01 looking south showing stony 'worm horizon' context 109. Scale bar divisions 0.5m

The bank of the W-E toft boundary (Figure 10:G) was represented by context 112. A sondage at the eastern end of the trench investigated this deposit to a depth of 0.55m below ground level. Context 112 was at least 0.26m in thickness. It comprised a 7.5YR 6/2 (Pinkish Grey) stiff clay. It was noted to have become firmer with depth. It contained less than 1% moderately sorted sub-angular ironstone nodules to 54mm; c.1% moderately sorted rounded quartzite pebbles up to 76mm and c.1% poorly sorted angular patinated flint gravel. Vertical worm burrows were common and up to 7mm in diameter; fine roots were present in small quantities. Finds were limited to a few sherds of Stamford ware, all of which was in fine, peri- and post-Conquest, fabrics. One of these Stamford sherds was amongst the largest pottery sherds discovered in this season's work; the sherd was in fresh, unabraded condition suggesting it had not been subject to significant disturbance. The pottery provides tentative evidence that the toft boundary bank may have been constructed in, or after, the late 11th to mid 12th century.



Plate 06 – Trench 01 looking south showing part of the upper surface of context 108 at c.0.26m below present ground level. Note the layer of stones with, in section, stone free, clean, worm-sorted deposits above. Scale bar divisions 0.5m.

INTERPRETATION OF NON-ANTHROPOGENIC DEPOSITS:

The appearance of a layer of artefacts and larger stones beneath a largely stone-free depth of clayey silts is characteristic of the action of earthworms. The burial of archaeological sites by the action of earthworms was first recognised by Charles Darwin in the 19th century (Armour-Chelu and Andrews 1994, 433). In a compacted soil with limited sub-surface voids, such as the silty clays and clays of Welby, earthworms tend to cast their faeces at the surface (Canti 2003, 139-141). This results in larger inclusions (such as stones and artefacts), originally located on the surface and within the upper horizons of the soil, becoming buried beneath the fine mineral particles excreted by the worms. Depths from 2mm up to 6mm of cast soil per year have been recorded (Canti 2003, 141). After a relatively short time the larger inclusions reach a depth below ground level where 'no soil being destined for surface casting is being ingested below it, and there it stops. Once this point has been reached all subsequent worm casting activity harmlessly churns the topsoil round and round above the object, and it will not start moving downwards again without significant changes to the soil ecology promoting deeper burrowing' (Canti 2003, 139). In most cases the layer of artefacts and stones is formed between c.0.1m and 0.25m below ground level. This state can be reached in as little as 20 years (Canti 2003, 141-2). The 'worm horizon' at Welby is at the deeper end of the recorded examples, but is otherwise a classic example of the power of earthworms to sort soils.

TRENCH 02:

Context 200 was between 0.08 and 0.12m thick and comprised Munsell N4/1 (Dark Grey) clayey silt with coarse granular crumb structure, abundant fine roots, common vertical worm burrows to c.7mm and c.5% 10R 4/6 (Red) mottling. Beneath it was 201, a Munsell 7.5YR 5/3 (Brown) clayey silt with coarse prismatic structure. Roots and worms were as 200, though mottling was not present (or was not noticeable). As in trench 01, these two contexts represent bioturbated horizons of earthworm casting and are of modern date. Finds from 201 included a large sherd of a jug probably made in Nottingham in the mid 13th – early 14th century, two sherds from a single vessel of Brown Glazed earthenware, of late 17th to 18th century date and likely made in Ticknall (Derbyshire), part of the rim of a Midlands Yellow ware cup or bowl, very likely made in Ticknall and probably 17th century in date, and a sherd of Saxo-Norman Stamford ware.

At c.0.24m - 0.25m below present ground level, the 'worm horizon' of stones and artefacts was encountered. Around and beneath this, context 202 was Munsell 2.5YR 6/4 (Light Yellowish Brown) clay. 202 contained moderate fine roots and common vertical worm burrows to c.7mm. Below the worm horizon, inclusions were sparse nodules of ironstone up to 90mm; c.1% rounded ?quartzite pebbles moderately sorted ranging from under 10mm to 94mm; less than 1%

rounded lumps of grey Lias limestone to 45mm; and c.1% angular patinated flint gravel. The context also featured moderate flecks of charcoal and sparse fragments of orange and black fired clay under c.10mm. Only a single spit of 202, on the tail of the bank, was excavated in the time available, to a depth of between 0.3 and 0.37m below present ground level. The pottery was all Saxo-Norman or earlier. It included Samian ware, as well as a range of Stamford Ware, St Neots type ware, and un-sourced (possibly South Lincolnshire) Saxo-Norman wares. The Stamford ware included pre- and post-Conquest forms and fabrics. A small assemblage of struck flint is likely to be of later prehistoric (possibly Bronze Age) date; two pot boiler stones are likely to be of Neolithic to Roman date, though without application of scientific techniques (e.g. thermoluminescence dating) they cannot be more closely dated. The artefact evidence recovered to date cannot date the bank (further excavation is required) but may hint that it was either constructed, or was in use, in the Saxo-Norman period.

Prior to backfilling two small sondages were excavated at either end of the trench to examine the nature and depth of deposits. At the south end over the highest part of the bank, context 202 (the bank make-up) was found to continue to at least 0.7m below present ground level (i.e., it is more than 0.46m thick here). At the north end of the trench context 202 was only 0.14m thick, and gave way to context 203, which was in excess of 0.16m thick. Context 203 was 10YR 7/6 (Yellow) mottled with 10YR 7/1 (Light Grey) clay. Sparse rounded pebbles up to c.60mm were encountered. Unlike 202, 203 contained no charcoal, and no material of likely anthropogenic origin was encountered in the sondage.

Context 202 appears to represent either the makeup of the enclosure bank, soil built up against the tail of the bank, or material eroded from the bank (or a combination of all three). The size and condition of the pottery perhaps suggests a 11th century date for the soils making up the bank, though see the discussion, below, for alternative possibilities.

Context 203 was very 'clean' and it is not impossible that it may represent the geological substratum of the site. However, given the propensity of re-deposited clay to appear undisturbed once settled, this possibility requires further testing.

Finds Reports

The finds reports are presented before the overall discussion of the excavations. Some categories of finds are more fully reported on than others: the iron for example has not yet been x-rayed and the animal bone has not yet been assessed by a specialist so details are minimal. The specialist reports are all by the writer. They may be superseded once more detailed analysis has been undertaken once the excavations are complete.

Lithic artefacts (flaked):

Methodology:

The flaked lithic artefacts were recorded on an MS Excel spreadsheet. Weights were obtained using a Maplin VV52G digital load cell electronic balance with rated accuracy of +/- 0.1g, calibrated prior to each session of use. Weight was recorded to the nearest 0.1g. Dimensions were recorded to the nearest 0.1 millimetre using a pair of 6" electronic digital callipers. The callipers had a resolution of 0.01mm with a rated accuracy of +/- 0.02mm for measurements under 100mm and +/- 0.03mm for measurements greater than 100mm.

Dimensions of flakes and blades were recorded along the axes specified by Saville (1980); contra Saville 1980 broken, as well as complete, flakes were measured.

Description of flakes and cores are given with reference to the 'debitage axis', with flakes orientated butt down and cores orientated with (main) platform uppermost (Inizian, Roche and Tixier 1992, 34). The terminology utilised in this report follows Inizian et al (1992).

Results:

THE ASSEMBLAGE:

A total of 18 struck or probably struck flint flakes were recovered, with eight flakes or blades from trench 01 and a further nine from trench 02. An unusual piece of soft stone from trench 01 is in the shape of a Neolithic leaf shaped arrowhead, but definite signs of working are absent, so it is excluded from the totals but is discussed below.

RAW MATERIAL AND CONDITION:

Where colour could be determined (i.e. for pieces where surface alteration was not present, or where later chips through the altered surface were present), the majority of the flaked stone artefacts could be seen to have been made from translucent grey to brown flint. One flake from trench 2 was made from an opaque brown flint. Cortex, where present, in all cases was water-worn and usually thin, although somewhat thicker cortex was present in a few cases. Ancient flake scars were also present (their white patination sometimes extended up to 1mm into the body of the flint from the scar surface), and in some cases could be recognised as thermal fractures. All the raw material is likely to have been sourced locally. Nodules of flint occurring within the soils found during excavation, and probably deriving from the underlying Oadby Till, were noted to include similar types of flint to the struck material, and include a similar range of nodule shapes and sizes to the struck material. Most of the un-struck nodules were small, displayed extensive evidence of frost fractures (Inizan et al 1992, 28-9) and were sometimes heavily iron stained, but a few pieces of good quality translucent dark grey and brown flint, with water-worn cortex and occasional patinated ancient (natural) flake scars and frost fracture scars, were also encountered.

The condition of the struck flint ranges from completely unpatinated (10 pieces) to light mottled white patination (4 pieces) through to a dense white patination (2 pieces). One spall was from a completely calcined ?flake which had been heated to a high temperature. Other burnt and calcined pieces do not appear to have been worked, and are recorded below.

From trench 01, six pieces (75% of the total from this trench) were patinated. From trench 02, no pieces (0% of the total from this trench) were patinated.

Many of the pieces from both trenches display damaged edges; in trench one where the flint is patinated it was seen that some of the damage is patinated (and therefore old) while in others it cuts through the patination (and therefore has occurred more recently). In trench 2 there was no patination to assist in judging the age of the damage, but many of the pieces had flaking to the edges characteristic of accidental damage rather than deliberate

retouch. The damaged edges (particularly in the case of patinated damage) may have happened around the time the flint was struck; it can for example be caused by people or animals trampling knapping scatters, or trampling struck flakes into stony soil. Some of the recent damage may have occurred at time of excavation, as flint with thin and sharp edges embedded in clay soils can readily be 'retouched' by a scrape of a trowel. However, the level and type of damage seen in the assemblage suggests that the flints may have been subject to a certain amount of disturbance since their original loss or discard. Similar damage can be seen in lithic material recovered from the surface of modern plough soils. The condition of the flints may add weight to the suggestion, derived from the LiDAR, that both trenches were dug in areas that had, at some time, been cultivated.

FORMS:

The assemblage comprised only two pieces with retouch that may be deliberate and contemporary with their manufacture. A chunky flake from 202 may have been a borer, though the tip has broken off, making it impossible to be certain that this was an intentionally retouched tool rather than just a trampled piece. A distally truncated flake from trench 01 has patinated 'retouch' all along the truncation, indicating it is contemporary with the manufacture, but given the shape of the flake and the slight nature of the retouch flakes the truncation itself may be accidental (i.e. the result of trample) rather than deliberate. The rest of the assemblage is flakes and chips. Amongst the flakes, a small piece with curved profile is a retouch flake, likely to derive from retouching a tool such as a scraper.

TRENCH 01:

Much of the assemblage from this trench is patinated to some degree (75%), with only a few undiagnostic chips having un-patinated surfaces. The assemblage comprises debitage (waste flakes and retouch flakes). A number of pieces have edge modification in the form of continuous retouch; in the majority of cases, while it is patinated to the same extent as the flakes, it is superficial and likely to be accidental, for example from trampling. Two pieces have faceted platforms, one of which also displays platform abrasion; a patinated blade fragment from this trench also has abrasion of the core face, though the butt is cortical. Four (50%) of the pieces have cortical platforms, including the proximal blade fragment just mentioned. Of the pieces with proximal ends remaining, four have diffuse bulbs possibly suggestive of soft stone or antler percussion, though in some cases the diffuse bulb may be a product of the cushioning effect of the cortical platform when struck with a hard hammer. Only two flakes had pronounced bulbs suggestive of hard hammer percussion.

The assemblage:

A flake from context 112 is a patinated secondary flake. The distal edge has short inverse retouch. The retouch is patinated to the same degree as the flake itself, suggesting contemporaneity. Subsequent damage, cutting through the patination and itself completely unpatinated, has removed most of the distal edge, though the presence of patinated retouch either side of the damaged area suggests the original (patinated) retouch was continuous along the whole length of the edge. While this might be a distally truncated flake of Mesolithic date it is difficult to see it as an intentionally manufactured tool: the right hand margin comprises an ancient flake scar while the left hand margin is very short and partially cortical. Additionally, the retouch flakes are very small, and rather than forming a truncation per-se, they seem to represent small flakes pressed off what appears to have originally been a hinged termination to the flake. The rather careless hard hammer flake technology is also not particularly diagnostic of an early period. As such, while the patination suggests that the possibility that this could be a deliberately truncated flake must be entertained, it seems more likely that this piece is simply debitage which happens to have been trampled.

A blade-like flake from 108 spit 2 is heavily patinated to opaque white with extensive iron staining on the dorsal surface. More recent damage indicates that the raw material is translucent brown flint. The single dorsal aris is formed by the convergence of two ancient fractures; the difference in the surface texture and patination of these scars suggests one is an ancient frost fracture and the other is an ancient flake scar (probably produced by natural processes such as tumbling in glacial outwash). As such, while blade-like, this flake does not come from a blade core deliberately set up by the knapper, so a Mesolithic or earlier Neolithic date cannot be certain. Later damage (probably modern) cutting through the patination is present on both lateral margins as well as on the proximal and distal ends. Loss of much of the platform makes it difficult to determine the technology employed, though the diffuse bulb

and possible originally small size of the platform may suggest soft hammer percussion. This, together with the degree of patination, suggests a Mesolithic or early Neolithic date is possible.

Also from 108 spit 2, a proximal fragment of a probable blade was struck from a cortical platform. It is unclear, in the absence of modern damage, if this piece is patinated with an all-over complete white patination, or if the raw material is an opaque white Wolds type flint (Henson 1985, 3-5). The core face had been trimmed before striking, and the small platform and diffuse bulb may suggest soft hammer technology (either antler or soft stone). The technology may suggest a Mesolithic date.

From context 100 spit 2 a short flake with curved profile bears a series of scars of small flakes terminating in step fractures on its dorsal face. Flakes with these characteristics tend to be produced during the retouch of tool edges (pers obs). The tool being manufactured, or repaired, is likely to have been relatively thick, and might have been a scraper, large piercer, or any other tool type with an abruptly retouched edge. The piece is covered with a partial white patination.

A small secondary flake from context 109 has a cortical platform and a moderately patinated surface. It is not typologically diagnostic.

Other struck pieces from this trench are small, and lack diagnostic evidence of human modification: they may represent small fragments of debitage from knapping events, but equally could be naturally or accidentally produced flakes resulting from impact during fluvio-glacial transport, or ploughing, trample, etc.

TRENCH 02:

All the struck flint from trench 02 came from context 202. Much of this comprises chunky, unpatinated, hard hammer flakes, with little sign of refinement of technology or particular care in reduction strategy. All of the struck flakes from this trench are un-patinated. All but two of the flakes have cortical platforms, with the other two having plain, flat platforms with no sign of additional preparation. A single flake has a diffuse bulb, probably produced by the cushioning of a hard hammer strike by the relatively thick cortex: all the other bulbs are pronounced, suggestive of hard hammer percussion. A single piece has a small area of abrupt irregular concave retouch on its distal margin running obliquely towards the dorsal arris and might have been a piercer; the right hand margin (where the retouch suggests the point of the piercer would have been) has, however, snapped off and as a result it is not possible to be certain if this retouch was deliberate, intended to make a tool, or if it belongs with some of the other more clearly accidental retouch flakes resulting from damage to the left hand edge.

ARROWHEAD SHAPED STONE:

From context 104 a friable, fine-grained, pale yellow coloured limestone fragment was recovered. It has the shape of an early Neolithic leaf shaped arrowhead (Plate 07). It is c.43mm long; 28mm wide, 4-5mm thick and is of lenticular section. It was broken into two pieces on recovery, when the surface may unfortunately have also been lightly and briefly wiped with a glove. There are few traces of the original surface remaining and consequently it is impossible to determine if the object is manufactured or natural. At the base there are a few very slight undulations suggestive of pressure flake scars, though in profile the edges of the object now appear straight and even (though the sides are not of even thickness).

Production by polishing or abrasion seems unlikely due to slight swellings in the surface, possibly caused by harder inclusions in the stone, which it would be expected should have been removed if the object had been produced by abrasion.

The loss of the original surfaces makes it impossible to determine if the shape of this object is a result of deliberate manufacture by humans, or if it has arisen through natural processes. Against the latter is that the shape is not like any of the forms taken by the

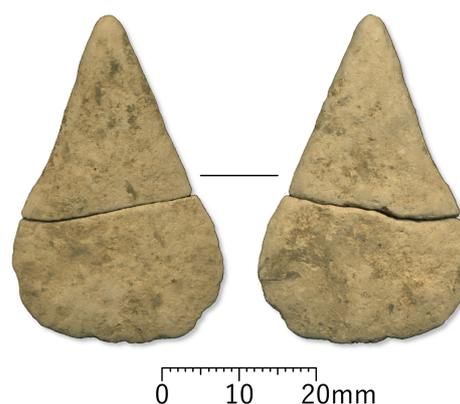


Plate 07 – arrowhead shaped stone from context 104

weathered local rocks and none of the commonly seen fossil species present in the local geology (see Fossils section, below) are this shape; the structure of the object as seen in the break is not suggestive of an origin as a fossil, for instance, and the harder 'lumps' within the stone and partially protruding from the surface are not familiar to the writer as parts of the structure of the more commonly encountered local fossils. Against the former is that the stone is now extremely soft and friable (though this could be due to weathering during burial), is somewhat similar to the local stones, and, even allowing for some weathering, would probably have been fairly ineffective as a functional arrowhead. Also against a prehistoric origin is that two lithic specialists with many decades more experience of lithic assemblages in the East Midlands than the writer have not previously encountered arrowheads made from similar raw materials (Lynden Cooper and Daryl Garton pers comm. 09/2021), though Skerry sandstone retouchers and possible backed knives were recovered from Asfordby (Cooper and Jarvis 2017, 65-71), demonstrating that prehistoric people used softer stones to make tools in addition to the more commonly recognised flint and quartzite in the region.

As such this object must be considered to be a curiosity, and must remain so until such time as a geological origin is proven (soft tissue remains of a fossilised organism?), or better-preserved examples of soft stone arrowheads with clear traces of deliberate human manufacture are recovered.

Discussion:

While typologically diagnostic tools are scarce in the assemblage and it is difficult to date assemblages on debitage alone, it is likely that at least two, and probably more, periods of activity are represented by the struck flint. Most of the worked flint from trench 01 is patinated. In the East Midlands it has repeatedly been demonstrated that the presence or absence, and to some extent also the degree, of patination on struck flint can provide a general indication of chronology (e.g. Cooper 2009, 108; Harding et al 2014, 66; table 1; Garton et al 2015, 112). In Leicestershire it has been suggested that patinated pieces are likely to be pre-Neolithic (Cooper 2004, 26), though some diagnostic early Neolithic forms may occasionally be patinated (Cooper 2012, 117). Two of the pieces from trench 1 display evidence for soft hammer percussion, platform preparation and blade technology, one being heavily patinated and the other either heavily patinated or made from Wolds type flint. It is possible that both are of Mesolithic date. The faceted platform on an un-patinated flake may indicate a late Neolithic component to the assemblage from this trench. The lightly patinated flakes generally displaying soft hammer traits, though not production of blades, and including the truncated piece and the tool-retouching flake, may fall between these two dates; at the least the patination suggests a likely Mesolithic or early Neolithic date. Either way, the assemblage from this trench appears mixed in date, with few of the pieces likely to be contemporary with any of the other pieces from the trench, let alone deriving from the same knapping event.

In contrast, the struck flint from trench 2 is all un-patinated. Technologically, there is little evidence for much care having been taken over the knapping, with predominantly unprepared cortical platforms struck with a hard hammer. The rather ad-hoc technology suggests the knapping took place at a time when flint was losing its significance and less care was taken over everyday flint knapping; a Bronze Age or even Iron Age date for the material is not impossible (although whether flint was still worked during the Iron Age remains contentious). The pieces from this trench are all quite similar in condition and technology and could conceivably be contemporary (though they derive from the working of several different flint nodules); they might derive from a single phase of occupation.

It is not possible to be certain that any of the lithic artefacts from a trench are contemporary with the other lithic artefacts from that trench, as all pieces were all found as residual material in later contexts. However, in the case of trench 2 the similarity of condition (no patination) and similarity of technology displayed by the debitage is quite suggestive, and it may be that later prehistoric flint knapping was taking place in the vicinity of the trench.

The varying patination of the material from trench 01, together with a lack of clear technological links between the various pieces, suggests the material recovered from this trench represents a palimpsest. The activities represented may include knapping and probably manufacture or maintenance of tools (probably scrapers), as well as possible tool use. However, the quantities are small and seem unlikely to derive from any significant occupation, or even significant activities, in the vicinity of the excavations: they may represent a 'background scatter' of casual losses from people occasionally passing through the site over many centuries rather than indicating any sustained activity.

Pottery

Methodology:

All sherds were examined by eye and under 20x magnification using a Brunel Microscopes MX1 stereomicroscope. The assemblage was quantified using sherd count, sherd weight and vessel count. Weighing of sherds was via a Maplin VV52G digital load cell electronic balance with rated accuracy of +/- 0.1 g, calibrated prior to each session of use. The weight of the pottery sherds was recorded to the nearest 0.1 g. The sherds were quantified by weight, sherd count, and maximum vessel count.

The data were input into a Microsoft Access database using the ware names and codes of the Mercian Archaeological Services Ceramic Type Series for Post-Roman pottery. The MAS ware names; codes and naming system are derived from the City of Nottingham Ceramic Type Series (Nailor and Young 2001) and the Lincoln Ceramic Type Series (Young, Vince and Nailor 2005). Additional ware and code names for Leicestershire are based upon the Leicestershire system (Lucas et al 1989; Davies and Sawday 1999; Davies and Sawday 2004). Full concordance between the MAS codes and the Leicestershire codes will be provided in the final report once the Leicester CTS has been examined. Roman sherds are named and coded following national systems (Tomber and Dore 1998) where possible, and local systems as appropriate (Darling and Precious 2014). Sherds from unknown production sites were classified following the Nottingham/Lincolnshire system used by the writer (see below) and their fabrics described as seen under 20x magnification.

Identification of inclusions under low power magnification follows 'Peacock's Principles' (Peacock 1977) with modifications after Wright and Davey (1980, 52); description of characteristics such as fracture, rounding, etc., is based on Adams Gilmour (1988, 62).

Nomenclature of vessel forms, parts and rim types follows the guidelines for identification of medieval vessel forms by the Medieval Pottery Research Group (MPRG 1998).

Presence and location of use-wear traces, sooting, etc. visible macroscopically or under low power magnification are recorded on the database.

Naming of late eighteenth - nineteenth century plate / dish edge patterns and shapes follows contemporary nomenclature as detailed in trade catalogues, particularly parts of the Whitehead 1798 catalogue reproduced in Barker 2010, 16-17 and those of the Leeds Pottery (Griffin 2005).

Hand painted designs and printed patterns on eighteenth-nineteenth century Cream, Pearl and White wares were identified, where possible, by reference to complete examples of vessels held in the writer's reference collection, by reference to published material (including Coysh and Henrywood 1982, Roberts 2006) and, failing this, by comparison with examples on internet auction sites and other internet resources.

Where there is doubt as to the identification of a ware, pattern or other feature then that detail is preceded by a question mark in the database.

Rim diameters were measured, wherever possible (where the sherd was of sufficient size and apparent regularity to allow a relatively reliable reading to be obtained), by matching the outside or inside curve of the sherd to the rings of a rim chart. Whether internal or external diameter was measured, the external diameter is recorded in the database. Where measurement was successful the percentage of surviving rim arc was estimated using radial rays emanating from the central point of the chart. Base diameters were not routinely recorded, but when they were, measurement followed the same method.

Abbreviations are used in the archive database, predominantly for fabric descriptions. An explanation of the abbreviations can be found in Appendix 02.

The resulting archive conforms to the standards and guidelines prescribed by the Medieval Pottery Research Group (2001, 2016).

Terminology:

Terminology used in this report that is not covered by MPRG 1998, or where the meaning in general use is non-specific, is described below.

INCLUSIONS AND 'TEMPER'; AND 'FABRIC':

In common with the majority of British pottery reports, the term 'fabric' is used here to refer to the material from which the pot has been manufactured: this includes the clay itself together with any 'inclusions' either added to or naturally present within the clay, such as quartz sand, fossil shell, grog, animal dung, etc. Modern potters use the term 'paste' for what the British ceramic specialist calls a 'fabric'.

Historically there has been a belief amongst students of medieval ceramics that many of the non-plastic inclusions in clay used for potting (such as quartz (of sand or grit size), fossil shell, iron ore etc), represent material deliberately added to the clay by the potter during preparation (e.g. Perry 2016, 98-9, for review of the literature and discussion). In prehistory there is no doubt that potters did add material to the clay when making pots, and there is some evidence to suggest that medieval potters may have done the same. This includes occasional documentary references such as the records of the purchase of clay and sand by the Humberware potters of West Cowick (McCarthy and Brooks 1988, 18), along with 'ethnographic' observations of traditional pottery industries that survived into recent times, including the potteries at Verwood, Dorset, where sand was deliberately added to the clays (Draper and Copland-Griffiths 2002, 83-7). However, the automatic assumption that such inclusions are deliberately added has been challenged, not least on the grounds of common sense and human nature (John Hudson pers comm). Additionally, Rice has highlighted the fact that what potters may add to the clay to improve its properties in throwing, drying, firing or use may not simply be non-plastic and can include 'invisible' additions such as water, salt and mixtures of different types of clay (Rice 1987, 403-408).

A recent study of the late Saxon products of Torksey in Lincolnshire and Newark in Nottinghamshire has tested the assumptions that temper was deliberately added. Torksey ware has traditionally been considered to have been made from clay with added sand temper; the sand and the clay were considered to be obtained from two separate geological sources and were deliberately mixed together by the potters (Barley 1981, 275). Scientific study of naturally occurring clay deposits outcropping around Torksey, however, has demonstrated that the pot clay was used essentially as dug. The Rhaetic clay from which the pots were made has quartz sand and other inclusions that are present entirely as a product of geological, not human, activity (Perry 2016, 91); the same is true of the clay source for Newark Torksey-type ware (Perry 2019, 13).

Consequently, the use of the terms 'inclusion' and 'temper' in this report should not be read as implying a belief on the part of the writer that such inclusions were deliberately added to the clay by the potter; they may well be naturally occurring. Temper, a word which has been used by some writers to differentiate deliberately added inclusions from those naturally occurring in the clay, is not used in that sense here and is merely used for convenience; it is easier to refer to 'quartz tempered' or 'shell tempered' ceramics, rather than the more precise though long-winded 'pottery made from clay containing predominantly quartz inclusions' or 'pottery made from clays containing predominantly shell inclusions'.

Use of the terms 'iron-poor' and 'iron-rich' for the clay or fabric follow Ford (1995, 32-3). These terms refer primarily to the iron content of a pottery fabric as it affects the final colour of the vessel: assuming any organic material in the clay is burnt out then an iron-poor ware will usually fire from white and cream to pale oranges and light greys, while an iron rich ware will fire bright orange, red or brown when oxidised, and various shades of grey when reduced. The description of a fabric as iron-poor or iron-rich is independent of the quantities of iron *inclusions* that may be present in the fabric. Thus a Coal Measures Purple ware can have an iron-poor fabric, firing white or pale grey, but may contain abundant inclusions of iron, visible as lumps within the fabric.

CERAMIC PERIODS:

The post-Roman ceramic periods used in the database and this report are detailed in Table 02. The date ranges given for these periods are based on better-dated material from excavations in Lincoln and Nottingham (Young, Vince and Nailor 2005; Nailor and Young 2001).

The use of period names such as 'Roman'; 'Saxon' and 'Saxo-Norman' should not be taken to imply any particular cultural or ethnic affiliation for the pottery in question: they are merely terms used for the chronological periods. For example, use of the term 'Roman' should be read as referring to the period 43AD to early 5th century; it is not intended to indicate or imply that ethnically Roman citizens from the City of Rome are being referred to. In

this sense 'Roman' is interchangeable with 'Romano-British'; similarly, the 'late Saxon' ceramic period includes the Viking and Anglo-Scandinavian periods and does not relate to the ethnicity of the makers or users of the pottery in question.

Ceramic Period:	Approximate date range:
Late Saxon	M9 th - M/L11 th century
Saxo-Norman	M9 th - 13 th century
Early Medieval	12 th - E/M13 th century
Medieval	13 th - M15 th century
Late Medieval - Early post medieval	M14 th - M16 th century
Post medieval	16 th -18 th century
Modern	M18 th - 20 th century

Table 02 - Approximate date ranges of ceramic periods used in this report (E=early; M=mid)

GEOGRAPHICAL TERMS:

A range of terms relating broadly to geographic areas are used in the following report. These terms are used subjectively and cannot be defined with the precision that

is required in a scientific report. These terms are: Region: a substantial geographical unit of land that may or may not have any specific relevance to political, cultural or other divisions in the past. Examples include 'the North' (broadly England north of the Humber estuary, but perhaps extending further south of this line into North Nottinghamshire), and 'the East Midlands'.

Area: a smaller, but still unspecified, geographical unit than a 'region'. This may often be similar to the Shire, Hundred or Wapentake within which the Site is situated. In pottery terms it is dependant on geology. May or may not correlate with 'local', depending on context.

Local / non-local: Where pottery cannot be assigned to known production sites in a region or area, the pottery has been catalogued as either 'local' or 'non-local'. This relates to an assessment of the inclusions in the pottery and how likely they are to be found in geological deposits in an inadequately defined 'local' or 'non-local' area around The Site. For example, in Nottinghamshire the geology is primarily Permian and Triassic. Therefore pottery containing fossil shell of Jurassic age is unlikely to have been produced 'locally': this would therefore be classified as an un-sourced 'non-local' ware. Pottery with inclusions of similar geological age and origin to the geological deposits found in proximity to The Site on the other hand are classed as 'local'. In terms of coding, following the Lincolnshire and Nottinghamshire systems, generic names that reflect the likely chronological period (based on technological and typological considerations) are used. Thus code names comprise the period, in the form: LS (late Saxon), EMED (early medieval), MED (medieval), LMED (late medieval), PMED (post medieval), etc; with suffix LOC, if the geological inclusions are of types likely to be found locally, or X, if they are likely to have come from further away. MEDLOC would therefore denote a sherd of medieval date with inclusions suggesting manufacture in the local area; LSX would refer to a late Saxon ware of probable non-local manufacture. It should not be assumed that all the sherds classed as MEDLOC come from the same source; this may be the case with members of a sub fabric (thus vessels identified as MEDLOC fabric A may all be from the same source) but not with the overall group (thus MEDLOC fabric A vessels may have been produced in a different industry or tradition to vessels classified as MEDLOC fabric B).

The dating of particular wares from unknown sources proposed in this report is sometimes rather broad. This is a product of the nature of the assemblage, comprising mostly quite small body sherds with few distinguishing features, and few sherds with traits that can allow narrowing of the date range. Additionally, there are no reliable stratigraphical grounds that would allow, for example, a relatively undiagnostic body sherd to be dated by its association in an archaeological feature with a diagnostic sherd.

Due to this a range of considerations, including technique of manufacture, glazing, form, have been taken into account to suggest a broad date range for each of the ware and fabric types from unknown sources. Where there is little certainty about the suggested dating this is indicated in the database by question marks.

Results:

A medium sized assemblage (MPRG 2001, 19) consisting of a total of sixty seven (67) sherds of pottery, from a maximum of sixty five (65) vessels, with a total combined weight of 123.4g, were recovered from trenches one and two. The pottery ranges in date from Roman to eighteenth century.

A total of nineteen (19) different ware types were identified. The ware types identified in the assemblage are displayed in Table 03.

cname	full name	period	earliest date	latest date	total sherds	total vessels	total weight	LeiCode
GREY	Romano-British greywares	Ro	40	400	1	1	2.3	GW
SAMIAN	Samian ware	Ro	40	250	1	1	0.1	
NVMO	Nene Valley Mortaria	Ro	110	400	1	1	5	
TORKT	Torksey-type ware	Isax	850	1100	1	1	1.4	TO
SNEOT	St Neots-type ware	sn-emed	870	1200	1	1	1.5	SN
SNX	Non-local Saxo-Norman Fabrics	sn	870	1150	1	1	2.8	
ST	Stamford Ware	Isax-emed	970	1200	39	39	67.6	ST1, ST2, ST3
NSP	Nottingham Splashed ware	emed	1100	1250	2	1	1	SP1
PM	Potters Marston Ware	emed	1100	1300	1	1	0.9	PM
EMLOC	Local Early Medieval fabrics	emed	1150	1230	3	3	7.6	
MEDLOC	Medieval local fabrics	med	1150	1450	3	3	7	
MEDX	Non Local Medieval Fabrics	med	1150	1450	2	2	7.9	
NOTGL	Light Bodied Nottingham Green Glazed ware	med	1220	1320	1	1	8.5	NO?
NOTGR	Reduced Nottingham Green Glazed ware	med	1280	1420	1	1	1.6	NO?
CIST	Cistercian-type ware	pmed	1480	1650	2	2	2.6	CW?
BERTH	Brown glazed earthenware	pmed	1550	1800	3	3	1.7	EA2?
BL	Black-glazed wares	pmed	1550	1750	1	1	2.3	EA6?
MY	Midlands Yellow ware	pmed	1550	1650	1	1	0.9	MY
TGE	Tin-glazed earthenware	pmed	1550	1750	2	2	0.7	EA11

Table 03 - Ware types in the assemblage by sherd count, vessel count and weight. 'earliest date' and 'latest date' are the generic date ranges for these types in the database; they do not necessarily reflect the date ranges assigned to the pottery from this site. See the text for more specific dating

28 sherds from 27 vessels with a combined weight of 56.6g were found in trench 01, while 37 sherds from 36 vessels, with a combined weight of 61.3g were found in trench 02. A further two sherds, coming from two vessels and having a combined weight of 5.5g, were unstratified, having been found on the ground around the site, at some distance from the trenches.

The post-Roman pottery comes from a relatively limited range of identifiable sources, many of them located in the counties surrounding Leicestershire rather than from within Leicestershire itself. Some of the pottery could not be identified to source but the inclusions suggest a range of non-local (possibly South Lincolnshire) and local (possibly as yet unrecognised kilns in Leicestershire) sources.

Sherd sizes are generally small (ranging from 0.1g at the smallest to 11.5g at the largest) and abraded. Feature sherds (rims, bases, handles, decoration), which can assist in refining dating and attribution, are scarce. Identification of wares from small featureless and abraded body sherds can be difficult, and as a result not all sherds can be identified to production site or be dated with precision.

To aid visualisation of the pottery data each of the ware types shown in Table 03 were grouped into one of six broad period groupings for use in the following graphs and charts. These groups are Roman, Saxo-Norman, early medieval, medieval, post-medieval, and modern. The groups reflect broad changes in ceramic traditions and consumer habits,

rather than political or historical events (such as the Norman Conquest, or historical end of the medieval period). The wares assigned to each of the groups are shown in Table 04.

Roman	Saxo-Norman	Early Medieval	Medieval	post -medieval	Modern
AD43-410	c.L9th - 12th	c.1100 - 13th	13 th – mid 15 th century	Late 15 th – 18 th century	M18th-20th
GREY SAMIAN NVMO	ST TORKT SNEOT SNX	NSP PM EMLOC	NOTGL NOTGR MEDLOC MEDX	CIST BERTH BL MY TGE	

Table 04 - Approximate date ranges of chronological groups and division of ware type code names into those period groupings.

The groups provide an indication only of date: some of the Stamford wares are likely to be late Saxon while others are post-Conquest types that may be contemporary with at least some of the early medieval wares, for example, but the groups allow the data to be presented in a slightly simplified, but hopefully more informative, manner where a relatively small assemblage is concerned.

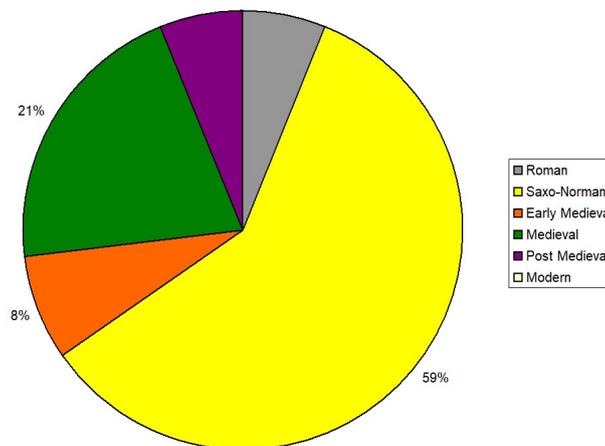


Figure 13 – the Welby assemblage by chronological period

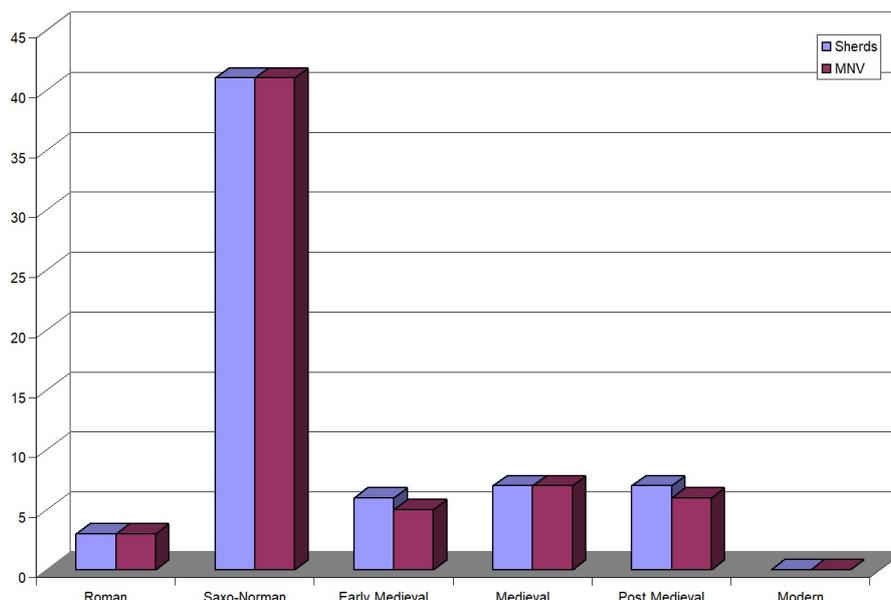


Figure 14 – sherd count and maximum vessel count for the Welby assemblage, displayed by chronological period. Y axis = number of sherds/vessels

Examining the data for the total assemblage as a whole, it can be seen that over half of the pottery (64% by sherd count, 59.2% by weight) can be classified as Saxo-Norman (Figure 13;

Figure 14). Roman pottery comprises 4.7% by sherd count and 6.1% by weight of the total assemblage; Early Medieval wares comprise 9.4% by count and 7.8% by weight; Medieval wares represent 10.9% by sherd count and 20.6% by weight; Post-Medieval pottery comprises 10.9% by number of sherds and 6.2% by weight, and no modern pottery was present.

As the bulk of the pottery recovered to date derives from disturbed horizons, the pottery is grouped by trench rather than by context for the purposes of this report, though of course the pottery will be considered by context in the final report on the excavations.

Condition:

The sherds range in condition from extremely fresh (the rim of a Stamford Ware spouted pitcher with collared rim from 108) to very abraded (e.g. EMX from 202 spit 3; Nottingham green glazed ware from 201). It is notable that the least abraded sherds tend to belong to the Saxo-Norman period (Figure 15; Figure 16): though many of the Stamford sherds belonging to this period are small, they are also consistently the freshest. This is despite the fact that many of them are soft, and the surfaces were found to be easily scored by even very gentle cleaning with soft-bristled brushes (the cleaning methodology was quickly modified to prevent this occurring once detected).

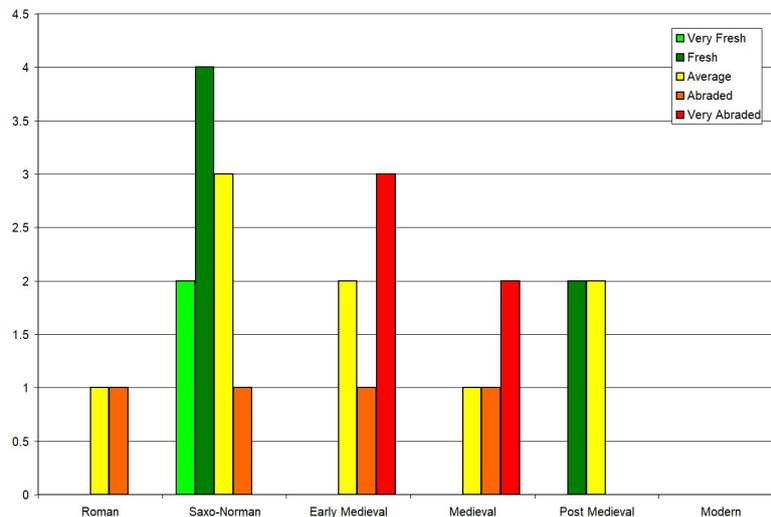


Figure 15 – condition of sherds by chronological period in trench 01

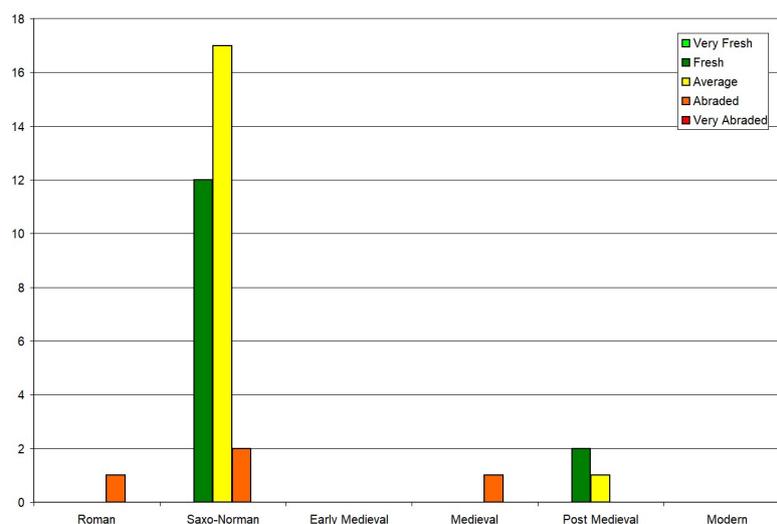


Figure 16 – condition of sherds by chronological period in trench 02

Overall, the assemblage shows significant bias towards smaller sherd sizes (Table 05). 44.8% of the assemblage by sherd count can be classified as ‘extremely small’ (1g or less), and a further 49.3% classified as ‘very small’ (more than 1g to 5g). Only 4.5% can be

classed as 'small' (over 5g to 10g) and just one sherd (1.5% of the assemblage by sherd count) was of medium size (10g to 20g).

SherdSize	NoOfSherds	NoOfVessels	%Sherds	%Vessels
Extremely Small	30	29	44.77612	43.93939
Very Small	33	33	49.25373	50
Small	3	3	4.477612	4.545455
Medium	1	1	1.492537	1.515152
Large	0	0	0	0
Totals:	67	65	100	100

Table 05 – total assemblage classified by sherd size.

The small size of most of the Stamford ware sherds, which in the case of many other pottery types would suggest significant disturbance of horizons, may be more due to the tendency of Stamford ware pots to shatter into very small pieces when broken (Mainman 1993, 584); a product of the often extremely thin walled vessels and fine fabric. Such extensive fragmentation of a Stamford ware assemblage as seen at Welby can therefore occur with only minimal disturbance, and need not indicate extensive re-working of deposits.

Cross context sherd links were sought but only very few were found; these primarily related to post-medieval wares and seemed to relate to breakage and movement of sherds into smaller and smaller fragments during cultivation. Based on differences in fabric, firing, and wall thickness, amongst a range of other factors, it appears that even amongst the Stamford wares the majority of vessels in the assemblage are represented by single sherds only.

Some of the softer sherds (for example the probable St Neots ware from 202) have surfaces that are very smooth to the touch, and have a noticeably shiny polish under magnification. Other sherds, such as the NOTGL jug from 202, have suffered complete erosion of all surfaces (inner and outer as well as the breaks), leaving the inclusions standing proud of the surface. It is likely that the polish, and the surface micro-erosion, is due to natural and biological processes during burial.

Iron staining is present on many of the sherds. This is caused by iron naturally present in the ground being deposited on the sherds following burial, rather than by any anthropogenic processes. A number of the Stamford sherds have been noticeably stained by such iron. It is also particularly notable in the case of sherds with calcareous inclusions that post-depositional iron staining may have significantly altered the original colour of the sherd, as well as staining the calcareous inclusions themselves, and/or lining the voids from which calcareous inclusions have been leached.

The calcareous inclusions originally present in shell, oolite and limestone tempered wares have mostly been leached during burial, by presumably acidic ground conditions. This has left voids within the fabrics in the shape of the former inclusions.

The Pottery:

TRENCH 01:

The pottery assemblage from trench 01 (Figure 17) is more mixed, chronologically, than that from trench 02 (Figure 18). In trench 01, the small Roman component, two sherds, makes up 7.7% by sherd count and 13% by weight of the total assemblage from the trench; Saxo-Norman wares comprise 38.5% by count and 40.3% by weight; Early Medieval wares make up 23.1% by count and 17% by weight; Medieval 15.4% by count and 19.7% by weight; and Post-Medieval sherds comprise 15.4% by count and 10% by weight.

Roman pottery includes sherds of Grey ware and (Upper?) Nene Valley Mortaria. The Saxo-Norman pottery is predominantly Stamford Ware (Table 06). The Stamford fabrics present are mainly fine types considered to belong to the peri- and post-Conquest period. A sherd of Torksey-type ware may belong to the pre-Conquest period. Early Medieval wares include Splashed ware, Potters Marston ware, and unsourced, possibly local, wares. None of the (high) medieval wares could be identified to source, but one sherd may be a Potterspurty type ware and, if so, the form would suggest a 15th century date. The post medieval wares, including Cistercian Ware, Brown Glazed Earthenware, Black Glazed Earthenware (Midland Blackware) and Tin Glazed Earthenware, were all located in contexts to the west of (i.e., outside) the enclosure bank, a phenomenon also noted with the clay tobacco pipe fragments.

This may indicate that the enclosure bank formed a persistent land boundary and that the land to the west of (outside) the enclosure saw activity, including the spreading of waste, probably in manure, and arable cultivation, in the post medieval period up to the 18th century, while that to the east (inside the enclosure) did not.

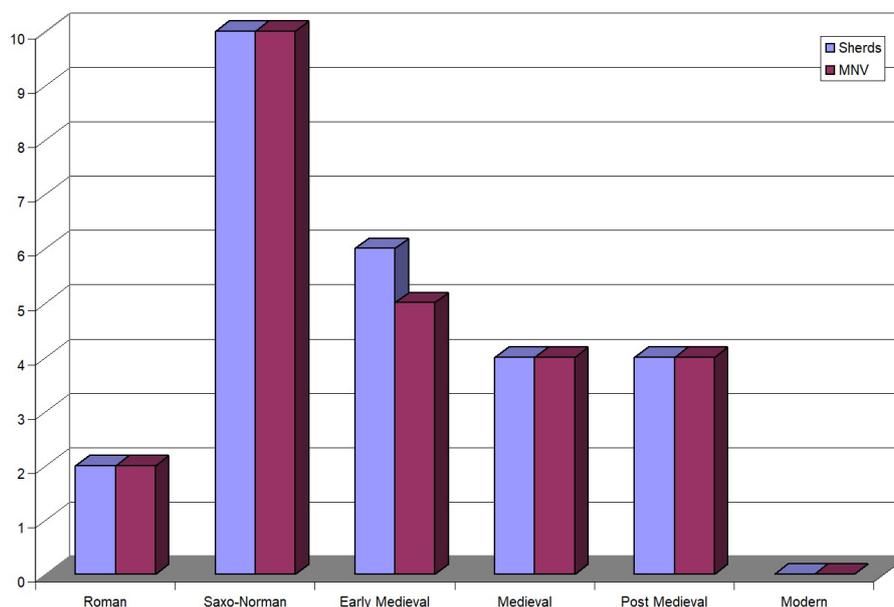


Figure 17 – sherd count and maximum vessel count in Trench 01 displayed by chronological period

Cname	full name	Period	earliest date	latest date	total sherds	total vessels	total weight
GREY	Romano-British greywares	Rom	40	400	1	1	2.3
NVMO	Nene Valley Mortaria	Ro	110	400	1	1	5
TORKT	Torksey-type ware	Lsax	850	1100	1	1	1.4
ST	Stamford Ware	Lsax-emed	970	1200	9	9	21.1
NSP	Nottingham Splashed ware	emed	1100	1250	2	1	1
PM	Potters Marston Ware	emed	1100	1300	1	1	0.9
EMLOC	Local Early Medieval fabrics	emed	1150	1230	3	3	7.6
MEDLOC	Medieval local fabrics	Med	1150	1450	2	2	3.1
MEDX	Non Local Medieval Fabrics	Med	1150	1450	2	2	7.9
CIST	Cistercian-type ware	pmed	1480	1650	2	2	2.6
BERTH	Brown glazed earthenware	pmed	1550	1800	1	1	0.7
BL	Black-glazed wares	pmed	1550	1750	1	1	2.3
TGE	Tin-glazed earthenware	pmed	1550	1750	2	2	0.7

Table 06 – ware types present in Trench 01

TRENCH 02:

In trench 02, the vast majority of the assemblage (86% by sherd count, 82.4% by weight) is datable to the Saxo-Norman period (Figure 18). The ware types present in this trench (Table 07) include a tiny flake of Samian ware from the Roman period (which makes up 2.8% of the assemblage by count, 0.2% by weight). The Stamford ware includes a mixture of fabrics, with some sandy fabrics of Early Stamford Ware likely to be pre-Conquest in date, together with a range of finer fabrics of peri- or post-Conquest date. Other Saxo-Norman wares include part of the rim of an turned rim bowl in probable St Neots type ware, and a quartz and oolite tempered ware of unknown, but possibly South Lincolnshire, origin. No wares were positively identified as belonging to the early medieval period, while the single medieval sherd (2.8% by count, 14.2% by weight) was a large piece from the body of a jug probably made in Nottingham. The three sherds of Post-Medieval pottery comprised 8.3% by count and 3.2% by weight of the assemblage from the trench and included two sherds from a single Brown Glazed Earthenware vessel and a rim of Midlands Yellow ware.

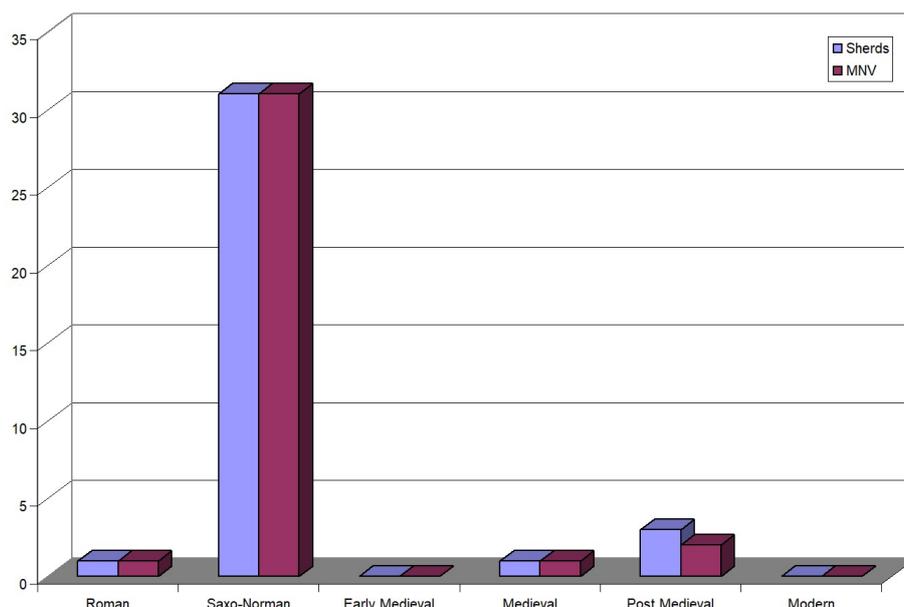


Figure 18 – sherd count and maximum vessel count in Trench 02 displayed by chronological period

cname	full name	period	earliest date	latest date	total sherds	total vessels	total weight
SAMIAN	Samian ware	rom	40	250	1	1	0.1
SNEOT	St Neots-type ware	sn-emed	870	1200	1	1	1.5
SNX	Non-local Saxo-Norman Fabrics	sn	870	1150	1	1	2.8
ST	Stamford Ware	lsax-emed	970	1200	30	30	46.5
NOTGL	Light Bodied Nottingham Green Glazed ware	med	1220	1320	1	1	8.5
BERTH	Brown glazed earthenware	pmed	1550	1800	2	1	1
MY	Midlands Yellow ware	pmed	1550	1650	1	1	0.9

Table 07 – ware types present in Trench 02

The ceramic assemblage from both trenches combined is discussed in more detail below, by ceramic period:

Roman:

The Roman assemblage is diverse and somewhat unusual in composition (utilitarian grey wares are usually numerically dominant in typical East Midlands Roman assemblages), though this may be the product of the small sample size. Only a single body sherd of grey ware (Lei GW) was present, from context 109; it has a soft, relatively fine to medium sandy fabric, and comes from a closed form (jar, flagon etc). A flake of Terra Sigillata (Samian) from 202 is very small and abraded but under magnification still has traces of the glossy red surface slip as well as a raised moulded line, indicating the flake came from a decorated vessel, though further details of vessel form and decoration cannot be distinguished. The inclusions suggest it may be from a Southern Gaulish source, in which case it is likely to be mid 1st - 2nd century. A wall sherd of mortaria with sub-angular iron (and possibly quartz) trituration grits from context 104 is a Nene Valley product (Lei MO6); the relatively coarse fabric with common, poorly-sorted, rounded, clear and white quartz, ranging up to 0.6mm, as well as the iron and quartz trituration grits suggests it may be an Upper Nene Valley vessel (NRFC: UNV WH). Upper Nene Valley mortaria are confined to the 2nd century.

If the Roman sherds were contemporary then all would fit within a 2nd century date bracket. However, as they are all residual in layers belonging to later periods they could alternatively represent individual pots of varying dates which just happen to have date ranges that overlap in the 2nd century.

Saxo-Norman:

STAMFORD WARE (EST AND ST; LEI ST3; ST2; ST1):

Potting at Stamford, South Lincolnshire (c.33km SE of Welby), began in the second half of the 9th century. The industry was one of several established in what became the Danelaw by immigrant potters from Continental Europe. The industries established by these immigrants were, in many cases, long lived, and had a significant impact on the pottery industries of the region (Perry 2019, 2). The industries set up by these potters were amongst the first in Britain since the Roman period to use the potter's wheel, glaze, and specially constructed kilns to fire the pots. The potters of Stamford had a major influence on the glazed ware industries of the East Midlands up to the 13th century.

While the Stamford industry started in the 9th century it initially seems to have served only the area local to the kilns, and Stamford products were not distributed more widely until the 10th century (Kilmurry 1980, 131-3). It was not until the 11th century that Stamford wares began to reach Nottingham in any quantity (Nailor and Young 2001). The Stamford potters are likely to have been the main suppliers of glazed wares to Leicester and Leicestershire throughout the 11th and 12th centuries (Sawday 1989, 36). The end of production at Stamford is conventionally dated to some time around the middle of the 13th century (Kilmurry 1980, 198), however, a complete lack of evolution in the Developed Stamford ware products might suggest production had ceased by the late 12th / early 13th century (J Young pers comm).

While Stamford was home to a long-lived industry that spanned historical events such as the Norman Conquest, over time the range of forms produced at Stamford, along with the fabrics from which they were made, changed.

Some of the earlier finds of Stamford ware from Leicester were published as 'St Neots type ware' (Dunning 1948, 221) after an important site where they were first recognised, but the industry soon acquired the epithet 'Stamford ware' (Dunning 1956) after the place of production. The fabrics were first defined by Mahaney (1982, 56). Mahaney's fabric groups were subsequently expanded and revised by Kilmurry, who also summarised what was known of the industry at the time and produced a detailed system of classification for its products (Kilmurry 1980). Kilmurry's fabrics, which proved difficult to apply in practice, were revised by Leach (1987). Fabric groupings and dating used in this report are based on Leach's revisions of Kilmurry's fabrics, and the revised dating for Stamford ware from Lincoln (Young, Vince and Nailor 2005, 93-7; 120-1) and Nottingham (Nailor and Young 2001). The Stamford products are broken down into three ware types: Early Stamford Ware (EST, Young Vince and Nailor 2005) refers to early vessels in Kilmurry fabrics E, F, H and D, A/D, and (coarse) A: these are likely to be equivalent to Leicestershire code ST3; Stamford ware (ST) is used for Mahaney's fine wares (fine) A, G and B, probably equivalent to Leicestershire code ST2; Developed Stamford Ware (DST) is used for 12th and 13th century products of the industry in Kilmurry fabrics B and C with a copper enhanced glaze, probably equivalent to Leicestershire code ST1. No Developed Stamford ware was present at Welby.

Stamford was not the only centre producing Stamford-type ware; recent excavations at Pontefract in Yorkshire have revealed kilns producing Stamford type ware (Cumberpatch et al 2013). In terms of the fabrics and forms, based on the typologies established through decades of research on well stratified assemblages in towns, the Pontefract Stamford type should be of post-Conquest date, but the scientific dating methods indicated a late Saxon date for the kiln: this discrepancy has not yet been satisfactorily resolved (Cumberpatch et al 2013, 146-7).

A ware with fabrics and to some extent forms very similar to Early Stamford ware was also produced in a late Saxon kiln or kilns at Horsemarket, Northampton (McCarthy 1979, 158).

Further production centres may remain to be discovered: the high quantities of Stamford type ware found in Derbyshire and Nottinghamshire could indicate a production centre somewhere in the area (Cumberpatch 2012, 101; Cumberpatch et al 2013, 145). While this putative production centre has yet to be located, the earlier products of the medieval potters of Ticknall in South Derbyshire show strong Stamford influence, with vessel forms and details of rims etc., being very similar to Stamford products, though made in local clays that contain coarser quartz than contemporary Stamford products (Budge 2017, 133). Certainly, Stamford potters appear to have set up daughter industries in other towns: the Pontefract Stamford industry may have been set up by a Stamford potter (Cumberpatch et al 2013, 146); a Stamford potter moved to Nottingham in the 12th century (Nottingham Developed Stamford

Type, Nailor and Young 2001), and there are tentative hints that a local copy of Developed Stamford ware may have been made in the Chesterfield / Brackenfield area of Derbyshire (Budge 2017b, 20), perhaps marking the origin of the medieval Brackenfield industry. Kilmurry also proposed that a decorated micaceous ware 'from Leicester' was made by an industry started by a Stamford potter (Kilmurry 1980, 200)

As such, while the pottery from Welby is described here as Stamford ware and while, under magnification, many of the fabrics match specimens of Stamford Ware from production sites in Stamford in the MAS ceramic type series, there is the possibility that some or all of the Stamford ware recorded here may not have been made in Stamford itself. This said, purely on distance, Pontefract seems an unlikely source; the Welby sherds are, in the main, later than the production period of Northampton ware and none of the diagnostic elements of form, particularly of the lower body and base that can distinguish Northampton products from Stamford, are present in the Welby assemblage. Similarly, neither Stamford, Chesterfield or Nottingham Developed Stamford type fabrics are represented at Welby, and none of the Welby Stamford fabrics are as coarse as the fabrics so far found/made in Ticknall in Stamford forms. As such, a source in Stamford itself is most likely for the Welby sherds, but without chemical analysis this cannot, at present, be proven.

A total of 9 sherds from maximum 9 vessels from trench 01, and 30 sherds from a maximum of 30 vessels from trench 02 were recorded as Stamford Ware, though several of these, in coarser fabrics of A and A/D will probably be re-classified as Early Stamford Ware in the final report once comparison with type sherds of these early wares is possible. No Developed Stamford ware was present. Individual Leach fabric types are recorded on the database, though no statistics based on fabric type have been produced for this interim report.

As the Stamford ware was not, in the main, recovered from secure contexts, the material is dated based upon individual pieces, and on consideration of the assemblage as an undifferentiated whole. With groups of Stamford ware from secure contexts it can be possible to refine dating based on the proportions of different fabrics present (e.g. Young and Vince 2005, 93) and it is likely, and hoped, that the provisional dating suggested here will be refined following further excavation on the site.

Trench 01: On the whole the fabrics are fine, with only a few coarser sherds. The fine fabrics are generally, however, a bit coarser, with more common quartz, than Kilmurry's fabric B as represented at the Pantiles site in Stamford. No examples of fabric C were identified. The impression of a post-mid/late 11th century date for the assemblage derived from the fine fabrics seems corroborated by the identifiable forms: a fragment of the rim of a collared jar (Kilmurry 1980 form 4) came from context 108; form 4 is considered to be an introduction of the third quarter of the 11th century (Kilmurry 1980, 130). A very fresh and unabraded rim of a spouted pitcher (Kilmurry 1980 form 5) with thin yellow glaze spots also from context 108 (Figure 19:b) is again of collared type, datable between the mid/late 11th to mid 12th century (Young and Vince 2005, 93).

The three sherds of Stamford ware from context 112 spit 3, identified as being one each in fabrics B; A and G, include one of the larger sherds of Stamford ware recovered in the excavations at 8.8g; this sherd is in fresh condition. Tentatively it can be suggested, based on their depth, that these sherds may be stratified within the makeup of the bank forming the back of the village toft: if this is proven to be the case by further excavation it would suggest that the bank may have been constructed around, or after, the mid/late 11th to mid 12th century,

Trench 02: This assemblage appears more mixed, comprising on one hand more sherds and more identifiable individual vessels, and on the other, a wider chronology. From 202 the rim of a bowl of Kilmurry form 1, in fabric A/D, has diamond roller stamping around the upper surface of the rim (Figure 19:a). It is the largest single sherd recovered in the excavations, at 11.5g, though it is slightly abraded. Straight sided bowls of Form 1 were introduced in the late 10th century (Kilmurry 1980, 130) and were particularly popular in the 11th century, as is diamond roller stamping on the rim: overall this vessel is probably 11th century in date and may be pre-Conquest. Of the other sherds, most were quite fine but coarser than a 'classic' fabric B as represented by the Pantiles production group. Vessels in fabrics A, G and A/B were noted. Without further chronologically diagnostic features in the group it is difficult to take the dating further at present, but a tentative 11th century date is possible.

Overall the Stamford ware assemblage could be taken, when considered independently of context, to indicate a peri- to post-Conquest date range, with the earlier material particularly present in trench 02. At present it is not possible to be certain whether the earlier fabrics and forms definitely relate to pre-Conquest activity, or if they are vessels that remained in production after the Conquest (e.g. Young and Vince 2005, 93).

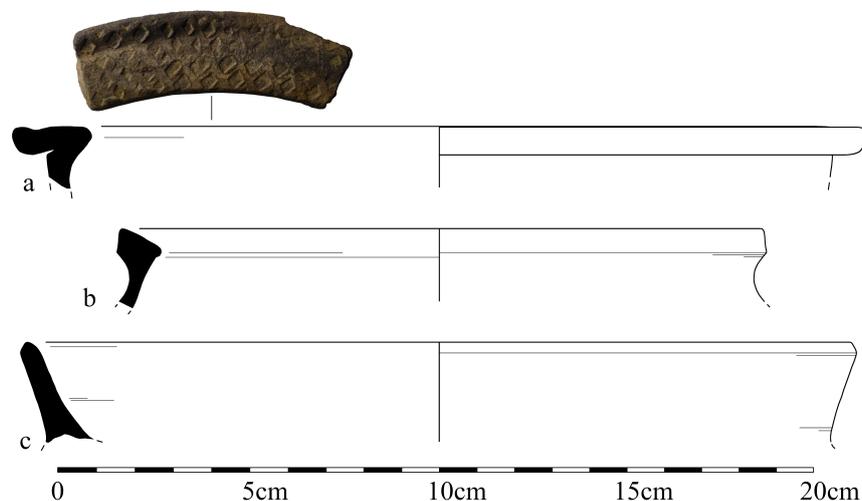


Figure 19 – pottery from excavations at Welby.

a) Early Stamford ware rim with roller stamped decoration from context 202. b) Stamford ware spouted pitcher from context 108. This vessel has a small fragment of clay on the outside edge of the rim where one of the handles was attached, though this was too fragmentary to illustrate. c) Collar from ?Potterspury ware jar from context 109.

TORKSEY-TYPE WARE (TORKT; LEI TO)

One of the new, late Saxon, wheel thrown pottery industries of the later 9th century was established at Torksey, Lincolnshire (Barley 1964; Barley 1981; Hadley and Richards 2016, fig 30; Perry 2016, 74), c.60km N of Welby. Production of Torksey type wares was also carried on from the late 10th century at Newark on Trent in Nottinghamshire, c.34km N of Welby, where a daughter industry seems to have been established by a Torksey potter or potters (Perry 2019). It has been suggested that the Vikings may have been a factor in the initial establishment of the industry: while Torksey ware was not present in the winter camp of the Viking Great Army at Torksey, occupied 872-3 (Hadley and Richards 2016, 62), the continental potters who set up the industry may have arrived in the retinue of Vikings not long after the over-wintering (Perry 2016, 106). Torksey wares first appear on consumer sites such as Lincoln and York in the second half of the 9th century (Young and Vince 2005, 90; Perry 2016, 77). Production ended at or around the time of the Norman Conquest and Torksey products are residual in both Lincoln and York by the late 11th century (Young and Vince 2005, 90; Perry 2016, 77). Torksey reached the peak of production, and distribution, in the second half of the 10th and first half of the 11th century when, for example, it became the main type in York (Mainman and Jenner 2013, 1174); in Lincoln Torksey ware became one of the main ware types from the late 10th century (Young and Vince 2005, 14-6).

A body sherd from context 108 is visually indistinguishable from Torksey products. The sherd displays the typical 'sandwich' firing pattern of dark grey core, brown margins and very dark grey surfaces typical of Torksey (Young and Vince 2005, 88; Perry 2016, fig 2e). The fabric is very similar to Torksey products, though slight uncertainty, resulting in classification as a possible Torksey type, rather than an actual Torksey product, is due to the quartz size distribution being biased towards a slightly smaller range than in the MAS type sherds of Torksey ware. However, the inclusion types, shape, and overall size range, are as Torksey products.

However, in Leicestershire, Torksey-type wares are considered to continue in use throughout the 12th century, ending c.1200 (Sawday 1989, 28; Davies and Sawday 2004, 86). A Newark or Torksey source is therefore impossible for these post-Conquest examples. Suggestions of an East Anglian (Sawday 1989, 28) or more local (perhaps Leicestershire) (Davies and Sawday 1999, 166) source have been made, and in this context it may be noted that one of the Lincolnshire Early Medieval Handmade Fabrics, possibly made in South

Lincolnshire between c.11th to 13th centuries, is visually very similar to Torksey ware (EMHM fabric T, Young and Vince 2005, 122). As there does not appear to be a published fabric description of the Leicester Torksey type available, and as the Welby sherd is too small to determine its method of manufacture, until direct comparison with the Leicester Torksey types or scientific analysis (thin section or ICPS) of the Welby Torksey type ware is undertaken, the sherd has been classified as a Torksey-type ware. This, at present, must be considered to come from an unknown source and may potentially be of pre- or post-Norman Conquest date, rather than being a product of the Torksey industries, in which case it could be taken as an indicator of pre-Conquest activity on the site.

NON-LOCAL SAXO-NORMAN TYPES SNX (?ST NEOTS AND ?SOUTH LINCOLNSHIRE OR RUTLAND QUARTZ AND OOLITE; LEI SN; OL/CG?)

Two sherds, both from trench 02 context 202, originally had calcareous inclusions, but these have leached out during burial.

The base of a ?jar or bowl from 202 is in a leached calcareous and quartz tempered fabric. The thin-walled but relatively large diameter vessel is fully knife trimmed on the exterior base and lower walls. The vessel is mostly unoxidised (black) with some patchy oxidation (brown) on the exterior underside of the base. The fabric features common rounded, sometimes slightly oval, voids from 0.5-1mm and less common larger sub-angular voids to 3mm. The shape indicates that these most likely once contained ooliths and limestone fragments respectively, but these have leached out during burial. The fabric also contains abundant sub-angular to sub-rounded quartz ranging from 0.1mm to 0.4mm, with rare well rounded frosted quartz up to 0.8mm and sparse sub-angular polycrystalline clear quartz up to 1.5mm. Sparse iron rich clay pellets or possibly grog up to 1.5mm are also present. The angular quartz grains give the fabric a sparkly appearance.

The fabric, thin walls, extensive knife trimming, and general character of this sherd indicate the vessel is of Saxo-Norman or early medieval date. Several different types of Saxo-Norman and Early Medieval wares with combined oolite and quartz inclusions are known or suspected products of potters in South Lincolnshire and Rutland (Young and Rowlandson 2015, 127-8); these different ware types have slightly different start and end dates and further research is required to identify which of these industries the vessel in question belongs to.

A sherd from 202 spit 3 appears to be part of the rim of an inturned rim bowl. The fabric is leached and probably heavily iron stained. The sherd has a soapy texture and abundant poorly sorted elongate voids, probably once containing fossil shell. These are from c.0.1mm up to 3mm. Under magnification on a fresh break one of these voids could be seen to have argillaceous 'strings' running perpendicular to the main axis of the void, spaced at regular intervals. The spacing of the strings, their size, and orientation, suggests a fossil bryozoa has leached from this void. Sparse, poorly-sorted sub-angular clear quartz up to 0.75mm is also present. Fossil bryozoa are frequently encountered in St Neots wares and may be diagnostic (McCarthy 1979, 156; Young and Vince 2005, 97).

Both the vessel form and what can be distinguished of the fabric suggest this vessel is probably a St Neots type ware. St Neots type ware has a core distribution around Northamptonshire, Bedfordshire and Cambridgeshire (Hunter 1979, 232). In the heartland, for example at Northampton, St Neots type wares probably appear in the late 9th or early 10th century and might merge into post-Conquest calcareous wares by c.1100, though how long after the Conquest they survived is unclear (McCarthy 1979, 156); the ware experienced significant expansion of distribution in the 11th century, becoming a major type in the early 11th century at Oxford and falling out of use there around the middle of the 11th century (Mellor 1994, 54). St Neots type wares also occur in Lincoln at around the same time, being found in 11th century or later contexts (Young and Vince 2005, 97). It is most likely that the vessel from Welby is similarly of 11th century date.

Early Medieval:

SPLASHED WARE (?NSP; LEI ?SP1):

Two tiny sherds of splashed ware were recovered from context 108 in trench 01. They were found in close proximity and were almost certainly part of the same sherd but do not join: one had mud on all breaks but the other has fresh breaks on two sides with no joining sherds. The latter indicates breakage during excavation and that the missing sherds were probably less

than 10mm across, the mesh size of the sieves used, while the former probably suggests post-depositional breakage resulting from pressure on overlying deposits.

The Splashed Ware fabric at Welby is identical to the fabric of splashed wares found at Kirby Bellars (Hurst 1967-8, 15), 2.7km to the SSW of Welby. Hurst described that as being of 'Nottingham type' (Hurst 1967-8, 15) though it is not necessarily of Nottingham origin. However, Nottingham splashed wares were widely distributed (e.g. Young and Vince 2005, 127) and the fabric is very similar to the later sandy splashed wares made in Nottingham from the late 12th to c.mid 13th century, suggesting the most likely date range for the Welby sherd.

POTTERS MARSTON WARE (PM; LEI PM):

Production of pottery at the shrunken settlement of Potters Marston, c.8 miles SW of Leicester, is believed to have taken place between c.1100 and the mid/late 13th or early 14th century (Hayes 1952; Sawday 1991a, 34; Davies and Sawday 1999, 172). The fabric is distinctive, containing igneous inclusions of syenite that outcrop near to the production site (Vince 1984, 38-9). It is reported that there does not seem to be any change in fabric over the whole span of production, with closer dating generally only possible by form. The ware has a wide distribution, though is often considered to have been squeezed out of the market by Northamptonshire or South Lincolnshire shell tempered wares in the east of the county (Sawday 1991b, 95).

The single body sherd of Potters Marston ware, from 108, is small (weight 0.9g). It has a very dark grey / black (un-oxidised) fabric with an oxidised outer margin and surface. The dark colour is likely the result of un-burnt carbon in the fabric rather than reduced iron, and indicates either a short firing time or one with insufficient oxygen available to burn this carbon out (Gibson 2002, 45-7). Such firing is typical of production in a bonfire firing and may indicate a pre-13th century date; most material from the excavated 13th century kiln at Potters Marston was fully oxidised, while the earlier bonfire fired vessels tended to show more evidence of 'reduction' (Davies and Sawday 1999, 172) which, from the description, is more likely to be un-burnt carbon from a short bonfire firing rather than reduced iron.

WARES FROM UNKNOWN SOURCES (EMLOC; LEI ?):

EMLOC from 102 spit 2 has a 'sandwich' firing pattern reminiscent of Late Saxon Torksey ware and seen after the Norman Conquest on other reduced sand tempered wares such as that defined as Early Medieval Hand Made ware (EMHM fabric T) in Lincolnshire (Young and Vince 2005, 122). The ware is particularly common on sites in south Lincolnshire, so the presence of such a ware in this part of Leicestershire would not be surprising. The production site or sites for the EMHM fabrics are unknown, though Bourne in South Lincolnshire may have been involved (Young and Vince 2005, 121). There is insufficient of the Welby sherd surviving to determine the method of manufacture, so identification of this sherd is uncertain for now, though an Early Medieval dating is most appropriate.

Medieval:

NOTTINGHAM WARES (NOTGL; NOTGR; LEI NO?):

In the 13th century a range of suspension glazed vessels replaced the Splashed Wares as the main glazed products of the Nottingham potters. Several different ware types can be distinguished and these were produced at different, though often overlapping, periods by the town's potters (Nailor and Young 2001).

Two sherds from Welby were identified as coming from two different vessels of Nottingham type. In both cases the fabric and form is very similar to Nottingham products, but the presence of a lump of ?ironstone in one is atypical and may indicate it was not made in Nottingham itself.

A sherd from the lower body of a Nottingham Light Bodied Green Glazed ware jug was found in context 201. At 8.5g it is one of the larger sherds recovered in the excavation, though the surfaces and breaks are all very abraded.

A sherd of a Nottingham Reduced Green Glazed ware jug was found unstratified on the banks of a stream channel leading to the post-medieval pond west of the rectilinear enclosure (Figure 10:D). While the fabric, firing and glazing is generally very similar to Nottingham products, the presence of a large lump of ironstone might suggest the vessel was not manufactured in Nottingham. This sherd is very abraded, and its condition suggests it

probably reached the find spot in manure, probably brought from Welby and spread on the agricultural land. While conclusions based on a single sherd must be regarded as tenuous, this may suggest that the ridge and furrow earthworks visible on LiDAR in this location were in cultivation by the c.14th century.

BOURNE / BASTON TYPE (MEDLOC; LEI BO):

Bourne type wares are the main medieval pottery type in South Lincolnshire (Precious O'Neil and Young 2003, 24), and achieved distribution into the surrounding regions. The type is known to have been produced at Bourne (Healey 1968 108-9), 37km E of Welby, and at Baston (Precious, O'Neil and Young 2003, 21-4), c.6km south of Bourne. Potting may have initially begun at Baston in the early to mid 13th century (Precious, O'Neil and Young 2003, 24) and is conventionally dated from the late 13th century at Bourne (Healey 1968, 109). Fabric D may be a later product of the industry, with production at Bourne documented into the 17th century (Healey 1968, 109).

An oxidised sandy ware classified as a MEDLOC in the database may be a Bourne type ware. The inclusions are very similar to samples of Bourne type wares and a South Lincolnshire Baston Type Oxidised Ware kindly supplied by Jane Young held in the MAS CTS, but none of these sherds provide an exact match for the Welby sherd. Further research is required but it seems probable that this sherd may be a Bourne type ware: at the least it was probably manufactured in South Lincolnshire.

UNSOURCED MEDIEVAL WARES (MEDLOC; LEI OS?):

A sherd classified as MEDLOC from 108 spit 2 is an oxidised sandy ware (Lei OS). The form is uncertain, as is the source. Moderate quantities of sub-rounded unidentified rock fragments up to 1.5mm indicate a source in Nottinghamshire and possibly South Lincolnshire are unlikely; manufacture somewhere in Leicestershire or perhaps to the south is possible, but further comment is reserved until the Leicestershire CTS has been consulted. The same can be said about a very abraded sherd from 100; an oxidised brown sandy ware from unknown source: it may be of early medieval or medieval date.

A sherd found on a fence post (!) by the gate to the field is likely to have been churned up by cattle, though none of the excavation team admitted to having placed it there. It is likely from a bowl, with internal and external suspension glaze. It has oxidation and glaze over one of the breaks, suggesting that it was likely a 'second', in modern terms, though if such a firing flaw had no effect on the utility of the vessel it is unlikely it would have been considered a 'second' in the medieval period. The inclusions in the predominantly reduced medium sandy fabric share some similarities with the products of the Bourne and Baston pottery industries in South Lincolnshire, though the abundant very iron rich ?clay pellets are atypical of sample sherds from Bourne and Baston in the MAS reference collection. The abundant iron may suggest a relatively local product, and indeed the place name 'Potter Hill' close to Welby has been highlighted as potentially indicating a medieval pottery production site (MLE3343). However, the presence of known regional pottery types 'imported' to Welby throughout the medieval period may argue against local production – a local potter's products might be expected to be dominant in the nearby settlements during the period they were active. It is also, at least in the medieval period, often the case that 'potter' in place names may refer to the casters of metal (copper alloy) vessels and even bells, rather than the makers of ceramic vessels (LePatourel 1968, 102). As excavation proceeds, providing medieval deposits are encountered, it should be possible to test the possibility of local ceramic production further.

MISCELLANEOUS (?POTTERSPURY TYPE WARE? MEDLOC; LEI ?):

A wheel thrown, possibly folded, flange or collar from context 109 (Figure 19:c) is in a light firing (very light brown) fabric with common clear sub-angular quartz under c.0.15mm; sparse rounded to sub-rounded clear quartz, occasionally iron stained, up to 0.6mm; moderate rounded red ?clay pellets, with fine quartz inclusions, to 1mm; and sparse white clay pellets to 1mm, also silty.

At first sight this sherd appears to be a fairly typical flange from a Roman flanged bowl or dish, such as the form Dr38 copies popular in the later Roman period though in an unusual fabric; or a colour coated ware which has lost all traces of surface slip. However, the way the piece has broken off, which reflects the way the vessel was manufactured (the flange

appears to be formed by drawing out the wall of the vessel and folding it back in on itself, or perhaps is separately applied), is atypical of such Roman vessels, and more critically the angle of the piece, together with what survives of the walls either side of the flange, are at the wrong angles for most Roman flanged vessels. The sherd is more likely to come from a near vertical collar, set outside the vessel rim, such as those present on jars in Potterspurry ware (McCarthy 1979, 162; nos 670; 386; 387; 410; Jope 1948, fig 11;2;3). In the referenced vessels the flange is formed by drawing out the vessel wall before folding it down on itself, which patterns in the fractures of the Welby sherd suggest might have been the case with this vessel. External flanges like these could simply have been intended to provide a secure lid seating for general (?cooking) use, but similar flanges are also seen on industrial bases, used with an alembic in the distilling process (Moorhouse 1972, 104; fig 32).

Potterspurry wares were produced at the village of the same name, and surrounding settlements, in Northamptonshire (McCarthy and Brooks 1988, 432). Potterspurry is located south of Northampton, c.78km S of Welby. Potterspurry type wares, apparently having very similar fabrics and forms to actual Potterspurry products, were also made by potters working in the industries at Stanion and Lyveden, whose main products were shell and oolite tempered wares (Blinkhorn 2010, 300). Stanion, near Corby in Northamptonshire, is c.39km south east of Welby. The dating of Potterspurry wares is broadly 1250-1500 (McCarthy et al 1979, 162); flanged vessels more specifically seem to be later, belonging to the late 14th and 15th centuries (Jope 1949, 78; McCarthy et al 1979, 189).

Blinkhorn noted that Potterspurry 'fabric types cannot be defined' but that 'all vessels contained very fine clear quartz' (Blinkhorn 2010, 301); other descriptions of the ware include 'hard, smooth texture and fracture' and colour which ranges to 'very pale brown' (McCarthy 1979, 162) as well as a fabric that is 'smooth to slightly sandy' (McCarthy and Brooks 1988, 432). As such, a Potterspurry origin is possible on grounds of both form and fabric. However, there are no Potterspurry sherds in the MAS type series, so at present it is not possible to confirm the identification on fabric grounds. A search of the index of TLAHS does not reveal any published occurrences of Potterspurry wares in Leicestershire and it is not known if Potterspurry wares are amongst the pottery reaching Leicestershire markets by normal means. Given the distance between Welby and Potterspurry normal trade is, perhaps, unlikely (though transfer of products between manors held by a single landowner can account for distant oddities). However, Stanion/Lyveden wares do occur with frequency in Leicestershire, and as such it may well be possible for the Stanion/Lyveden Potterspurry-type wares also to have made their way into Leicestershire as a result of normal trade. Further research should hopefully resolve the matter.

Late/Post Medieval:

CISTERCIAN WARE (CIST; LEI CW):

Cistercian ware represents a new ceramic tradition that appears to have sprung up, fully formed, at a number of potting centres in the Midlands and north of England in the late 15th century. It is so named as a result of having first been recognised by archaeologists during excavation of Cistercian monastic sites, but it is now known it was not produced by the Cistercians, though the name has been retained. Cistercian ware is a fine ware, often glazed internally and externally, and was used predominantly for drinking vessels, though chafing dishes, costrels, salts and other vessels were produced. The sudden widespread take-up of ceramic drinking vessels in Cistercian ware seems to represent a new fashion for drinking from ceramic cups, rather than the wooden, metal and glass vessels previously favoured.

Cistercian ware was produced in Ticknall, South Derbyshire (Spavold and Brown 2015, Boyle 2002/3, 113) alongside coarse Midlands Purple wares, but also Chilvers Coton (Warwickshire) (Mayes and Scott 1984, 40), Wrenthorpe (Wakefield) (Moorhouse and Roberts 1992), possibly north Staffordshire (Barker 1986, 53), and a variety of other locations. Wasters, for example, have been found in Doncaster (Peter Robinson, Curator, Doncaster Museum pers comm) and possibly in Nottingham (Nailor and Young 2001) as well as at Grantham / Bottesford (Boyle and Young 2009, np), though in all the latter three cases definite evidence of production, such as kilns, have not yet been located. In this part of Leicestershire it is highly likely that the Cistercian ware will have been manufactured in Ticknall: the Midlands Purple ware found in fieldwalking around Welby (Leicestershire Museums Accession number A151-1985-2) is all fabrics and forms produced in Ticknall and it is most likely that the Cistercian ware has come from the same source.

A single sherd of Cistercian Ware came from trench 01, context 109. It has an external cordon that is of rectangular section. It is probably from a drinking vessel or jug.

MIDLANDS YELLOW WARE (MY; LEI MY):

Midlands Yellow ware was made in some of the same centres as Cistercian Ware, including Ticknall and Wrenthorpe. It has a fine, iron-poor fabric that is usually covered with a lead suspension glaze: when fired in an oxidising atmosphere it has a yellow colour; when reduced, pale green to light grey. As well as drinking vessels, chamber pots and a range of dishes, bowls and other vessels were produced (Woodfield 1966).

A single sherd of Midlands Yellow ware was found in trench 02, spit 1 of context 202. The rim sherd of simple upright form is from a vessel of Woodfield's type I (Beakers) or K (Handled Dishes with Vertical Sides) (Woodfield 1984). It is likely to be of 17th century date.

During the initial site reconnaissance and geophysical survey in 2019 an additional sherd of Midlands Yellow ware was discovered on the surface in an eroded patch of soil to the east of the pond Figure 10:D. It is a body sherd from a hollow vessel, possibly a jar or chamber pot. It is not included in the statistics or recorded on the database. The soil it was found in appeared to have been dumped on top of the earthworks of ridge and furrow in this area (Figure 10:B) at some point, probably during post medieval or modern enlarging or cleaning of pond Figure 10:D, and the finds within it (MY body sherd and the base of a 'black' glass bottle (see below)) probably derive from manuring of the land parcel immediately to the west of the rectilinear enclosure.

BLACK GLAZED EARTHENWARE (BL; LEI ?EA6):

In the 17th century refinements in firing and glazing, as well as the introduction of new forms lead Cistercian ware to evolve into black glazed earthenware, sometimes known as Midlands Blackware. Production was at many of the same centres as Cistercian ware, particularly Ticknall.

A single sherd of BL drinking cup, with horizontal incised groove, was found in context 109. It is of typical 'Midlands Black' type, though the sherd was too small for the exact cup form to be determined. It is broadly of mid 17th – 18th century date.

BROWN GLAZED EARTHENWARE (BERTH; LEI EA1 OR EA2?):

Brown glazed earthenware was essentially the coarseware successor to Midlands Purple ware: similar large vessels (such as large bowls and jars) were produced from the 17th century onwards at regional potting centres, including Ticknall in South Derbyshire. In contrast to Midlands Purple wares, they have a typically oxidised (orange or red) fabric often made of a mixture of two or more unrefined clays, giving a generally coarse appearance to the clay in section, but with the inclusions usually comprising coarse clay pellets, iron rich grains and pellets, streaks of iron-poor and iron-rich clay, and sometimes quartz.

BERTH may have an iron-rich slip under the lead glaze, intended to produce a darker glaze colour both by giving a darker background and by providing a source of iron to leach into the glaze and colour it (e.g. Barker 1986, 61 - 62). Forms are predominantly large bowls, known locally as pancheons, and cylindrical jars, known as butter pots, though handled jars (i.e. chamber pots), drinking vessels, etc., were also produced.

Brown glazed earthenwares were in widespread use over most of Britain in the 17th century (Watkins 1987, 115). In the East Midlands they tend to evolve out of Midlands Purple wares around the middle of the seventeenth century (Barker 2008; Young 2008, 30). The village of Ticknall in South Derbyshire was the main producer of such wares in the region. At Ticknall many of the villagers were involved in potting, and production was sufficiently high that a mid-seventeenth century writer, Phillip Kinder, noted that the village's products were distributed 'all East England through' (Spavold and Brown 2005, 122); probate references to Ticknall pots have shown that the distribution was actually throughout not just the east but the whole of the Midlands in the seventeenth century (Spavold and Brown 2005, 122). The market dominance of the Ticknall potters was gradually lost through the course of the eighteenth century (Spavold and Brown 2005, 85) as other potting centres such as North Staffordshire increasingly adopted more industrialised factory style production methods; adopted new technologies; employed scientific approaches to the development of new products; and developed marketing techniques geared towards creating and expanding markets for their mass produced products during the increasingly consumerist eighteenth

century. As a result it ceased to be viable for industries like Ticknall to serve such large areas, and many small 'country' potteries appeared producing utilitarian earthenwares for the local rural markets.

The potters of Ticknall tended to use different clays depending on the vessel type being made; large pancheons and butter pots often were made using an unrefined clay or mix of clays that often has streaks of light-firing and streaks of iron-rich clay, along with a variety of coarse to very coarse inclusions such as clay pellets and iron ore, though not usually quartz. The choice of clay or clay mixture was intended to improve the throwing, drying and firing properties of the pots, as well as their performance in their intended, post-market, role (McGarva 2000, 26). The bodies used for the coarse vessels in Ticknall are often not particularly iron-rich, and the potters frequently applied a slip with higher iron content than the body to ensure there was sufficient iron available to leach into and darken the glaze during firing, as well as providing a darker background to make the glaze appear darker.

Three sherds from two vessels in Brown Glazed Earthenware were recovered. All were body sherds. That from context 109 had a fine orange red fabric with white streaks and may have been from a bowl. Visually the fabric is similar to Ticknall examples.

Two joining flakes from another vessel in Brown Glazed Earthenware came from context 201. They were likely to have been part of a large bowl (pancheon). The orange medium sandy fabric with white streaks is typical of Ticknall.

A general date range of late 17th – 18th century has been applied based on the fabrics of these vessels. The bowl forms were most likely associated with dairy work and are common on rural sites.

TIN GLAZED EARTHENWARE (TGE: LEI EA11):

Tin Glazed Earthenware was the first successful white glazed pottery type produced in Britain. The ware comprises a soft earthenware body, which is glazed with a lead glaze opacified with ashes of tin. This produces a thick white glaze that can be painted with cobalt and other metallic oxides to produce a colourful, if easily damaged, pottery. The type has been produced for a long time in the Middle East and in continental Europe, but the first successful production in Britain was a factory set up in London in 1571 by immigrant Flemish potters (Dawson 2010, 9). The peak period of production of British (and Irish) Tin Glazed Earthenwares was in the 17th and 18th centuries, though Dutch Tin Glazed Earthenware was also imported in great quantity during this period.

As more durable white wares were produced in the course of the 18th century, first White Salt Glazed Stoneware, then Creamware and Pearlware, together with an increasing availability of Chinese, then English, porcelain, Tin Glazed Wares at first moved down the social scale, and became increasingly specialised in its uses, some of the latest examples from the late 18th and 19th centuries being containers for medicines (Dawson 2010, 158).

Two sherds of TGE were recovered from trench 01; one in 104 and one in 109. Both are undecorated and have a plain white glaze. However, they are tiny bashed fragments that are probably from around a footring, where decoration would not be anticipated. They do not join but may well be from the same vessel, which from the diameter of the footring and shape of the wall at the footring was probably a plate or dish. A late 17th – 18th century date is likely.

Ceramic Building Material:

A single fragment of hand made brick was encountered in trench 1 in context 102, spit 2. The fragment weighs 70.9g. The larger of the surviving surface fragments has parallel wipe marks; at 90 degrees to this the fragment of the adjacent surface is sanded, indicating manufacture in a sanded mould. The surviving surfaces are too small to allow the original dimensions of the brick to be determined. The fabric is bright red, with abundant poorly sorted rounded to sub-rounded clear and grey quartz from silt sized to 0.5mm, occasionally up to 1.75mm; moderate red silty iron-rich clay pellets to 11mm; moderate red and black sub-angular ironstone / iron ore nodules to 5mm, one possibly an oolitic ironstone; sparse sub-angular (gravel not crushed) white flint to 1.5mm.

Brick was in use in Leicestershire from an early period, as demonstrated by the late fifteenth century brick-built Kirby Muxloe castle. However, at this time it was a building material limited to the upper echelons of society (Brunskill 1990, 115-6) and in Leicestershire it remained so until the seventeenth century, when it began to be more widely utilised (Pevsner and Williamson 1984, 56; 63). In the nineteenth century machine-made bricks took over (Pevsner and Williamson 1984, 57). While a Roman date is not impossible, a

seventeenth to nineteenth century date is most likely. All the inclusions in the fabric are found within the local geology and it is possible that the brick was made locally.

Pottery Summary:

The bulk of the pottery assemblage belongs to the Saxo-Norman period. It is, however, difficult to determine which side of the Norman Conquest the pottery sequence begins. The majority of Saxo-Norman pottery is Stamford ware, which begins in the late 9th century, spans the Norman Conquest, and ends in the late 12th or early 13th century. Fabrics and forms change over time. Some of the Stamford ware from Welby may be of pre-Norman Conquest date, but most is in fabrics and vessel forms of post-Conquest date. No definite late 9th or 10th century vessels were identified, and the earliest identifiable forms present at Welby begin in the late 10th or early 11th century. Early wares of these types may, however, continue beyond the Conquest and be found stratified with post-Conquest forms. As well-stratified groups were not recovered in this phase of excavation it is impossible at this time to suggest whether the Stamford ware found at Welby represents pottery in broadly contemporary use (in which case all is likely to be of mid/late 11th to 12th century date, i.e. post-Conquest), or if it represents a gradual accumulation of material, used and deposited at different times from the late 10th century to the early or mid 12th century or later.

The non-Stamford sherds of possible late Saxon date (St Neots type ware; Torksey ware, one sherd representing one vessel each) are also of little help due to their condition, which precludes positive identification. However, both are pottery types that, while they began in the late 9th or 10th centuries, achieved their peak distribution outside their heartlands in the 11th century.

As such, while the pottery suggests activity in the 11th century at Welby, the evidence is insufficient at present to date the origin of this activity, at least within the two excavated trenches, to before or after the Norman Conquest. Indeed, attempts to correlate historical dates with archaeological evidence are fraught with pitfalls: while 1066 marks the start of the Norman period in historical terms, the Conquest proceeded at different rates in different parts of the country, and pre-Conquest ways of life may have persisted much longer in some areas, and social levels, than in others. As such the Conquest should not necessarily be seen as a sudden, universal, break that it is sometimes perceived as, and arguments about whether the pottery dates to before or after 1066 may be seeking to force the data into an historical framework which it cannot support.

12th century and later wares were only present in quantity in trench 01. This may indicate a reduction of activity in the vicinity of trench 02 while ?settlement continued through the medieval period in the vicinity of trench 01. This activity seems, at present, to continue into the 14th or 15th century. Post-medieval pottery was only found to the west of the enclosure bank. This pattern seems to fit with the documentary evidence, which indicates the village was in decline in the late medieval period and was completely depopulated in the post medieval period. Continued deposition of pottery (and clay tobacco pipes, see below) to the west of the enclosure bank may suggest that the enclosure formed a persistent boundary, with waste spread, probably during cultivation, on arable land to the west of it, while the site of the village was abandoned, or perhaps used as pasture.

Clay Tobacco Pipe:

Methodology:

Each fragment of clay tobacco pipe was examined and details of each fragment were recorded on an MS Excel spreadsheet. The categories recorded on the spreadsheet were based upon the 'Draft Guidelines for Recording Clay Tobacco Pipes' (Higgins and Davey 1994), with some changes as noted below to fit the equipment and working methods of the author of this report. Abbreviations and categories used in the spreadsheet are as detailed in the Draft Guidelines (Higgins and Davey 1994).

Maximum length of stem fragments, diameter, bore diameter and bowl dimensions were measured using the inside or outside jaws as appropriate of a pair of 6" electronic digital callipers. The callipers utilised had a resolution of 0.01mm with a rated accuracy of +/- 0.02mm for measurements under 100mm; +/- 0.03mm for measurements greater than 100mm. Due to the equipment available, dimensions, including stem bore, were recorded in metric (contra Higgins and Davey (1994)). Dimensions were rounded to the nearest 0.1mm or

0.1g. Where stem bore is not recorded for bowl and stem fragments it should be taken to indicate that the fragment did not include any part of the bore, or that the fragment of bore was a small section with less than 180° of the original bore surviving and could not be reconstructed accurately (given the often non-spherical shape of the bore it is possible that those that were reconstructed on short segments are not accurate). The Draft Guidelines (Higgins and Davey 1994) suggest recording the bore with the butt end of a set of imperial drill bits. As bores are often not perfectly round, in order to allow accurate comparison between the calliper derived measurements and those which would be obtained using the butt ends of the drills, the minimum bore diameter was recorded. The range of metric measurements that would relate to a given Imperial drill butt can be found in Table 08.

Imperial size: (inches)	Recorded metric range:
3/64	1.2 - 1.5mm
4/64	1.6 - 1.9mm
5/64	2.0 - 2.3mm
6/64	2.4 - 2.7mm
7/64	2.8 - 3.1mm
8/64	3.1 3.2 - 3.5mm

Table 08 - Imperial to Metric Conversion of pipe stem bores

Dating of bowls is with reference to published local typologies. Dating of individual stem fragments is predominantly based on the general observations on the dating implication of bore diameter in Higgins 2017 (section 4.1). However, there are usually exceptions to such rules and therefore any date range based on individual stem fragments should be considered approximate rather than absolute.

Even the wide date ranges derived solely from featureless stems should not be considered necessarily reliable. Stem dates in no way match the accuracy of the dates derived from bowls.

Results:

Two fragments of clay tobacco pipe were recovered. Both came from trench 01 and both are bowl fragments. A tiny fragment from context 100 spit 2 in an off-white 'local' fabric appears, from the surviving form, to be from near the junction with the stem and is quite thin walled. It has internal blackening from use. The use of 'local' clays and the thin walls suggest a likely 18th century date, though the tiny size precludes certainty.

Part of the rim and body of a thick-walled 17th century un-milled bowl came from context 110. The pipe is made from off-white 'local' clay with common fine angular quartz under 0.05mm, moderate clear sub-angular quartz to 0.3mm, and moderate rounded orange iron-rich pellets to 0.6mm. The rim shows evidence of internal knife trimming and then bottering, which has produced an internal lip of clay: this method of finishing has been highlighted as characteristic of Leicestershire pipes of the late 17th to early 18th century (Higgins 1999, 215), it dates to c.1680-1710.

Discussion:

These tobacco pipe fragments were both found in trench 01, where the pottery evidence indicates continuation of waste disposal into the post medieval period. The dates of the pipes broadly fit with the dating of the later post medieval pottery. The larger fragment, from 110, comes from the upper fill of the enclosure ditch. It may add to the evidence from the pottery for a persistent boundary on the enclosure bank with waste disposal continuing past the end of the medieval period to the west (outside) the enclosure.

Other Artefacts:

Methodology:

Other artefacts were recorded onto MS Excel spreadsheets or in text as appropriate. Weights of artefacts below 200g were obtained using a Maplin VV52G digital load cell electronic balance with rated accuracy of +/- 0.1g, calibrated prior to each session of use. Weight of these objects was recorded to the nearest 0.1g. Artefacts above 200g were weighed using

Salter model 1089 BKWHDR digital load cell balances designed for kitchen use. The balances were zeroed before weighing but do not have any specific calibration ability. The tolerances are not published and the device measures in 1g increments; the balance correctly reported the weight of a 100g mass but the margins of error are unknown. Measurements collected in this way are recorded to the nearest 1g.

Dimensions were recorded to the nearest 0.1 millimetre using a pair of 6" electronic digital callipers. The callipers had a resolution of 0.01mm with a rated accuracy of +/- 0.02mm for measurements under 100mm and +/- 0.03mm for measurements greater than 100mm.

Pot Boiler Stones:

Pot Boiler Stones (MDA 1997) are a heat transfer system in which stones heated in a fire are immersed in liquid to heat it.

When immersed in water the thermal shock resulting from the rapid cooling causes a characteristic irregular crazing of the surface of the pebbles used. Sometimes the stones will fragment along these cracks, although experiments have demonstrated that local quartzites often require repeated use before fragmentation occurs (Budge in prep). However, freeze / thaw cycles, pressure from, e.g. trampling or burial, and impact, for example by ploughs or cultivation tools, may cause stones already possessing the thermal shock fracturing to fragment.

Such stones are also sometimes referred to in the archaeological literature as fire-cracked pebbles (FCP) (e.g. Garton 2008); heat-shattered stone / pebbles; heat affected stone; and burnt stone (the latter three sometimes used interchangeably, e.g. Hawkes 2011, 90; 92). As it is the thermal shock resulting from the immersion of the hot stone in liquid that produces the irregular crazing considered diagnostic of these pieces (e.g. Garton 2008, 32), none of these terms accurately reflect the processes involved in formation of the diagnostic traits. Indeed, the process of simply heating of stones in fire can cause fragmentation and spalling, but the characteristics of such heat shattered or fire cracked pieces are very different to the characteristics from immersion of hot stones in liquid.

The Object Type Thesaurus produced by the Museums Documentation Association in association with English Heritage and the RCHME describes a 'Pot Boiler' as "a stone heated in fire and dropped in water to heat it" (MDA 1997), hence this is the preferred term used in this report, though it may be less familiar to many readers than some of the, less well defined, alternatives.

Pot Boilers were generally used for heating liquids, possibly for cooking but also for brewing, dying, textile processing and potentially other activities where hot water is required. The liquid to be heated was not necessarily contained within a pot. Stratified examples are predominantly of Neolithic to Roman date.

Results:

Two Pot Boiler Stones with combined weight of 61.7g were found. They were both recovered from context 202 in trench 2. They both display good development of the characteristic traces, so there can be high confidence that they were used for liquid heating.

Though the surface is extensively crazed on the larger fragment, made from a quartzite pebble and now 53.4g in weight, the crazing has not penetrated deeply into the pebble. Experimentation has demonstrated that this characteristic is likely to indicate a short period of heating leading to a significant temperature gradient through the pebble; hot at the surface but relatively cold in the centre (Budge in prep).

The second fragment weighs 8.3g and the surface is darkened, with possible sooting in the cracks at the surface. The parent material is a currently unidentified rock.

Pot boiler stones are conventionally dated to the Neolithic to Roman periods in England; while use of hot stones dropped into liquid is documented in some medieval medical texts, for example, pot boiler stones of demonstrably post-Roman date remain elusive and as such there seems no reason to question the conventional date range in the present instance. Until recovered from stratified deposits further precision of dating is impossible.

Querns:

A single fragment of quern was recovered from (108) spit 2. The fragment is a small (max 108mm x 59mm x 60mm thick, 392g), reddened and friable piece of gritstone that has been

burned. There is insufficient of the original surface preserved to determine whether it was originally part of the upper or lower stone of a rotary quern. What is left of the grinding surface has max dimensions of 80mm by 41.6mm, and has closely spaced and apparently randomly placed pecking (Shaffrey 2021, 3-4).

The condition of the surfaces suggests the quern was burned before fragmentation. This could have been accidental, but the symbolic significance of querns to past society, as the 'stone of life', is well attested (e.g. Peacock 2013, 168-9) and it has been suggested that the deliberate smashing and burning of quern stones may have had symbolic reasons in the prehistoric and Roman periods (Peacock 2013, 172; Watts 2013, 9). Additionally, private ownership of querns was actively discouraged following the Norman Conquest (Biddle and Smith 1990, 882) and this may have led to the smashing of private querns, though it may be noted that the laws were perhaps intended more to establish control than to enforce an outright ban: documentary records suggest that people could still obtain permission (from the correct authorities, of course) to own querns, while higher status, as well as manorial, establishments are also documented to have used querns (Watts 2006, 3)

The raw material from which the quern from 108 spit 2 is manufactured is a coarse grained gritstone which matches samples of Pennine gritstone. The gritstones of the Pennines were extensively exploited for querns and millstones; late Iron Age to Roman quern production has been demonstrated at Blackbrook in Derbyshire (Palfreyman and Ebbins 2018), and post medieval millstone manufacture in the Peak District is well attested archaeologically, as well as giving the stone its 'millstone grit' epithet.

There is insufficient of the quern surviving to allow the original form to be determined and this makes dating difficult. In the absence of a datable form, the artefacts recovered from the same area of trench 01 suggest a Roman or 11th - early 12th century date may be most likely: the prohibitions on private ownership of querns may make a later medieval date unlikely if the find spot is on a 'peasant' toft, but the location of one of Welby's manors is currently unknown, so a later medieval date cannot be discounted.

Burnt flint:

A number of fragments of flint displayed visual evidence of having been burned. This evidence ranges from flints with internal crazing and sometimes slight whitening (as a result of calcination) of the surface, through to totally calcined pieces.

Only a few of the burnt flint fragments were completely calcined: these include examples from trench 1, context 109 (an unworked piece of gravel flint c.35mm x 13mm) and a spall from a possibly worked flake from trench 2 context 202 (included in the worked flint report above). From the surviving original surface it appears that the latter piece may have been struck then burned: this could indicate knapping around a campfire (e.g. as demonstrated at Asfordby, Cooper and Jarvis 2017, 43). However, the majority of burnt flint had not heated up to the temperature necessary to produce calcination and displays only internal crazing, sometimes coupled with slight whitening of the surfaces. This can be seen to largely have affected pieces of frost fractured flint deriving from the underlying geological substratum of the Oadby Diamicton, rather than having affected worked flakes. It is therefore most likely that these pieces were incidentally burned while close to the surface, perhaps in soil under fires, or as incidental inclusions in clay dug and used for, for example, hearth or kiln linings, or in wattle and daub that was subsequently burned, etc.

Fired Clay:

A total of 24 fragments of fired clay, with a combined weight of 21.9g, were recovered in the excavations.

Of these, only three fragments, with a combined weight of 2.4g, came from Trench 01. There was one fragment each from 112 spit 3, 102 spit 2 and 108 spit 2.

21 pieces, with combined weight of 19.5g, came from trench 02. All were from spit 1 of context 202.

The pieces are predominantly low-fired and soft, made from an iron-rich fine to medium sandy clay; some additionally had rounded iron-rich clay pellets up to c.1mm. Most were oxidised to orange, though four fragments, one from 112 and the others from 202, displayed partial oxidisation on an un-oxidised (black) fabric. The latter is likely due to unburnt carbon within the body of the parent clay resulting either from a very short firing cycle, or a lack of oxygen until the end of a longer firing cycle preventing the combustion of carbon

present within the clay. One of the latter pieces had a relatively flat surface, but there was no sign of finishing visible on this under magnification and the flat surface may be fortuitous. There was no clear sign of organic inclusions (e.g. straw, dung, hair) in the fabrics, and no sign of wattle impressions. One single fragment, from 202, appeared to have reached a higher temperature being oxidised to purple. This was the only fragment that may have had a surviving edge; only a tiny, concave, fragment of this survived and it is impossible to determine what it was from.

The similarity of many of the fabrics and firing patterns may suggest several of the pieces belong to a single item or structure.

Fired clay can be produced accidentally, for example when a wattle and daub walled or clay floored structure burns down; as a result of the firing during normal use of structures made of clay, such as ovens, or from hearth linings; and in the use of clay for moulds for casting metalwork, for example. With the almost complete absence of edges in this small assemblage it is not possible to suggest what the origin of the fired clay is at present, nor what period or periods of activity it is likely to belong to.

Iron Objects:

Identification of corroded iron objects can be difficult or impossible without x-ray. It is not intended to x-ray the iron until the excavation is complete so at present, the identifications offered here are provisional. In all cases the iron retains a metallic core with corrosion products partially obscuring the surface detail; the iron is therefore susceptible to post excavation corrosion and has been desiccated and stored in a low humidity environment in accordance with current conservation best practice (Watkinson and Neal 1998, 37). It was noted that the iron from closer to the surface was in worse condition, with more losses due to fragmentation and with the surfaces more obscured by corrosion products. This may be due to the dense clay soils preventing oxygen penetration into the soils except down worm and root holes and cracking near to the surface.

As a result of the corrosion products not entirely obscuring the objects, the form of some of the pieces can still be read. However, the visual identifications presented here must be considered provisional until confirmed by x-rays, as original holes, welds, and surface treatments may not be visible.

The majority of the identifiable iron objects are hand made nails. Aside from two possible horseshoe nails there are no diagnostic head types visible without x-ray. General hand made carpentry nails could belong to any of the periods represented by the pottery (i.e. Roman, late Saxon, Medieval, post-medieval). An exception was a planching nail with 'T' shaped head from trench 01; such nails were employed in flooring and are of modern date. A horseshoe nail of 'fiddle key' type (Clark 2004, 86) from trench 2, context 202, can be dated to the eleventh to mid-thirteenth century, while another nail with an expanded head, from trench 1 context 109, is also likely to be a horse shoe nail. This is of Goodall type D (2011, 364), although the amount of corrosion and loss of part of the shank make it difficult to be certain of the identification. However, type D horseshoe nails (also used in ox shoes) is predominantly fifteenth century and later in date (Goodall 2011, 364).

A catalogue of the iron is presented below. Dimensions are given to the nearest millimetre as l (length) x w (width) followed by th (thickness) for a simple rectangular strip. Additional dimensions are given as appropriate for more complex objects.

Trench 01:

Nail? 28mm l x 6mm w x 7mm th. Square shank with either small square head or head lost to corrosion. Very corroded. *Context 100 spit 2.*

Nail fragment. 25mm l x 18mm w x 13mm th (head); 9mm x 10mm rectangular shank. Very corroded nail fragment lost part of head and tip. *Context 100 spit 2.*

Curved square sectioned (irregular thickness) iron bar. 38mm x 34mm. Arms max 8mm x 8mm square. Thins at what would be the toe end if it was a horseshoe; possible wear? ID uncertain; curvature seems deliberate but is at the wrong angle for a heel iron from a clog or boot; the curvature of the arms is not particularly suggestive of a staple or similar. Probably post medieval – modern. *Context 102 spit 2.*

Nail with T shaped head. 37mm l; head 30mm x 6.6mm shank slightly tapered square 5mm x 5mm. Nail with 'T' shaped head and down-turned tips. Plancher for flooring. Post medieval – Modern. *Context 103.*

Nail. 34mm l x 12mm w (head) x 11mm th (head); 9mm w (shank) x 6mm th (shank). Tip curved over and broken off. Part of head missing, probably due to earlier corrosion losses during burial. *Context 107 spit 3.*

Fragment. 15mm l x 6mm th x 4mm. Rectangular sectioned fragment with curved profile. Possibly part of nail clench but too fragmentary to be certain. *Context 107 spit 3.*

Nail fragment. Expanded head, **horseshoe nail** of Goodall type D. 23mm l x 11mm w (head) x 8mm th (head); shank 6mm x 4mm. Tip bent. Late medieval/post medieval. *Context 109.*

Fragment of rectangular section **bar**. 34mm l x 6mm x 4mm. Might be part of a nail shank missing head and tip or some other object. *Context 109*.

Fragment. 18mm l x 11mm w x 11mm th. Could be rectangular nail head with short section of thin and now curved shank, but too corroded to be certain. *Context 112*.

Trench 02:

Iron strip, rectangular. 80mm l x 14mm w x 5mm th. One end tapers slightly, possibly broken off, the other possibly slightly rounded and expanded in plan. Could be tang from scale tang knife or a range of other items; ID impossible without x-ray. *Context 201*

?Nail, square shank. Slightly tapering rectangular shank 46mm l x 10mm w x 9mm th (max); tapers to 7mm at tip. Head damaged and mostly missing. Shank slightly curving. *Context 201*

?Strap Hinge or Padlock Key. Rectangular strip 80mm l x 13mm w x 6mm th, end folded over 35mm l and thinned to c.6mm x 6mm square section. Possibly a strap hinge but if so the shape of the eye as surviving indicates the pivot could have been no more than c.3.5mm diameter, and unlike most medieval strap hinges (e.g. Goodall 2011, 201-207) the taper occurs after the eye, rather than the whole of the metal forming the eye being tapered. The other possibility, if x-ray reveals no fixing holes, is the handle of a padlock key of post-medieval type, which have simple folded over ends somewhat similar to this (e.g. Goodall 2005, 388 no 87). ?identification. *Context 201*

Horse shoe nail, fiddle key type. Eleventh – mid-thirteenth century. c.32mm l x 13mm x max 5mm th. Shank max 6mm th. Tip bent, possibly remains of clench? *Context 202*.

Glass:

Two pieces of modern window glass were found during the excavations. The base from a seventeenth to mid eighteenth century bottle was also found during an initial site inspection in 2019 and is reported on here.

A single fragment of near colourless window glass was recovered from context 201. It is 2.60mm thick: the fragment is broadly rectangular with no original edges remaining and now has dimensions of 8.7mm by 7.05mm. It has perfectly smooth flat surfaces and a clear, bubble-free, metal. It is of later 20th century date.

From trench 1, context 102 spit 2, a similar piece of window glass was recovered. It is 3.14mm thick. The polygonal shard has maximum dimensions of 9.36mm x 11.05mm. It is of similar metal to that from context 201 and is of the same date. Both pieces are likely to have arrived on site recently, perhaps alongside the plastic and other waste.

During the initial site reconnaissance and geophysical survey in 2019 a bottle base was discovered on the surface in an eroded patch of soil to the east of the pond Figure 10:D. The soil appeared to have been dumped on top of the earthworks of ridge and furrow in this area (Figure 10:B) at some point, probably during post medieval or modern enlarging or cleaning of pond Figure 10:D. The bottle base is completely covered in a thick golden patina: the glass metal beneath this would be a very dark green but is no longer visible through the patina. The basal diameter of the bottle is c.90mm. The generally smooth pontil scar of c.44mm diameter on the underside of the shallow kick retains one large (c.16mm maximum dimension) and several smaller adhering pieces of angular glass from the end of the pontil rod. The side walls have broken away just above the base, but enough survives to suggest this was not a large cylindrical bottle.

Thick walled glass bottles had come into use by 1650, the date to be found on the earliest sealed examples currently known; they do not seem to occur in siege contexts of the Civil War from just a few years earlier (Biddle and Webster 2005, 266-7). The shape of these containers, used for wine and other alcoholic drinks, underwent a gradual evolution until the cylindrical bottle we are familiar with today emerged in the second half of the eighteenth century.

The earliest of these bottles have been termed 'shaft and globe' and occur c.1650-80 (Biddle and Webster 2005, 267); these were followed by 'onion' shaped bottles with a date range of c.1680-1730 (Biddle and Webster) or 1680-1725 (Banks 1997, 23); 'mallet' bottles from c.1730-60 (Biddle and Webster) or 1720-1740 (Banks 1997, 23) and finally cylindrical bottles from c.1760 onwards (Biddle and Webster 2005, 267) or c.1735 to present (Banks 1997, 23). The base from Welby could come from a shaft and globe, onion, or mallet type bottle: there is insufficient height of the walls surviving to be more precise. It is of mid-seventeenth to c.mid-eighteenth century date.

It may have arrived at its find spot having been dropped in the pond and subsequently dredged out, but the very bashed condition of the piece suggests it is more likely to have been dumped in the field as manure and bashed around by a plough or other cultivation implement. It seems to add to the evidence of the pottery and clay tobacco pipes from excavation that the land parcel to the west of the rectangular enclosure was under arable cultivation in the seventeenth and eighteenth century.

Fossils:

Fossils were encountered in contexts in both trenches. The fauna represented was all aquatic and included *Mollusca* of class *Cephalopoda*, order *Belemnitida* (belemnites), represented by guard fragments; *Cephalopoda* of subclass *Ammonoidea* (ammonites) represented by parts of the shell; shells of *Gryphea*; and unidentified bivalve shells.

Many fossils were recognised as the remains of formerly living creatures turned to stone by classical and medieval writers (Jordan 2016), although a range of folkloric beliefs and stories were also attached to various types. The latter included Toadstones, which are fossil fish teeth but were believed to be stones that grew in the heads of toads, and Lyncurius, believed to be the urine of the Lynx which solidified on contact with the ground and was quickly buried by the spiteful animal in order to prevent humans having use of its beneficial properties (Duffin 2008, 13-15).

Various fossils gained traditional names reflecting these folk beliefs: belemnites were known as thunderbolts, Devil's Fingers and St Peter's Fingers; gryphea were known as Devil's Toenails (Bassett 1982, 10); and ammonites, snakestones (Taylor 2016, 20).

In Britain, humans have collected fossils, and often placed them in 'special' deposits, from Palaeolithic times onwards (McNamara 2007, 282-286). In the medieval period, the magical properties of fossils resulted in some being used as amulets, to be worn in jewellery (Campbell 2009, 33), as well as their widespread use in medicine. The belemnite was considered to be efficacious in curing a wide range of ailments and was probably equated with Lyncurius (Duffin 2008, 21-28); mode of application could range from simply touching the fossil to the affected area, through to grinding or scraping it into a powder, which could be blown into the sick part, or ingested in suspension (Matczak and Chudziak 2018, 10). In various cultures ammonites were considered to provide a cure for cramp in cows; helped cows that had lost their milk; protected against snakebites and cured blindness, barrenness and impotence in humans (Bassett 1982, 6-7)

While fossils may therefore have been collected and used by humans, the condition and geological age of all the fossils found at Welby are consistent with fossils found in the geological substratum in this part of Leicestershire: belemnites and bivalves of the same species and same condition as those found in the excavations can be seen in the ironstone from which the tower of St Bartholomew's church is constructed, for example. In addition, several abraded pieces of ironstone were also recovered in the excavations; some of these also contained fossils, and a few of the 'loose' fossils retained some adhering ironstone. While most of the fossils probably derived from the ironstone, one ammonite fragment was a grey limestone probably from the Lias deposits.

The fossils may therefore have been brought to the site by human activity, either deliberately for their magical or decorative uses, or accidentally in building stone. However, until such time as examples are recovered from well-stratified contexts clearly relating to human occupation, or examples bearing evidence of deliberate modification are found, it must be considered that the fossils are most likely to represent natural or fortuitous occurrences. Given the evidence for fossil use in prehistoric and historic times, though, it is necessary as the excavations progress to remain open to the possibility of evidence of deliberate selection of fossils by humans.

Animal Bone:

Animal bone was recovered from both trenches. It is to be analysed by a bone specialist once the excavation is complete and only a very brief catalogue is presented here, written by a non specialist in animal bones.

The bone from contexts close to the surface was poorly preserved; as may be expected tooth enamel survived better than bone and more teeth identifiable by the non-specialist were recovered. Sets of teeth recovered from several contexts suggested that either whole or partial mandibles or skulls had been deposited, though decay of the bone in most cases has left the teeth isolated. Amongst the sets of teeth were molars of *Ovis* (sheep) from trench 2, context 201; a canine tusk, molars and incisors from the lower mandible of a female *Sus* (pig) from trench 1 context 109; this individual had quite heavy wear to its teeth possibly suggesting an older animal; and a carnivore, probably large *Canis* (dog) from trench 01 context 109.

Many of the other bones are smashed fragments of large bones: they may have been smashed to obtain the marrow, or for other reasons (e.g. bone manure). One bone from

context 104 had been hacked and broken, apparently with a blunt implement, while a possible *Bos* (cow) femur from context 104 had part of the end cut off, presumably during butchery. Several other fragments showed damage consistent with the deliberate smashing of the bone rather than accidental damage or subsequent decay. One or two fragments may have been heated or calcined, and if so they may have been cooked, though more detailed examination will be necessary to confirm this. Most of the bones and teeth appear to represent food species (cow, sheep, pig) with one working animal or pet (dog); very few of the bones seem to be from smaller mammals or birds. Much of the material may therefore be butchery or food residue, or domestic waste, though the results of specialist analysis should be awaited to confirm this suggestion.

The vast majority of the bone was found in trench 1. At this stage of the excavation it is unclear if this represents different uses in the different parts of the site (no butchery/cooking/food waste disposal in the vicinity of trench 2?); is a product of the smaller volume of soil sampled in trench 2 compared to that investigated in trench 1; or that most of the bone is of relatively modern date and bone, had it been present alongside the Saxo-Norman pottery in trench 2, has not survived to be recovered, while that from trench 1 derives from later medieval or post medieval activity in the trench and bone contemporary with the earlier phases of activity has not survived.

The catalogue is presented as (**Context number**) description **quantity** (small bag = 2¼" x 2¼" grip-seal bag; large bag = 4½" x 4½" grip-seal bag). Nomenclature of teeth follows Hillson 2005; it is necessary to note that basic identifications offered here are made by a non-specialist in bones.

TRENCH 1:

(100): large mammal long bone in poor condition, with extensive flaking. **One bone.**

(100) **spit 2: Three** fragments of large mammal bone and **two** molars, one *Ovis*, one uncertain.

(101) **spit 2: Three** small fragments of smashed large mammal bone and **one** very worn incisor probably sheep horse or cow.

(104): small long bone fragment, possibly small mammal? **Half a bone.**

(104): ?long bone of large mammal, broken at both ends. One end simple break, other end has iron stained damage to the surface of the bone near the break comprising a series of possible chop marks. These are wide and rounded in section and if resulting from butchery were from a very blunt knife. The iron staining indicates that they are not excavation damage. **One fragment.**

(104): large fragment of possible *Bos* femur. Probable old cut through part of the top of the bone.

(104) **spit 2: Three** pieces of large mammal bone and **two** molars from *Ovis*, and **one** fragment of tooth enamel from a molar from a large herbivorous mammal, possibly *Ovis*.

(107) **spit 3: Small** flakes and fragments of decayed bone. A few pieces in a **small bag.**

(108): **one** very decayed large mammal long bone fragment.

(108) smashed and decayed fragments mostly or entirely large mammal bone fragments, part of a **large bags** worth; also several molars *Ovis*.

(108) **spit 2: Selection** of smashed large mammal long bones and several molars, one *Ovis*

(109): part of jaw and several molars from large *Canis*.

(109): small flakes of large mammal long bones, one fragment possibly calcined, **small bag full**, plus two similar sized and similarly worn incisors possibly *Ovis*.

(109): Fragments of bone, range of body parts and possibly different mammal species, no complete bones, **large bag full**. Teeth may derive from a single individual and include a lower canine of female *Sus* with worn end and damage; molar M3, worn lower mandible P3, and lower incisors all probably from the same female *Sus* as the canine.

(109): **three** broken fragments of large mammal bones and **one** *Sus* canine.

(109): **two** smashed fragments of large mammal long bone, one possibly calcined and deliberately smashed, and **one** fragment of tooth enamel.

(112) **spits 1 and 2: combined: six** broken fragments of large mammal bones, **three** molars and **one** incisor, all iron stained. Two molars are *Ovis* and the other teeth possibly also *Ovis*.

(112) **spit 3: one** small molar from large mammal probably herbivore; young animal, no wear to cusps.

TRENCH 2:

(201): Molar teeth from *Ovis*, **six**. Different sizes, possibly from a single individual.

(202): **Single** molar from *Ovis*.

(202): **two** smashed fragments of large mammal long bones and **two** fragments of tooth enamel from probably a single molar of a large herbivorous mammal, possibly *Ovis*.

Discussion:

At such an early stage in the excavations, where the trenches have not yet been fully excavated, attempts to offer conclusions would be premature – the picture could change dramatically as a result of future discoveries when the excavation is resumed. Therefore the very tentative suggestions offered below must be seen for what they are – provisional and interim suggestions based on the very limited archaeological data to date, which may be rendered out of date by further excavation. With this caveat in mind, provisional discussion of the findings are offered below:

Prehistoric:

The Wreake valley in proximity to Welby has yielded significant evidence of prehistoric activity and occupation. Excavations at Loughborough Road, Asfordby, c.3km SW of Welby, revealed well-preserved and nationally significant evidence of middle Mesolithic activity, located around a hearth or campfire (Cooper and Jarvis 2017, 43), as well as the largest assemblage of late Neolithic / Early Bronze Age Beaker pottery discovered in Leicestershire to date, which notably was not from funerary contexts (Jarvis 2012, 30). It was considered this might have been a 'persistent place' in the landscape (Jarvis 2012, 29). A similar suggestion was made about a site at Eye Kettleby, c.3km S of Welby, which saw sporadic visits from the Mesolithic period onwards. At Eye Kettleby there was significant monument building and occupation in the Neolithic and Bronze Ages (Finn 2011). The middle Bronze Age cemetery at Eye Kettleby is one of the largest (in terms of numbers of individuals) yet found in Britain (Clay 2004, 41). Environmental sampling has suggested that the Wreake valley only saw significant clearance (in contrast to the Trent Valley) in the late Bronze Age or early Iron Age; before this the wooded valley of the Wreake reveals evidence of only minor clearings used for pasture and small scale agriculture (Finn 2011, 110-111). It has been suggested that the whole of the Wreake valley may have been particularly conducive to Mesolithic occupation (Cooper 2012, 25), and the evidence from later periods suggests it certainly remained extensively exploited in later prehistory, where the dominant subsistence base appears to have been pastoral (Finn 2011, 111). In this context, the evidence from Welby suggests that prehistoric groups exploiting or living in the area probably occasionally passed through the Site and may occasionally have stopped, probably briefly, to spend some time maintaining tools and conducting other activities, leaving behind what could be described as a 'background scatter' of prehistoric human debris. There is no conclusive evidence for prehistoric occupation on the parts of the Site examined to date.

Roman:

The very small assemblage of Roman pottery comprises small sherds and flakes, generally in abraded condition. Despite the very small sample size, the range of wares seems to suggest Romanised living. Whoever was purchasing and using these vessels subscribed to the 'Roman package'; eating food prepared in Roman ways and served Roman style. However, the small and abraded nature of the sherds and, in particular, the small quantity recovered, suggests that Roman occupation was probably not within the area of investigation. Roman activity is well attested in the area, and unsubstantiated rumours of mosaic pavements uncovered in the vicinity of the Site, if genuine, suggest the presence of substantial Romanised buildings nearby. Welby is close to major Roman routeways: the Fosse Way, linking Leicester to Lincoln via Newark (and followed by the modern A46) passes about 8km west of Welby at the closest, and the Salt Way, a Roman road with probable prehistoric origins, crosses the Fosse Way at Six Hills and, running SW to NE, passes about 3km N of Welby at its closest (Figure 02).

The Roman period finds from Welby have little to contribute to understanding of Roman occupation of this part of Leicestershire at present due to the very small size and residual nature of the assemblage, but it does seem possible at this juncture to suggest there is little evidence for significant Roman activity on the Site. Consequently, it seems unlikely that the rectilinear enclosure bank and ditch is of Roman origin – if it was it might be anticipated that far more residual Roman material should have been found in the later deposits examined. However, completion of the excavation of the bank and ditch is necessary to confirm this possibility, as Roman deposits may yet remain to be discovered sealed beneath the later deposits encountered in the present investigations, and none of the deposits

encountered this season can date the construction of the bank and ditch; they simply suggest it was likely in existence by the late Saxon/early medieval period (or was dug through deposits of this period).

Late Saxon – Medieval:

The identifiable sources of the pottery of this period are generally typical of this part of Leicestershire, with most of the earlier pottery coming from outside Leicestershire. However, the dating profile of the material, with a strong bias towards the earlier part of the chronology, is less typical: pottery of the 13th century and later is generally more common than that of the 11th or 12th century, and on a site occupied throughout the medieval period much more 13th-14th century pottery would be anticipated than pottery from the preceding period.

It appears that it was not until the Saxo-Norman period that activities leading to the deposition of (fairly) significant quantities of waste on the site began. The dating of the pottery is not sufficiently refined at present to be confident whether this activity began before, around the time of, or just after, the Norman Conquest. Despite the small size of many of the sherds (in many cases a product of the very thin walled vessels from which they come), the very fresh nature of some of the pottery probably suggests that whatever activity they derive from (probably cooking and the serving of liquids) occurred on the site, and that many of the least abraded sherds may be, at most, perhaps only a few removes from where they were originally used, broken, or discarded.

The Saxo-Norman pottery seems primarily to occur in the deposits built up against the inside of the enclosure bank in Trench 02, and in the toft boundary bank in Trench 01, as well as the upper layers of the enclosure bank. There was little post-Norman pottery in Trench 02, while the later pottery in Trench 01 was found in higher spits or in the area to the west of the enclosure bank and ditch.

The most appealing hypothesis based on the present evidence is that the rectilinear enclosure was constructed, or at least saw its main period of use, at some time in the 11th century. This may have been a short phase of occupation, which subsequently shifted (or contracted?), leaving the SW part abandoned (or at least unoccupied and not receiving waste). In the later 11th or first half of the 12th century a linear row of 'typical' village tofts seems to have been established within the enclosure, but apparently not aligned on its banks. It is curious that these village earthworks do not seem to respect the rectilinear enclosure – they are aligned on a road that skirts the edge of a small valley but why do the toft boundaries not extend all the way to the enclosure bank? Both the morphology of the tofts and village streets as well as the archaeological evidence seem to point to the tofts of the southern row of the medieval village of Welby as having been established within an existing, earlier, enclosure.

While this hypothesis is attractive, at present there are several basic facts that remain to be established. Regarding the rectilinear enclosure, the date of construction is not yet established, and at present there are several possible interpretations of its relationship to the early pottery, which must be tested by continuation of the excavations. Possible hypotheses are:

- The Saxo-Norman pottery derives from occupation within the rectilinear enclosure (the enclosure is therefore Saxo-Norman or earlier);
- the Saxo-Norman pottery was present in layers and deposits that were dug through when the enclosure ditch was dug, becoming incorporated into the bank, and is eroding out from the upper levels (the enclosure is therefore later than the Saxo-Norman period);
- the Saxo-Norman pottery is contemporary with the construction of the bank and ditch and was incorporated into it during construction.

The nature of the putative enclosure also remains unresolved. While it could indeed be an enclosure, analysis of the LiDAR data has indicated that both the western and southern banks share alignments with adjacent ridge and furrow earthworks. More critically, these cultivation earthworks do not seem to occur only 'outside' the enclosure, but appear to continue 'inside' it and in some cases might underlie the medieval tofts. This could suggest that the enclosure was laid out on top of existing ridge and furrow cultivation. A further consideration though is whether the 'enclosure' really was such: might it instead be the remains of two furlong boundaries, which for some reason were retained once the village had been established?

Post Medieval and Modern:

Few post-medieval finds were recovered. Modern plastic finds were distributed widely across both trenches, and included parts of plastic bags, plastic bread bag closures, two fragments of window glass, and multiple fragments of a pair of sunglasses, all of later 20th or 21st century date. These were all located within the top 0.25m-0.3m of stratigraphy, having been trampled in by cattle and sorted by worms. The bulk of the other post-medieval finds are of 18th century or earlier date. Most came from trench 01 and were recovered from contexts to the west of the enclosure bank. It is notable that, while a range of earlier pottery also came from the area west of the enclosure bank, both the medieval and post medieval sherds from here were small, abraded, pieces. It seems probable that western bank of the rectangular enclosure formed a persistent boundary, and that the land to the west of it was subject to different land use than that to the east, until relatively recently. The LiDAR and aerial photographs show ridge and furrow strips to the west of the enclosure and the condition of the pottery recovered from this area is consistent with a heavily disturbed assemblage, as would be expected in a regularly cultivated soil. The finds may suggest that the land to the west of the enclosure was in arable cultivation for some or all of the medieval period, and continued to see the input of manure into the 18th century. It may be of interest that the ridges are narrower in this area, and that they appear to be less pronounced, again possibly suggesting later cultivation.

Further Research:

The preliminary results of the archaeological excavations combined with the analysis of LiDAR data have helped to refine and crystallise the research objectives for the work. Revised research objectives for the work are:

- At what period was the rectilinear enclosure constructed, and was it constructed significantly earlier than the late Saxon / early Norman period of use detected by the current work?

- Which came first: rectilinear enclosure or ridge and furrow?

- Does the bank of the enclosure represent a headland or furlong boundary in the fields or was the alignment of strips in the field system dictated by the enclosure boundaries?

- Can the tentative evidence for a post-Norman Conquest to c.mid-12th century date for the establishment of the southern toft boundary be confirmed?

Given the findings from this season's excavations regarding the nature of the soils and the lack of distinct context boundaries due to bioturbation, thought should also be devoted to potentially modifying the excavation strategy to maximise the potential of recognising archaeological features and the information recovered. Over the village tofts it may be necessary to open areas, rather than trenches, to permit features to be recognised and recorded before being sampled by targeted excavation: at the least the trench over the toft boundary should be realigned to cut perpendicularly across the bank, rather than looking for an interface between this bank and the enclosure, as this now appears unlikely to be readily detectable in the bioturbated clays of Welby within the confines of a small trench.

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Plate 08 – top, delegates on week A at base camp; Bottom, delegates on week B by trench 1, looking NE.

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Appendix 01: Flaked Stone Archive

Key to abbreviations and explanation of terms used in the table where not in Inizan et al:

Type: 1 = primary; 2 = secondary; 3 = tertiary

Raw material: Trans. = Translucent; Gr = dark grey; Br = brown.

Cortex type: WW = water worn; Old Flake = patinated flake scar (struck or thermal)

Surface Alteration: Part wh = patchy whitish patination that allows the colour of the raw material to be seen; Cpl wh = opaque white patination that does not allow the original colour of the flint to be seen unless on a fresh break; Burnt = internal structure of flint crazed surface colour not affected or only slightly whitened; Calc = calcined, colour changed to opaque white, internal structure crazed.

Complete?: parts of the flake present. Y = flake is substantially complete, though small parts may be missing; Prox = proximal end present; Mes = mesial section present; Dist = distal end present.

Bulb Type: Dif = diffuse; Pro = pronounced; Sm Sc = small bulbar scar

Termination: F = feathered; Plun = plunging; Hing = hinge; F cort = feathered cortical, distal end is thick as flake has removed a chunk of cortex but not plunged.

Later damage. Damage considered to be later than the flaking event: Dist = Distal; Prox = proximal; LH = left hand margin; RH = right hand margin; tot = total (i.e. the whole of the given edge shows damage); part = partial (i.e. the damage affects only part of the given edge).

Dorsal scars: dorsal scar directions in degrees, with 0 being the axis from which this flake was struck

Trench:	Context:	Type:	raw material:	Cortex type:	weight (g)	length (mm)	breadth (mm)	thickness (mm)	Surface alteration:	Complete?	but type	bulb type	Platform trimming?	Termination	Later damage	dorsal scars	retouch?	date:	Description:	Notes:
1 100	s2	3 flake	Trans. Gr	none	0.1	12.16	7.95	2.18	Part wh	Y	Flat	Dif	F	Dist Part		0	Y	?mesolithic	Curved longitudinal profile;dorsal scars short;some deep;and often stepped;retouch flake most likely from ancient (patinated) distal retouch probably a scraper	trample;modern (excavation) distal retouch
1 108	s2	2 flake	wolds?	Thin WW	0.2	>8.29	12.99	4.42	Cpl Wh?	Prox	Cortical	Dif Sm Sc	Y			0		Mesolithic?	probably from a blade:white colour uncertain if patination or very white Wolds flint	
1 108	s2	1 blade	Trans. Br	Old Flake	1.3	>20.35	8.04	3.68	Cpl Wh	Prox+Mes	none	Dif		LH+RH part;Dist tot;Prox part		?		?Mesolithic-Neolithic	Blade like flake;iron stained dorsal surface probably a combination of ancient flake and subsequent ancient frost fracture	Platform lost due to ?mis-hits and modern damage but appears heavily abraded or crushed
1	109	2 flake	Trans. Br	Thin WW	0.7	15.5	18.09	5.01	None	y	Facetted	Pro	Y	F	Dist part	0		Late neolithic?	small squat flake with facetted platform and abrasion;perhaos platform modification rather than desperate use of too small raw material	part of distal end snapped off
1	109	2 flake	Trans. Gr	Old Flake	0.2	8.43	15.31	3.58	None	y	Cortical	Pro		F Cort	Dist Part	0		?	unclear if deliberately or accidentally struck	
1	109	2 flake	Trans. Br	Thick WW	0.7	16.16	16.34	3.83	Part wh	Prox+Mes	Cortical	Dif Sm Sc			LH part;Dist tot	0		Mesolithic Neolithic	- broken margins also patinated though to a lesser degree	
1	109	2 flake	Trans. Other	Old Flake	0.2	13.18	11.46	3.62	Part wh	Mes+Dist				F		0		Mesolithic Neolithic	- tiny flake missing platform	
1	109	chunk	Trans. Gr	Thick WW	0.1				Burnt	Dist	none			Plun				?	tiny piece bashed may be natural; but burnt	
1	112	2 flake	Trans. Gr	Old Flake	0.9	21.2	21.57	2.82	Part wh	y	Winged	Pro		Hing	LH part; Dist part	0	Y	?Mesolithic-Neolithic	hard hammer flake with probable retouch	retouch superficial and possibly from trample / other accidental process
2	202	1 flake	Trans. Br	Thin WW	0.2	8.57	15.97	2.81	None	y	Cortical	Pro		F Cort				Neolithic-Modern	tiny primary chip same type of flint as several others so may be deliberate; but might be accidental	
2	202	2 flake	Trans. Br	Thin WW	0.6	18.07	16.81	4.23	None	y	Cortical	Pro		F Cort		0		late Neolithic Bronze Age	- short flake from very small core with at least two dorsal scars	
2	202	2 flake	Trans. Br	Thin WW	1.5	23.32	21.91	11.22	None	y	Cortical	Pro		F		0		late Neolithic Bronze Age	- Uneven thickness; flake from multidirectional multiplatform core	
2	202	2 flake	Trans. Gr	Thin WW	9	28.88	44.41	11.99	None	y	Cortical	Pro		Step	LH+RH part;Dist+Prox part	10		Late Neolithic later	or chunky flake from an enlongated nodule;damage to termination partially hinge and partially feather due to shape of nodule	
2	202	2 flake	Trans. Br	Thin WW	7.7	34.79	34.79	14.94	None	y	Cortical	Pro		F	LH tot RH part	?	Y	late Neolithic Bronze Age	Chunky flake translucent dark grey to opaque brown with linear (fossil?) inclusion; some damage but the distal edge possibly retouched (irregular concave - abrupt) to make a piercer however end lost; so may be piercer but loss of tip; if such it was; makes identification uncertain	it impossible to be certain
2	202	2 flake	Trans. Br	Thin WW	2.4	26.07	31.16	5.94	None	y	Cortical	Dif Sm Sc		F	LH part	60		late Neolithic Bronze Age	- L shaped flake from irregular core somewhat damaged cortex	diffuse bulb probably due to cushioning effect of
2	202	chunk	Trans. Gr	Thin WW	8.5	37.09	34.82	18.9	None	y	Flat			F				Late Neolithic later	or bashed chunk;very thin brown cortex different to all trample/pressure damage on some margins;frost other pieces from this trench	fractures within;human or accidental knapping?
2	202	1 flake	Opaque Br	Old Flake	1	19.93	19.45	5.22	None	y	Flat	Pro		F Cort	LH part			Late Neolithic later	or unusual raw material	flake may be deliberate human modification or natural
2	202	spall	Uncertain	none	0.2	14	12.44	1.87	Calc	ventral spall	none							?	spall of ventral surface of completely calcined flake	

Appendix 02: Pottery Archive

ABBREVIATIONS:

Abbreviations and other terms used in the pottery catalogue are as follows:

Oxid - Oxidised (firing conditions, usually produce browns, reds, oranges, buffs, cream colours.

Red - reduced (firing conditions, usually result in greys, blacks, purples, etc)

Frequency: Abun - abundant. Com - common. Mod - moderate. Frequency of inclusion ranges from (increasing in percentage) rare, sparse, moderate, common, abundant. May include e.g. mod-com, meaning frequency falls between moderate and common.

F - fine (grain size 0.1-0.25mm)

M, Med - Medium (where referring to size, grain size of 0.25 - 0.5mm)

Coa, coarse (grain size 0.5 - 1.0mm)

VC, VCoa - very coarse or gritty (grain size =>1.0mm)

f-m would, for example, indicate the inclusion in question was found in the size range between 0.1 and 0.5mm.

Similarly, a qualifier (sandy or Q for quartz, shell for fossil shell, Fe for iron etc) may be appended to size range, so com Q.f-coa indicates common quartz ranging from 0.1 to 1mm.

Sort - sorted. Has qualifier of very poorly (vp), poorly (p) (eg psort), moderately (mod) and well (w).

Inclusions:

Q - quartz

calc - calcareous (unless otherwise stated is white / cream lumps, usually angular - sub angular and reacts with 10% HCl), but may include shell / fossil shell / calcite.

Fe - Iron. May include a variety of iron, iron ores and iron rich clays. Where possibly more details are provided.

CP - argillaceous inclusions (clay pellets), by implication probably naturally occurring within the fabric. Colour may vary, identification may vary and CP may include grog, though grog (where clearly so, ie, ground up pre-fired pottery or clay deliberately added to the fabric) is identified separately where possible.

Degree of rounding:

R - well rounded

SR - sub rounded

SA - sub angular

A - angular.

R-SR for example denotes the inclusion in question is predominantly rounded with some sub-rounded examples while SR-A indicates that the inclusion type in question is predominantly sub rounded but includes lesser quantities of sub angular to angular members.

Headings in the table:

Tr = trench; NoS = Number of Sherds; NoV = Number of Vessels; W(g) = weight in grams

Pottery Archive for Welby, Leicestershire (WEL21)

David Budge

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
01	100	2	MEDLOC	Medieval local fabrics	brown grey core Q<0.75mm abun brown Fe <3mm psort	jar/jug?	1	1	1.6	BS	brown sandy Emed or Med?		
01	102	2	EMLOC	Local Early Medieval fabrics	dark brown TORK style sandwich	jar?	1	1	1.6	BS	sim to TORK and EMHM; well R Q c.0.5mm SA Q <0.4; sparse Fe stone <1.5mm		int surface spalled and abraded
01	104	1	NVMO	Nene Valley Mortaria		mortaria	1	1	5	BS	int slag and possibly Q grits; surfaces and two breaks Fe stained two not; ?medieval or later plough damage?		Fe stained
01	104	1	TGE	Tin-glazed earthenware	yellow	?dish	1	1	0.3	foot	fresh break no joining sherds; part of footing base but fragmentary		
01	107	1	ST	Stamford Ware	G; orange	hollow; small	1	1	0.8	BS			
01	108	2	ST	Stamford Ware	A/B; some glaze	hollow	1	1	1.1	BS	possibly part of base; has drag marks; trace of thickish crazed glaze over a rough patch		
01	108	2	MEDLOC	Medieval local fabrics	oxid red/orange sandy silt to 0.5mm occ to 0.75mm; mod lumps u/ID SR rock to 1.5mm	?	1	1	1.5	BS	?ID; OS; not NCSW and probably not BOUA		
01	108	4	EMLOC	Local Early Medieval fabrics	brown/grey with oxid orange int; vf mica; com SA-SR mixed Q 0.1-0.3mm occ 2.5mm; mod red cp <0.8mm;	jar/bowl?	1	1	4.9	lower wall/base	Possible sparse igneous may suggest local source; thin walled jar or bowl ext sooting; c.12thC		part of ext surface flaked off

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
01	108	1	TORKT	Torksey-type ware	?ID; dark grey medium sandy brown margins dark grey surfaces; not Torksey product	jar/bowl?	1	1	1.4	BS	Probably not a Torksey product		
01	108	2	ST	Stamford Ware	A/B	jar; collared	1	1	1	rim	ext sooting incl over one break; Kilmurry form 4 rim related to 4.14-4.18 and 4.45-4.47		
01	108	1	ST	Stamford Ware	B	jar/bowl; unglazed	1	1	1	BS	very white fabric		
01	108	1	ST	Stamford Ware	B	spouted pitcher collared	1	1	4.9	rim	Kilmurry form 5 rim related to 5.50; part of handle attachment; thin glossy yellow glaze spots no pitting		extremely fresh
01	108	1	ST	Stamford Ware	A/B	hollow; small	1	1	0.3	BS	ext smear of glaze yellow		
01	108	1	NSP	Nottingham Splashed ware	?ID; As splashed ware from Kirby Bellars	?jug	2	1	1	BS	ext glaze somewhat decayed; one sherd fresh breaks no joining pieces		
01	108	1	PM	Potters Marston Ware	black oxid ext marg and surf	hollow	1	1	0.9	BS	Int black		abraded
01	109	1	BERTH	Brown glazed earthenware	fine orange red with white streaks and white fine grained stone	bowl?	1	1	0.7	BS	int brown glaze probably Ticknall prob no slip under glaze		glaze very abraded ?use
01	109	1	MEDX	Non Local Medieval Fabrics	pale brown/cream; sparse psort Q <0.05-0.4mm some Fe stained; red + white soft clay pellets	jar?	1	1	5.6	flange	Folded collar; ?Potterspurgy??		
01	109	1	MEDX	Non Local Medieval Fabrics	oxidised sandy with ? Fe rich CP; ?ID may be BOUT		1	1	2.3	BS	Probably a Bourne/Baston or South Lincs Baston type oxidised		

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
01	109	1	EMLOC	Local Early Medieval fabrics	soft grey reddish brown margins + surf; com Q <0.2mm rare Q clear SR to 0.5mm; com silver mica to 0.1m	jug/jar?	1	1	1.1	BS	large white/red U/ID rounded rock frags; some similarities to PM but not Syenite; Emed or Med?		abraded
01	109	1	CIST	Cistercian-type ware		hollow	1	1	0.4	BS	Ticknall type but very thin walled		
01	109	1	CIST	Cistercian-type ware	purple brown with grey margins; haes fur glaze	JUG/CUP	1	1	2.2	BS	unusual form but otherwise very Ticknall	thick horiz band with slight rilling	
01	109	1	TGE	Tin-glazed earthenware	yellow com fine Q clear; sparse red Fe (soft) <0.3mm	plate/dish?	1	1	0.4	BS	part of footring probably part of same vessel as other sherd but does not join		
01	109	1	BL	Black-glazed wares	orange fine-medium sandy; rounded red fe rich soft cp lt 1.25mm	cup	1	1	2.3	BS	Midland Black type	horiz rilling	
01	109	1	GREY	Romano-British greywares	Q com under 0.3 occ to 0.5mm; rounded Fe rich clay pellets sandy to 1.5mm mod; sparse grey rock 1.5mm	closed	1	1	2.3	BS	soft; wheel thrown jar or flagon; Leicestershire origin?		
01	112	3	ST	Stamford Ware	G	hollow	1	1	1.4	BS			
01	112	3	ST	Stamford Ware	B	large hollow	1	1	8.8	BS	Int and ext wipe marks; single pitted splash of glaze to ext; large pitcher or jar?		
01	112	3	ST	Stamford Ware	A	jar?	1	1	1.8	BS	ext partially flaked away during use?		ext surface partially flaked off

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
02	201	1	NOTGL	Light Bodied Nottingham Green Glazed ware	reduced int;orange ext margin + surf	jug	1	1	8.5	BS	large probably globular jug		inclusions pedestalled
02	201	1	BERTH	Brown glazed earthenware	orange white streaks medium sandy	bowl?	1	1	0.4	BS	int glaze abraded;X-context join to BERTH in 202		
02	201	1	MY	Midlands Yellow ware		cup	1	1	0.9	rim	Upright simple rim from eg cup;porringer etc		
02	201	1	BERTH	Brown glazed earthenware	orange medium sandy cream streaks;edium-coarse red SA cp	?Bowl	1	1	0.6	flake	int glaze abraded;fabric as Ticknall		
02	201	1	ST	Stamford Ware	A/B;some Fe pellets;Fe stained;?ID as single angular white ?flint 0.7mm	hollow;?pitcher/jug	1	1	1.7	BS	?ID;flint not present in Stamford;?traces of decayed ext glaze		glaze decayed
02	202	1	ST	Stamford Ware	?EST;A/D;grey with patchy cream	bowl	1	1	11.5	rim	Kilmurry form 1;rim slightly distorted;form 1.57;slight traces of internal soot as well as external	diamond roller stamping to top of rim	
02	202	1	SNX	Non-local Saxo-Norman Fabrics	black patchy brown ext oxid;sparkly quartz and ooliths	jar?	1	1	2.8	base	leached ooliths and limestone		leached
02	202	3	SNEOT	St Neots-type ware	?ID;soapy;brown;abundant poorly sorted platy voids;sparse sub-rounded Q clear to 0.75mm	Bowl;sharply intumed rim	1	1	1.5	rim fragment	In fresh break one void has regular argillaceous strings as though bryozoa had been present;form possibly an intumed rim bowl		leached;polished
02	202	3	ST	Stamford Ware	A(fine)	hollow	1	1	0.3	BS	ext pocked splash of thin yellow glaze partially flaked off		
02	202	1	ST	Stamford Ware	G?	jar	1	1	3.6	base	ext black margin and grey surface;knife trimmed convex base		

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
02	202	1	SAMIAN	Samian ware	bright orange red;common calcareous <0.1mm	?	1	1	0.1	flake	tiny flake;?Southern Gaulish	moulded fragment of two raised lines;design unclear	very abraded;much of surface slip lost
02	202	1	ST	Stamford Ware	?G;quite fine going towards B except for some larger Q	hollow?	1	1	0.4	BS	concave neck sherd probably from jar or pitcher;iron stained;unglazed		
02	202	1	ST	Stamford Ware	G	?jar;small	1	1	0.7	BS	ext sooting		
02	202	1	ST	Stamford Ware	?B;int light grey/brown ext dk grey	?	1	1	0.3	BS	ext surface spalled off probably in cooking		ext spalled
02	202	1	ST	Stamford Ware	B	?	1	1	1.6	BS	soft fabric slightly iron stained no glaze		
02	202	1	ST	Stamford Ware	A	jar;small	1	1	1.6	base	knife trimmed convex base;ext sooting;heavily Fe stained		
02	202	1	ST	Stamford Ware	A/B	hollow;glazed;?pitcher	1	1	0.6	BS	relatively thick glaze ext burnt;poss from cooking but could be after discard		ext glaze burnt with soot
02	202	1	ST	Stamford Ware	A/B	Hollow	1	1	0.4	BS	pale orange or Fe stained		
02	202	1	ST	Stamford Ware	G;streaks of silty white clay	hollow;glazed;?pitcher	1	1	0.6	BS	ext extensively pocked/splashed yellow thin glaze		
02	202	1	ST	Stamford Ware	A/B	Pitcher	1	1	0.6	spout rim	Kilmurry form 5 or 13		
02	202	1	ST	Stamford Ware	A/B	?	1	1	0.4	BS			
02	202	1	ST	Stamford Ware	A	hollow;small	1	1	1	BS	Fe stained;ext sooting		
02	202	1	ST	Stamford Ware	?EST;A;?ID	hollow?	1	1	1.9	BS	ext and ext margin sooted;knife trimmed;may be part of very convex base or neck		
02	202	1	ST	Stamford Ware	G	hollow	1	1	0.4	BS	mattacked to pieces		
02	202	1	ST	Stamford Ware	B	jar;small	1	1	1.4	BS	thin walled vessel;ext knife chatter marks;ext sooting and blackened ext margin		ext sooting

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
02	202	1	ST	Stamford Ware	?B;slight int reduction and ext oxid to pale orange but very fine with little Q	hollow	1	1	1.5	BS	ext thin yellow smear glaze occ pock marks;abraded		
02	202	1	ST	Stamford Ware	B	?;large	1	1	3.5	BS	Soft fired moderate Fe staining;ext wipe marks and knife trimming;possible bowl?		
02	202	1	ST	Stamford Ware	B;heavily Fe stained	hollow;unglazed	1	1	1.3	BS	heavily Fe stained		
02	202	1	ST	Stamford Ware	A/B;Fe stained	hollow;small	1	1	0.3	BS			
02	202	1	ST	Stamford Ware	G?	hollow;glazed	1	1	1.1	BS	Fe stained;ext clear crazed glaze somewhat araded		
02	202	1	ST	Stamford Ware	G?;reduced grey	hollow	1	1	1.6	BS	Unglazed sherd from thin walled vessel with ST fabric;but slight chance this might be a fine GREY beaker		
02	202	1	ST	Stamford Ware	A/B;Fe stained	hollow	1	1	1	BS	unglazed		
02	202	1	ST	Stamford Ware	A/B	pitcher/jug?	1	1	1.9	BS	high fired sherd from neck of vessel with ext patchy yellow glaze		
02	202	1	ST	Stamford Ware	A/B	hollow;glazed;?pitcher	1	1	2.1	BS	ext smear of thin glaze with occ pocks;internal spalling		
02	202	1	ST	Stamford Ware	G?;shite silty clay pellets to 2mm	jar;small	1	1	0.9	BS	ext sooting		
02	202	1	ST	Stamford Ware	G?	hollow;glazed	1	1	0.9	BS	ext crazed yellow glaze mostly abraded and flaked off;int sooting and over 2 edges		
02	202	1	ST	Stamford Ware	?EST;A/D;dk grey;pale cream int margin	hollow?	1	1	1.4	BS	heavily Fe stained;traces of ext soot		

Tr	context	spit	code name	full name	sub fabric	form type	NoS	NoV	W(g)	part	description	decoration	condition
U/S	AAA	1	MEDLOC	Medieval local fabrics	Reduced medium sandy common rounded very Fe rich CP to 1.5mm	owl?	1	1	3.9	BS	Int and ext Pb susp glaze;incl over oxidised break;may be second		abraded
U/S	AAC	1	NOTGR	Reduced Nottingham Green Glazed ware	Q v sim to fab 14/44 but sparse SA ironstone to 3mm;dk grey with light grey ext margin and surf	jug	1	1	1.6	BS	ext reduced susp glaze mostly flaked off; ironstone suggests may not be Nottingham		



Looking east towards the backfilled trench 2 at the end of season 1

